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PROBLEM SOLVING AS AN EMPLOYABILITY SKILL – AN EMPIRICAL STUDY AMONG THE COLLEGE STUDENTS OF KASARGOD DISTRICT

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Abstract

All job seekers must possess the essential abilities of employability. Candidates that can work more productively and effectively are in high demand among employers. Therefore, graduates who are about to enter the workforce should be adequately prepared with these crucial abilities. Globally speaking, employability skills include technology aptitude, self-management, problem-solving aptitude, initiative, teamwork aptitude, and planning and organizing aptitude.

The researcher made an effort to evaluate the degree of problem-solving abilities held by the final-year undergraduates of Kerala State's educationally underdeveloped Kasargod district. According to the report, only 22.56 percent of final-year degree students are judged to be employable when problem solving skills are taken into account.

Introduction

Employability skills are a broad term for non-technical abilities and talents that have traditionally played a key role in productive and successful involvement in the workplace. These competences and vital qualities enable people to be more successful and productive workers and to effectively contribute to the achievement of the objectives of the organisation in which they are working. The emphasis being placed on employability skills is something new. Employability skills are becoming more and more in demand by businesses. They frequently look for people that have a combination of these abilities because they are crucial for the organization's performance and can raise productivity, innovation, and employee retention.

Employers frequently express concern that many recent graduates lack the skills necessary for employment because they are unable to integrate their academic knowledge with the practical aspects of their professions (Helle et al., 2006). Along with technical abilities connected to a particular sector or industry, employability skills also include communication, teamwork, problem-solving, critical thinking, time management, and organisational abilities. Given the importance of these talents for the success of the business and their potential to boost productivity, innovation, and employee retention, employers frequently look for applicants who have a combination of these.

In order to understand the actual situation regarding the problem solving ability of the final year under graduate students, the assessment of problem solving skill of undergraduate students of the Kasargod district in Kerala State, who are preparing themselves to enter the highly competitive job market, is carried out in this article.

Employability Skill

Employability skill is defined by Yorke and Knight (2004) as a "set of achievements" (skills, understandings, and personal traits) that increase graduates' chances of landing jobs and succeeding in their chosen careers, which benefits the graduates themselves, the workforce, the community, and the economy. Employability skills are crucial because they enable people to work more productively and efficiently. Employees can perform more important tasks for their organisations thanks to these talents, which also help them advance in their careers. Employability skills are crucial for workers at all levels and in all fields because they lay the groundwork for flexibility, adaptability, and personal and professional progress. Last but not least, employability abilities improve a person's total professional reputation and marketability to prospective employers. Employability skills are more general than technical or occupational skills, which are job-specific.

The development and progress of an organisation, as well as the industry as a whole, depend greatly on employability skills (Husain et al., 2012). The achievement of both organisational and individual goals by employees appears to be positively impacted by the development of employability skills (Fugate et al., 2004). Researchers have noted that there is a "skill gap" between the educational readiness of graduates and the employment requirements (Morley, 2001). Employers believe that graduates' employability skills

have not been adequately developed by higher education (Peddle, 2000).

The employability topic has been the subject of numerous researches. The most well-known studies on employability's definition and idea are those by Hillage and Pollard (1998), Yorke and Knight (2004), and Pool and Sewell (2007). According to some academics (Fugate et al., 2004), 2006), employability can be understood in many ways. According to Hillage and Pollard (1998), the phrase "employability" is employed in a variety of settings and has a variety of meanings, and as an operational concept, it sometimes lacks clarity and accuracy. According to De la Harpe et al. (2000), there is concern across the globe that current undergraduate programmes do not produce graduates with the kind of professional skills and lifelong learning abilities that they need to succeed in their fields. The Dearing Report to Higher Education (1997) placed a strong emphasis on the value of education for employability, emphasising the relevance of work experience and the development of critical skills. According to a study by Kubler and Forbes from 2005, certain degrees of cognitive skills, general competences, personal capabilities, technical ability, business/organization awareness, critical assessment, reflection, and review abilities were required for employability. Yorke and associates have since developed their idea and asserted in 2006 that "Employability derives from complex learning, and is a concept of wider range than those of 'core' and 'key' skills" and states that employability is a collection of capacities or achievements which constitute a necessary but insufficient condition for the acquisition of employment.

