

**A STUDY ON COMPETENCY MAPPING TO ENHANCE
EMPLOYABILITY SKILLS OF ARTS AND SCIENCE
COLLEGE STUDENTS IN TAMILNADU**



**A thesis submitted to Bharathidasan University in partial fulfillment of the
requirements for the award of the Degree of**

DOCTOR OF PHILOSOPHY IN MANAGEMENT

By

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(Ref.No:19607/Ph.DK4/Management/Part-Time/Oct'2013 / Date: 12.08.2014)

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I hereby declare that the thesis entitled **“A STUDY ON COMPETENCY MAPPING TO ENHANCE EMPLOYABILITY SKILLS OF ARTS AND SCIENCE COLLEGE STUDENTS IN TAMILNADU”** has been originally carried out by me during the period of my study 2013 - 2021 in the Department of Management Studies, Shrimati Indira Gandhi College, Tiruchirappalli, Tamilnadu, India, under the guidance of **Dr.J.FRANCIS MARY** , **Research Advisor and Guide** and this work has not been submitted elsewhere for any other Degree or Diploma of any other University.

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CERTIFICATE OF PLAGIARISM CHECK

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ABBREVIATIONS

AAA - American Accounting Association

AGFI- Adjusted goodness of Fit Index

AICTE - All India Council for Technical Education

ANOVA - Analysis of variance

BA – Bachelor of Arts

BBA - Bachelor of Business Administration

BCA - Bachelor of Computer Applications

BCOM – Bachelor of Commerce

BSc - Bachelor of Science

CFI - comparative fit index

CGPA - Cumulative Grade Point Average

CII - Confederation of Indian Industry

CMQ - Common Metric Questionnaire

EBSCO - Elton B. Stephens Company

GFI - Goodness of fit index

HR – Human Resources

HRD - Human Resources Department

ICT - Information and Communications Technology

IFI - Incremental Fit Index

IIM - Indian Institute of Management

IMA - Institute of Management Accountants

IT – Information Technology

MAS - Management Accounting Section

MHRD – Ministry of Human Resource and Development

MOSAIC - Multipurpose Occupational System Analysis Inventory

NAE - National Academy of Engineering

NASSCOM - National Association of Software and Service Companies

NBA - National Board of Accreditation

NFI - Normed Fit Index

PAQ - Position Analysis Questionnaire

PG – Post Graduation

QS Ranking – Quacquarelli Symonds Ranking

RMR - Root mean square residuals

RMSEA - Root mean square error of approximation

SD – Standard Deviation

SEM- Structural equation modeling

TLI - Tucker Lewis index

UG – Under Graduation

UGC – University Grants Commission

UN – United Nations

WPS - Work Profiling System

ABSTRACT

Competency map is a list of a candidate's competencies that signify the factors that are essential for success in given job. Competency mapping is a comprehensive process of identifying the necessary abilities to perform the tasks successfully assigned to the individuals in an organisation. Competency mapping helps to identify the strengths and weaknesses of the candidates and also enable them to understand themselves better. Identifying the gap in their performance, to have role clarity, to develop leadership qualities and knowledge management are some of the purposes of competency mapping. Competency mapping is a significant activity in preparing the students for placement in colleges. Students are expected to equip themselves for professional development and to get a suitable placement. Education imparted through text book and courses taught inside the classroom only will not help them to prepare the students for placement.

Employability skills refer to traits of prospective employees that make them an asset to the future organisation, apart from the technical knowledge they possess. The skills that are valuable in supporting every person arriving at the workforce are employability skills. Good employability skills give the graduates an advantage in their respective fields and workplaces. Therefore Institutions should focus on building the employability skills of their students by paying attention to train them in this regard. Students should develop their employability skills to contribute to the productivity and efficient functioning of organisations, when they get employed in organisations. This study specifically focused on competency mapping and employability skills of the graduate students of arts and science colleges in Tamilnadu. The competency level of the students should be identified to train them for further improvement. This research is a threefold study that recorded the opinion of the HR managers, placement trainers as well as the perception of the students. A thorough analysis on various skills of the students were understood by getting the opinion of the above mentioned respondents. Students, HR managers and trainers have positive opinion about the skills and the training what students receive. The model used in the study has also confirmed that the course content enhance the employability skills of the students.

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CHAPTER I

INTRODUCTION TO THE STUDY

1.1 Introduction to Competency Mapping

Competency Mapping is used in many organisations to identify the key strengths, skills and knowledge base of the candidates. The knowledge, set of skills and attitude of the candidates are measured in frequent intervals using competency mapping tool. Any fundamental characteristic essential for employees or potential employees to perform a given task, activity or role effectively is referred as competency. Boam¹ defined competency as any feature of the inner person, usually exposed as behaviours, which consents them to accomplish competently, whereas, competency is an output or outcome measure [4]. A competency map is a list of a candidate's competencies that signify the factors that are essential for success in given jobs, or any assignments in workplace that are part of the individual's career plan. Competency mapping is a process of identifying the requisite talents to perform a task or role successfully in an organisation. The word 'mapping' refers to comparison. Many organisations are using competency based hiring to recruit and select right talent for their firms to get better performance from the employees and have an edge on competition. Many graduates are unemployed and on the other hand jobs remain unfilled. Competency mapping helps to identify the strengths and weaknesses of the candidates and also enable them to understand themselves better and where their career building efforts need to be channelized. Competencies required for organisations are derive from job roles within the organisation. Personal skills of the candidates preferred behaviours are measured and average, effective and excellent candidates are distinguished through the process. Timothy² defined competency as a set of observable performance that includes the knowledge of the candidates skills possessed, attitude, behaviour and also organisational capabilities that are

¹ Boam, R., & Sparrow, P. (1992), "Designing and Achieving Competency", London: McGraw-Hill.

² Timothy, Athey, R., & Michael S., Orth, (2001), "Emerging Competency Methods for the Future", Human Resource Management, fall 1999, Vol. 38, Number 3, John Wiley & Sons, Inc.

useful for high performance in workplace and contribute to the organisational effectiveness [1]. Competency based approach when compared to traditional job analysis gives a clear idea on the potential candidates. Increased cost of recruitment, human resources, training and retention of employees, have influenced to introduce and implement competency mapping in organisations. A strong need of competency mapping is felt by the executives in organisations to control the costs related to training and retention. The new competencies measured are motives, values, traits apart from the traditional competencies viz. knowledge, skills and attitude. Identifying the gap in their performance, to have role clarity, to develop leadership qualities and knowledge management are some of the purposes of competency mapping. Gap identification helps the organisation to improve the skills set of employees through training programmes. The process of competency mapping acts as a platform to compare the present competency level of employees with the desired competencies to do a task effectively. Candidates are expected to have general, technical and managerial competencies to perform their tasks efficiently and produce results for the organisation. Good aptitude, logical thinking, problem solving skills, team work, soft skills and leadership are some of the skills fall into the three major categories of skills (Knowledge, Skill & Attitude). To achieve the overall goals of the organisation and meet the requirements of the supervisors, employees should have complete knowledge of the work and competencies to perform. Candidates' skills are tested in the process of interview. When Institutions are approached by the employers to recruit candidates this competency mapping is used to test their employability skills.

Competency Mapping is a procedure of categorizing main competencies for an organization and/or a job and combining such competencies during the course of the various processes (i.e. job assessment, training, recruitment) of the business. A competency is defined as a behavior (i.e. communication, leadership) than a talent or capability. The process of identifying the key

competencies of individuals through evaluation, training, etc. The main objective of competency mapping is identifying the individual's strengths and weakness to know his level of competency and enable him for his career development. Competency mapping is performed by the individuals themselves and also by the superiors. The purpose of competency mapping is to compare the current and desired level of skills of the individuals.

Students are expected to equip themselves for professional development and to get a suitable placement. Education imparted through text book and courses taught inside the classroom only will not help them to fetch a good job. Overall competency based education along with classroom learning fulfilling the requirements.