Problem Solving as an employability Skill

International agencies who studied employability skills considered problem solving as one of the core employability skill. The framework entitled ‘The Secretary’s Commission on Achieving Necessary Skills’ which is popularly known as ‘SCANS’ report developed by The U.S. Department of Labor (2004) comprises major employability skills and its dimensions. Problem solving is scheduled as a component of thinking skill, which is a dimension of employability skill. Department of Education and Training, Government of Australia (2006) has developed an employability skills framework that consists of communication, teamwork, problem solving, initiative and enterprise, planning and organizing, self-management and learning and technology skills. In

Canada, Employment and Social Development Canada-ESDC (2007) included problem solving as an essential skill.

Problem solving skill

Problem solving is the ability to identify and resolve issues in a timely and effective manner. It is an essential skill for both personal and professional success. In the workplace, problem-solvers are able to identify and address challenges, find creative solutions, and make sound decisions. They are also able to work independently and as part of a team to achieve common goals. Problem-solving skills are becoming increasingly important in the workplace as the world becomes more complex and competitive. Employers are looking for candidates who can think critically and creatively, and who are able to solve problems in a timely and efficient manner.

At its simplest, problem solving can be described as seeing that something is wrong and fixing it. At a more complex level, problem solving can include processes to identify problems; for example, risk management and quality assurance. Initiative was identified as an important facet of problem solving as it allows individuals to take steps to solve problems, with or without input from supervisors, before they impact on production or service delivery.

Problem-solving as an employability skill encompasses various stages and approaches. The problem-solving process typically involves:

1. *Identifying the problem:* This step requires recognizing and defining the issue at hand. Effective problem solvers actively listen, observe, and ask pertinent questions to grasp the nature of the problem accurately.
2. *Analyzing the problem:* Once identified, the problem needs to be thoroughly examined. This involves gathering relevant information, analyzing data, and evaluating potential causes and effects. It may require research, data collection, and collaboration with colleagues or subject matter experts.
3. *Generating solutions:* In this stage, problem solvers brainstorm and generate multiple potential solutions. They consider various alternatives and think creatively to develop innovative approaches. This step encourages thinking outside the box and exploring unconventional options.
4. *Evaluating options:* After generating potential solutions, problem solvers evaluate each option based on feasibility, potential outcomes, and

alignment with organizational goals. They consider the pros and cons of each alternative and select the most viable one or a combination of solutions.

5. *Implementing the solution:* Once a solution is chosen, problem solvers develop an action plan and execute it. They may collaborate with team members, allocate resources, and oversee the implementation process. They monitor progress, make adjustments as necessary, and ensure the solution is effectively implemented.
6. *Reflecting and learning:* Problem solvers understand the importance of reflection and learning from their experiences. They evaluate the results of their solutions, identify lessons learned, and seek continuous improvement. This reflection enables them to refine their problem-solving skills and enhance their effectiveness in future endeavours.

Literature review on problem solving as an employability skill

A study by the National Association of Colleges and Employers (NACE), an American non-profit professional association found that problem-solving skills are the second most important skill sought by employers, after ability to work in a team structure. Another study by the Society for Human Resource Management (SHRM), United States found that 77% of employers believe that problem-solving skills are essential for success in the workplace (SHRM, 2014). A study by the University of Maryland found that employees with strong problem-solving skills were more likely to be promoted.

A study conducted by J. Sondhi and S. Sandhu (2013) among Indian graduates to assess their perceptions of the importance of problem solving skills for employability. The study found that problem solving was one of the most important skills for graduates and there exists a positive correlation between teamwork and problem solving skills. In other words, graduates who were good at teamwork were also good at problem solving. The study also found that employers in India were looking for graduates with teamwork and problem solving skills.