A comprehensive curriculum developed by the institutions will increased the employability skills of the students. Recruiters are looking for job skills and competencies along with subject knowledge. Many consultancies and recruiters have expressed their grief that graduates looking for jobs are not possessing sufficient skills to get a suitable job. Skills and competencies that are essential to get a job are to be developed from day one when they start their college education. Communication skills, interpersonal skills, analytical thinking, problem-solving skills are a few essential skills students should develop when they are in college.

Students are expected to stay relevant to the dynamic job market. In a joint survey conducted by AICTE, CII, UN development programme, Human Resources Firms like people strong and Wheebox, it is revealed that the employability of fresh graduates is raising. The percentage of raise is not upto the mark. Still there is a gap between employability and skills. The survey confirms that other than engineering graduates, less than 45% of the fresh students are employed.

1.2 Techniques of Competency Mapping

Ascertaining all the competencies vital to accomplish a student's requirements is not a cool task. Yet, a number of techniques and methodologies have been established and effectively experimented upon. These techniques have assisted educational institutions predominantly Arts and Science colleges to a greater extent, to classify and strengthen and/or progress such competencies both for the development of the individual students as well as to the progress of the institution. Some most important methods of competency mapping are:-

- 1. Assessment Centre:** "Assessment Centre" is a mechanism to identify the possibilities for development. It is not a location but a process that utilizes a multiple techniques to estimate students for future recruitments and decision making in the companies. This mechanism was introduced by American Telephone and Telegraph Company in 1960 for line personnel who were considered for further professional development.

Step 1: Gathering facts: The methodology usually employed through an open-ended questionnaire, gathering retrospective data. The events should have occurred legitimately of late: the longer the duration amongst the proceedings and their gathering, the higher the hazard that the consumers could respond with fictional conventional answers. A vital characteristics of these assessment centre is the application of conditional tests to detect particular student behaviour to that course which he/she is going to accept to study. Since it is with reference to a certain course (degree), components linked to the course are replicated through a variety of tests. The assessors perceive the behaviour and make separate evaluation of what they have detected, which end up in recognizing strong points and flaws of the qualities being noticed about each student.

It is, nevertheless, worth noting that there is a huge bunch of academic research which recommends that the assessment centre is undoubtedly one of the greatest valid interpreters

of delivery in a particular job in the future and, if appropriately designed, is in all probability one of the unbiased and most impartial way of collecting data upon which a variety conclusions can be drawn. It is significant from the student's point of view to be usual and to be what the challenges students face with an assessment centre.

An investigation of pertinent behaviour of individual student to regulate attributes, talents, etc. for actual course performance and what should be estimated by the assessment centre.

- Procedures utilized should be authenticated to assess the extents of abilities and aptitudes.
- Manifold assessment practices should be imbibed.
- Assessment techniques should comprise of the future job linked models.
- Numerous assessors should be made use of each and every assessment.
- Assessors ought to have the compulsory expertise to do the perfect assessment.
- While conducting behavioural observations by assessors', proper classifications into more or less eloquent and applicable groupings of attributes, skills and abilities, etc. should be adhered.
- Record comments must be a systematic process.
- Report generation is a must by each assessor.
- The assessment thus collected should be integrated either by deliberations or solicitation of statistical methods.

Data thus produced can be exceptionally beneficial in categorizing the students with opportunity for development. Some of the advantages of the assessment centre:

- It facilitates in recognizing primarily the accepting capacity and in view of that the student could be steered to pick a specific course.
- It helps in identifying the student where to concentrate more and where not to put much effort.

- Assessors who are generally good educationalist in the institute / college find the inputs for assessor with a strong expertise to comprehend their institute a little better while recruiting the students for a particular course.
- The assessment centre gives a chance for the institute to review its educational policies which could facilitate to bring in the best quality students.

Assessment Centre is a multi-layered process and requires plenty of time investment. It should protect itself from misinterpretations and nonconformities in its carrying out. For perfections few of the apprehensions ought to be upheld:

- Assessment Centre for judgements is frequently transformed as Assessment Centre for forecasting of lengthy variety prospective.
- The assessors' decision may reveal the opinion of certainty and not the actuality itself.
- No one is sure if the remunerations be greater than the cost incurred.

Assessment Centre encompasses a numerous tactics or imitations which have been intended to duplicate the errands and stresses of the work. These tactics would have been anticipated in such a manner that students could assume them both either independently or in groups and observations are done by the assessors when they are performing the tasks. The main types of tasks are mentioned below. Most institutions could utilize an amalgamation of them to measure the strengths, weaknesses and potential of students.

Group Discussions: In these, students are brought unperturbed as a group with one or more amount of objects to put forward on. Students will be probed particular characters to enact in the group or it may be organized such that all the students have the similar basic data. Group discussion encourages them to interchange the data, thoughts, and opinions and provides them the opportunity to put forth their views on any particular assigned topic for discussion.

Some of the merits of group discussion are:

- New ideas are generated.
- Ideas could be pooled.

- Thoughts can be ‘tried out’.
- Concepts can be replied by others.
- If the changing aspects are accurate, groups delivers a helpful and fostering atmosphere for academic and professional attempt.
- Group discussion talents have numerous specialized submissions.

A valuable approach for mounting an operative group discussion is to recognize assignment and upkeep roles that fellows could accept performing. Few roles, and the discourse that could complement them in a group discussion are recognized.

In Tray: This kind of task is usually accepted by students exclusively. The resources includes a packet of communications and the student is positioned in the role of an important person, commonly, who has taken charge a new position or substituted their successors at a brief time gape and has been requested to understand with their amassed communications. Mostly the only proof that assessors have is the interpretations which the students have prepared on the articles of mail. It is imperative when such activity is given to the students to be doubly definite that the objects are not just dispensed with, but are evidently noticeable on the objects any views that students have regarding those objects or any other activities that the students would like to embark on.

Interview Simulations / Role Plays: In these kind of tasks the students encounter separately with a resource person. Their intentions are either to collect facts to construct an opinion and formulate a decision, or on the other hand, to involve in conversation with the resource person to arrive at a firmness on a topic of difference of opinion. Naturally, candidates will be permitted 15 -30 minutes to concoct for such a discussion and would be provided with a small, over-all facts on the goals of such meeting. While the assessment is done predominantly on the demeanour of the meeting alone, considerations would also be specified to introductory data.

Case Studies / Analysis Exercises: In this kind of tasks the students / candidate is offered with an assignment of creating a decision regarding a specific business case. They are given a huge amount of realistic facts which is usually vague and, in some cases, inconsistent. Candidates / students normally solve individualistically on such a task and their endorsements or results is typically to be transferred like a small transcribed report and/or a demonstration is done to the assessors. Like any other tasks it is significant with such type of tasks to confirm that their understood procedures are undoubtedly voiced and accessible for analysis of the assessors. Of supreme prominence, if the report necessitates a conclusion to be done, make certain that a conclusion is prepared and voiced.

Critical Incidents Technique:

It is not easy to describe critical incident not including to portray that it could bestow to the development and decline of an arrangement. It is a method to comprehend the idea to scrutinize the skills and talent of the participants. In spite of many differences in processes for congregation and investigating critical incidents, researchers and experts approve the critical incidents technique could be defined as a set of processes for thoroughly categorizing behaviours which govern to victory or disappointment of persons or organizations in particular circumstances. At the outset, a list of upright and corrupt on the work behaviour is furnished for each and every work. A few members are appointed as jury to assess and mark the scores on positive and negative behaviour, correspondingly. A check-list of positive and negative behaviour is constructed upon these scores.

The subsequent process is to teach the authorities concerned in taking information on critical incidents or unresolved instances of victory or disappointment of the earlier batch students in fulfilling the learning necessities for the particular course. The incidents are instantaneously noted down by the authorities as they observes the previous batch students' performance. The aim of instantaneously noting down the precarious incidents is to progress the authorities

capability as an observer and to lessen the human predisposition to have faith in on memory and henceforth consequent misrepresentations in incidents. Consequently, a balance-sheet for each and every student must be created which could be utilized in the year end to comprehend the accomplishment of the students in a particular course. Moreover apart from being impartial which is a strong lead of this method is that it categorizes extents to where guidance could be helpful.