A research by Sharma et al., (2013) who explored the role of problem solving in the employability of IT professionals in India revealed that problem solving was an essential skill for IT professionals. The study also found that there was a positive correlation between problem solving skills and job performance. In other words, IT

professionals who were good at problem solving were also more likely to be successful in their jobs. The study also found that problem solving skills were positively correlated with job satisfaction and career advancement.

K. Bhatia and A. Rani (2013) who surveyed the Indian employers to assess their perceptions of the emerging trends in problem solving found that employers were looking for graduates with problem solving skills that were adaptable to new situations. The study also suggested that "universities and colleges in India should provide more opportunities for graduates to develop their problem solving skills."

Shukla (2012) who studied the relationship between problem solving skills and employability of Indian youth after surveying 1000 Indian youth found that there was a gap between the problem solving skills that youth in India had and the problem solving skills that employers were looking for. The study also found that problem solving skills were positively correlated with employability and were more important for employability in certain industries, such as IT and engineering. The authors concluded that problem solving skills are essential for employability of Indian youth.

R. Srivastava and P. Jha (2014) after conducting a study among Indian graduates to assess their perceptions of the importance of problem solving skills for employability concluded that problem solving was one of the most important skills for graduates

Another study by Sharma et al, (2013) found that problem solving was an essential skill for IT professionals in India. The study also found that there was a positive correlation between problem solving skills and job performance. In other words, IT professionals who were good at problem solving were also more likely to be successful in their jobs.

Research conducted by Chen, Z. (2015), using the data from the National Longitudinal Survey of Youth 1979, found that problem-solving skill is positively correlated with productivity. In other words, workers who have higher problem-solving skills are more productive than workers who have lower problem-solving skills. The study also found that the relationship between problem-solving skill and productivity is stronger in some occupations than others. For example, the relationship is stronger in occupations that require a lot of creativity and innovation. The study also suggested that "employers

should consider problem-solving skill when hiring and promoting workers".

In summary, problem-solving skills are essential for employees as they contribute to effective decision-making, increased productivity, adaptability, innovation, collaboration, customer satisfaction, and leadership potential. Developing and demonstrating strong problem-solving abilities can significantly enhance an employee's value and success in the workplace. Overall, problem-solving skills are essential for employees in any industry. They are a valuable asset that can help employees to be more productive, make better decisions, and be more creative.

Objectives of the study

1) To assess the level of problem solving skill possessed by the students.
2) To examine the association between gender and the problem solving ability of the undergraduate students of Kasargod district.
3) To understand the employability of undergraduate students in terms of their problem solving skill.

Methodology

This study was designed as a project based assignment which an evaluation method that focuses on assessing participants' knowledge, skills, and abilities through the completion of a project or task. Unlike traditional assessments that rely on survey, project-based assessments require participants to apply their learning to real-world situations or complex problems. Project-based assessments can be implemented at various educational levels and across different subjects or disciplines. They promote active learning, problem-solving, collaboration, and critical thinking skills. Two Activities such as group discussion and group activity were used as part of project based assessment. In group discussion, groups with ten members were assigned with a topic to be discussed and finally arrive at a conclusion. 15 minutes were allotted for each group. In group activity Groups with ten members are assigned with a task to be performed. 30 minutes were allotted for completing the activity.

Scaling Techniques

The ability to work in team was assessed using a score with maximum of ten and minimum of one. The scores 1 and 2 represented very poor expression, 3 and 4 represented poor expression, 5 and 6 represented average expression, 7 and 8 represented high expression and 9 and 10

represented very high expression. So the range of score between 1 – 4 represents a poor level/expression of a skill, 4.1 – 6 represents a medium level/expression of a skill and 7.1 – 10 represents a high level/expression of a skill.

Sample Design

From the population of 2775 students, 523 students from 12 Colleges belonging to Government, Aided and Self financing colleges were selected at random for the study, which is 18.85 percentage of the population. Approximately 45 students from each College were selected who belonged to one/two courses depending on the number of students in each course. The course/s was/were selected at random and sufficient care was taken to ensure that students belonging to the three streams are uniformly included in the study. The Stratified Random Sampling technique is adopted here. The gender wise split up of the sample is given below.

Period of Study

The study was carried out during the period January 2014 to February 2015. Data from students of 2014 – 2015 and 2015 – 16 batches were collected as part of the study.

Tools for data collection

This study was designed as a project based assignment which an evaluation method that focuses on assessing participants' knowledge, skills, and abilities through the completion of a project or task. The students selected as sample for the study were asked to perform various activities that reflect the manifestation of problem solving skill . Two Activities such as group discussion and group activities were carried out as part of the evaluation process. The data regarding the problem solving skill was collected using structured observation method.

Hypotheses

Two hypotheses formulated for the study are given below:

H1: The undergraduate students who are getting ready to enter the job market do not possess the problem solving skill.

H2: There is no significant difference between male students and female students in their problem solving skill.

In order to test the above hypotheses, various statistical tools such as descriptive statistics and t test were applied and the details of the tests are explained in detail below.

Data Analysis and Interpretation

Table 1 – Gender wise split up of the sample

Gender	Frequency	Percent
Male	195	37.3
Female	328	62.7
Total	**523**	**100.0**

Source: Primary data

Interpretation

62.7 percent of the respondents were females and 37.3 were males.

Table 2 – Problem solving score of the respondents

Gender		Problem solving score of the respondent								Total
		1	2	3	4	5	6	7	8	
Male	Count	5	40	25	35	20	50	20	0	195
	Percentage	1.0	7.6	4.8	6.7	3.8	9.6	3.8	0	37.3
Female	Count	64	40	48	80	48	40	8	0	328
	Percentage	12.2	7.6	9.2	15.3	9.2	7.6	1.5	0	62.7
Total	**Count**	**69**	**80**	**73**	**115**	**68**	**90**	**28**	**0**	**523**
	Percentage	13.2	15.3	14.0	22.0	13.0	17.2	5.4	0	100.0

Source: Primary data

Interpretation

The data in the table showed that 7 was the highest score (out of 10) secured by the participants for their problem solving skill.

Criteria for deciding Employability Skill

The researcher could not come across any study that specified a methodology for assessing the employability score of a person or recommended a cut-off score. Therefore the researcher proposed a score of 6 or above (out of 10) for a person to be considered to have employability skill or to consider as employable. The data revealed that the maximum score assigned is 9 and the minimum score is 1. Therefore, the score below 4 were to categorized as low level of problem solving skill, scores between 4 to 6 were categorized and medium level of problem solving skill and 7 to 9 were categorized as high level of problem solving skill.

Table 3 – Problem solving score of the respondents

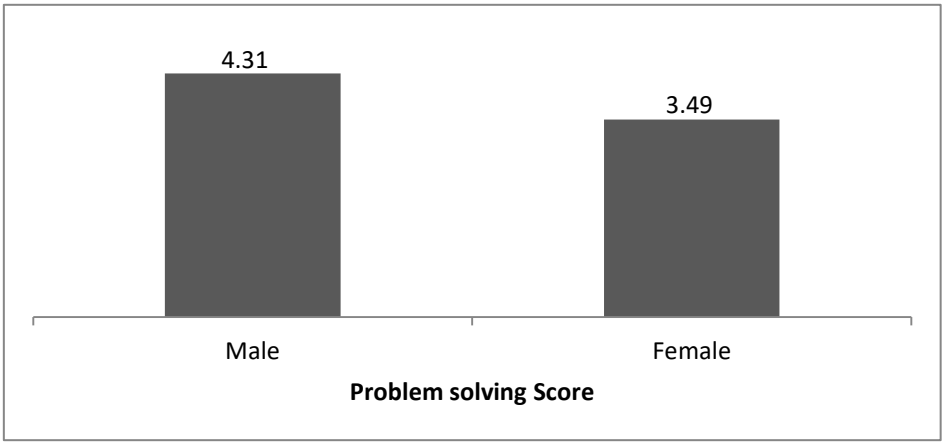
Gender		Level of Skill			Total	Mean Score
		Low	Medium	High		
Male	Count	105	70	20	195	**4.31**
	Percentage	53.8	35.9	10.3	100	
Female	Count	232	88	8	328	**3.49**
	Percentage	79.7	26.8	2.4	100	
Total	Count	337	158	28	523	**3.79**
	Percentage	64.4	30.2	5.4	100	