In actual world of chore performance, customers are conceivably in the greatest situation to identify critical incidents instigated by operational harms and propose faults in the user margin. Critical incident documentation is perhaps the only maximum significant type of data linked with chore performance in usability-oriented circumstance. Few are the standards for an effective utilization of critical incident technique:

- The data are positioned on actual critical incidents that happen when a task is done.
- Tasks are completed by actual users / institutes.
- Users are situated in their usual learning atmosphere.
- Data are seized in regular task circumstances, not unnatural lab surroundings.
- Users directly tell their specific critical incidents subsequent to their occurrences.
- No direct communication happens amongst user/institute and evaluator when the occurrences are described.
- Quality information could be apprehended at less budget to the user / institute.

Critical Incidents Technique is beneficial for tracking down comprehensive data about a specific role. It is tremendously convenient to get exhaustive comment on a strategic decision. It comprises the following three stages:

There are two kinds of methods to gather information:

a) Unstructured approach: In this approach, the individual student is asked to write down two positive things and two negative things that occurred when he /she was working an action.

b) Moderate structured approach: In this approach, the individual student is asked to answer to following enquiries pertaining to the end result when he/she was carrying out an action.

- What instigated the circumstances?
- What was done which was particularly effective or non- effective?
- What was the end consequence (result)?

Step 2: Content analysis: Second stage contains of recognizing the stuff or themes characterized by the collections of occurrences and steering “retranslation” tasks through which the expert or few other respondents categorize the occurrences into content groupings. These steps benefit to categorize incidents that are arbitrated to embody magnitudes of the behaviours that are well-thought-out. Utilizing a simple spreadsheet this could be done. Every element is entered as a distinct event when starting, later on each of the occurrences are brought together into groupings. Category participation is mentioned as similar, somewhat similar and may be similar. This comes to an end until each element is allocated to a grouping on to minimum of “somewhat similar” basis. For each grouping is then assigned a term and the total responses in the group are totalled. Later they are transformed into percentages (of total number of responses) and a perfect report is put into words. Well this step is usually not adopted or skipped in the educational sectors as it is time consuming and requires lot of patience both for the management and students.

Step 3: Creating feedback: It is vital to understand both good and bad comments which will be given by the students. The meagre aspects must be prepared in order of regularity, utilizing the quantity of responses in each group. Similar process must be done with the good aspects. At this juncture it is essential to review the software and scrutinize the conditions that led to each group of critical incident. Recognize what characteristic of the boundary was accountable for the occurrence. Every now and then it is found there is not one, however

numerous features of a communication that instigates to a critical incident; it is their combination composed that makes it dangerous and it could be a mistake to target on one prominent aspect.

Some of the advantages of critical incident technique are presented below:

- Few human errors that are involuntarily happens could be found and remedied by these procedures.
- Management with less knowledge in the particular industry sector or human computer interaction, and with the simplest least training in critical incident identification, could identify, draft a statement, and rate the seriousness levels of their own personal critical incidents.

Some of the disadvantages of critical incidents method are presented below:

- It emphasizes on critical incidents hence monotonous incident may not be stated. It is thus poor as an instrument for analysing routine chore analysis.
- Respondents could answer with categorizes, not real happenings. By means of extra configurations in the form increases this again not at all times.
- Achievement of the user stated critical incident method be determined on the capability of consumers to identify and state critical incidents successfully, however there could be no reason to consider that all the users have such abilities obviously.

Personal Interview Techniques in Competency Mapping

Virtually every organization almost utilizes an interview in some arrangement or the other, as part of competency mapping. Huge quantities of research have been done into interviews and plentiful books are written on the topic. However, there are few guidelines, the thought of which must help the utilization of an interview or dialogue for competency mapping.

The interview consists of a communication amongst interviewer and the applicant. If fingered properly, it could be an influential method in accomplishing correct facts and accomplishing right to use the information which is inaccessible. If the personal interview is handled

carelessly, it could be a home for bias, restricting or misrepresenting the movement of communication.

Meanwhile the personal interview is the most frequently used personal interaction techniques, care should be taken before conducting the personal interview, through and after the personal interview process. Few stages are recommended:

- Much prior to the real interviews starts, the dangerous parts in which interrogations would be asked needs to be recognized for arbitrating talent and abilities. It is always better to note down such dangerous parts, explain them with illustrations, and arrange a scale to rate replies. If there are greater one interviewer, few practice and mock interviews / discussions would assist to standardize differences in distinct interviewers' scores.
- The second stage is to examine the material given to classify abilities, incidents and expertise in the work of the candidate, which could respond questions raised around the dangerous parts. This process would enable interviews less unconcerned from genuineness and the candidate would be more contented as the conversation will concentrate on his/her understandings.
- An interview always is a head-on condition. The candidate is "on guard" and vigilant to give his/her best potential. Also he is anxious, worried and perhaps terrified. Hence, in the course of an interview, insight and understanding could be very valuable. The interviewer could get a better reply if he builds a sense of simplicity and casualness and later discovers evidences to the applicant's enthusiasm, approaches, moods, personality, etc., such things are if not problematic to figure out.
- The vital step is instituting "rapport", placing the candidate at easiness; assigning the impression that the discussion is only a conversation amongst two associates, and not a fight between an employer and a worker. One method to accomplish the easiness is

by primarily questioning queries not straight pertaining to the work that is, conversing informally about the climate, trip and so on.

- Once the applicant is placed at comfort zone the interviewer begins by asking queries, or try to find data linked to the work. At this juncture again it is tremendously significant to go to the multifaceted queries slowly. Enquiring a challenging, intricate questions in the commencement could influence ensuing communication, predominantly if the interviewee is unable to reply the questions. Therefore it is sensible to follow a particular pattern to progress from the simple-to-complex series.
- Displaying astonishments or displeasure of the dialogue, attires, or responses to the questions could also hinder the candidate. The candidate is highly sensitive to those feedbacks. From now on, an attempt to crack and comprehend the interviewee's point of view and positioning could go a lengthy way in understanding and get to be acquainted with the interviewee.
- Leading interrogations must be evaded since they provide the hint that interviewer is looking for definite categories of responses. This could generate a struggle in the candidate, if he/she has robust opinions on the particular topic. At the same time the interviewer should not allow the interview to get uncontrollable. He must be attentive and ponder the interviewee if he/she attempts to overtake the deliberations in parts where he/she feels tremendously knowledgeable, if it seems to be wandering from applicable range.
- The interviewer must be equipped with exact queries, and not consume plentiful time in outlining them.
- When this stage is completed, the interviewers must deliberate the interviewee, recognize areas of bargain and differences, and make a temporary decision regarding the applicant. It would be obliging if, apart from rating the candidate, interviewers

completed small record on their opinions about the candidates' behaviour answers; which could be deliberated at a later date and time. Suppose the interview would last for various days, an assessment of the particular day's work, components of the questions and overall design of answers ought to be made available for likely mid-course improvements.

Questionnaires

Questionnaires are printed lists of queries or an inquiry form that candidates fill the questionnaire and give it back. By formulating interrogations on the required information, questions are asked and getting the desired information through this method. The questionnaire bases at the end give more insight on scheming operational questions. This method could be utilized at any phase of growth, depending on queries that are targeted in the inquiry form. Frequently, questionnaires are utilized after the goods are transported to measure customer contentment with regard to the product. Such inquiry forms time and again recognize usability problems that must have remained caught inside beforehand the goods was unobstructed to the marketplace.