Source: Primary data

Table 4 – t test for equality of means of problem solving score

t-test for Equality of Means			
Variable	t	df	Sig. (2-tailed)
Problem solving score of the respondents	5.191	521	.000

Diagram 1 – Diagram showing the problem solving score of respondents



Interpretation

Majority of the students (64.50 percent) have low level, 30.2 percent of students have medium level and only 5.4 percent have high level of Problem solving skill. When gender wise comparison is done, 53.8 percent of male students have low, 35.9 percent have medium and 10.3 percent have high Problem solving skill. Regarding female students the figures are 70.7 percent, 26.8 percent and 2.4 percent respectively. The mean Problem solving score of male students is 4.31 and that of female students is 3.49. The mean Problem solving score of the whole group of students is 3.79 out of 10. The application of't' test shows that this difference between the male students and female students in their problem solving skill is statistically significant.

Employable and Unemployable Students on the basis of ability to work in team

The following table show the gender wise split up of the sample. 41.02 percent of the male students (80 out of 195) are employable and 19.51 percent of female students (64 out of 328) are employable.

As a whole, only 27.53 percent of the final year degree students are employable.

Table 5 - The employability status of students

Employability status	Male		Female		Total	
	Count	**Percent**	**Count**	**Percent**	**Count**	**Percentage**
Employable	70	35.90	48	14.63	118	22.56
Not Employable	125	64.10	280	85.37	405	77.44
Total	195	100	328	100	523	100

Source: Primary data

Testing of hypothesis No.1

In order to test the hypothesis one sample t test was applied. The test value is taken as 6 which is the minimum score required to be considered as an employable person.

Table 6 - One-Sample t Test

	Test Value = 6			
	t	df	Sig. (2-tailed)	Mean Difference
Problem solving score of the respondent	-28.198	522	.000	-2.20650

The test produced a t value of – 20.992 and the significance value was .00 which is less than the p value 0.05.The result can be interpreted that mean score is not 6 and since the t value is negative, the mean score is less than the test value of 6. Further, from the research it is revealed that only 22.56 percent of students are employable when the problem solving skill is considered. Therefore the hypothesis that the undergraduate students who are getting ready to enter the job market do not possess the employability skills in terms of their ability to solve problems is accepted.

Testing of hypothesis No.2

Statistical testing has proved that the difference in problem solving skill among the male students and female students is significant. So the hypothesis that there is no significant difference between male students and female students in problem solving skill is rejected.

Findings

The major findings of the study are summarized below.

1. The average problem solving skill score of the final year degree students is only 3.79 out of 10, which means the graduates are going out of the campuses with a moderate ability to work in teams. When gender wise analyzed, male students are slightly better than female students in their ability to solve problems and this difference is found statistically significant also.
2. When the problem solving skills of a final year graduate student is considered, only 22.56 percent of the final year degree students are found to be employable. On a gender wise comparison, the 35.90 percent of the male students and 14.63 percent of the female students are employable. The difference between the male and female is found to be statistically significant.

Conclusion

The corporate are looking beyond the so called academic performance for the employability skills when they are recruiting employees. Therefore the graduates who are getting ready to enter the job market should be well equipped with these essential skills. In a global perspective, the employability skill comprises ability to work in a team also. The researcher made an attempt to assess the level of problem solving skills possessed by the final year graduates of educationally backward, Kasargod district of Kerala state. The study revealed that only a large minority of the final year graduates possess the employability skills.

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