- a) Common Metric Questionnaire (CMQ):** They scrutinize some of the capabilities to perform and consist of five sections: Backdrop, Associates with People, Making Decisions, Bodily activities and Motorized Activities, and Effort Setting. The background or the backdrop unit probes 41 general queries about work requirements such as travel, seasonality, and license requirements. The Associates with People unit probes 62 queries aiming at the level of administration, levels of internal and external associates, and consultation necessities. The 80 Making Decision stuffs in the CMQ concentrates on pertinent work-related information and abilities, language and sensual necessities, and supervisory and occupational decision making. The Bodily and Motorized Activities unit covers 53 stuffs with regard to bodily activities and paraphernalia, apparatus, and tools. Effort Setting comprises 47 stuffs

that concentrate on ecological circumstances and other trade individualities. The CMQ is a comparatively novel device.

b) Functional Job Analysis: The greatest recent form of Functional Job Analysis utilizes smooth scales to pronounce what workforces actually do in works. These scales are: Stuffs, Information, Individuals, Employee Directions, Cognitive, Mathematics, and Linguistic. Respectively scale has numerous points that are affixed with explicit behavioural testimonials and demonstrative responsibilities are utilized to gather job data.

c) Multipurpose Occupational System Analysis Inventory (MOSAIC): In this method respectively work analysis record gathers the data from the personnel management system office by means of various parameters. Two major parameters in each form are responsibilities and capabilities. Responsibilities are valued based on significance and proficiencies are valued on numerous scales containing significance and necessities for accomplishing the particular tasks.

d) Occupational Analysis Inventory: It comprises of 617 “work elements.” deliberated to produce more precise work data though still apprehending work necessities for practically for all professions³ [5]. The major groupings of stuffs are five-folded: Data Received, Psychological Activities, Work Performance, Work Objectives, and Work Background. Respondents value each work component on one on four assessment scales: part-of-work, level, application degree, or an unusual scale planned for the aspect. Afterwards, the matching is completed amongst capabilities and work necessities.

e) Position Analysis Questionnaire (PAQ): It is an organized work analysis tool to valuate work appearances and communicate those to human appearances. It contains

³ Cunningham, JW, Boese, RR.Neeb, RW, & Pass, JJ. (1983), “Systematically derived work dimensions: Factor analyses of the Occupational Analysis Inventory”, Journal of Applied Psychology, Vol. 68, pp. 232-252.

of 195 work aspects that signify in a wide-ranging method the purview of human behaviour complicated in job doings. These stuffs come into five groupings:

- Information response (from where and in what way the employee gets the data),
- Mental procedures (cognitive and other procedures workers utilize),
- Work yield (physical doings and apparatuses utilized while working),
- Interactions with other individuals, and
- Job framework (the bodily and societal settings of the job).

f) Work Profiling System (WPS): It is calculated to benefit employers achieve human resource roles. The competency method is intended to get reports directed concerning countless human resource jobs like discrete employee development scheduling, workers selection, and job sketch. Three types of the WPS knotted to different kinds of professions: decision-making, service, and practical professions. It comprises of organized queries which processes capability and behaviour qualities.

5. Psychometric Tests

Many companies utilize some method of psychometric valuation as a portion of their selection course. For some this is an outlook regarding which there are normal and graspable suspicion which unidentified.

Psychometric test is a consistent impartial quantity of a trial behaviour. It is unvarying since the process of running the test, in what situation the test is engaged, and the technique of evaluating individual scores are consistently smeared. It is impartial since a good investigation quantifies the individual modifications in a dispassionate systematic scheme without the disturbances of human elements. Maximum of such tests are time constraint and provide accurate answers. An individual's scores are calculated based on the right answers. Maximum tests can be categorized in to two comprehensive groups:

a) Aptitude Tests: They denote the potentiality a person processes to benefit from training. It calculates how fine an individual will be talented to achieve post training

and not whatever he has completed prior to training. They are established to recognize persons with distinct preferences in specified talents. Therefore they conceal more tangible, evidently described or real-world capabilities like mechanized abilities, scientific capacity and creative abilities, etc.

b) Achievement Tests: These tests quantify the degree of expertise that an individual has been talented to accomplish. They quantify what an individual has completed. Maximum of these examinations quantify those things like language tradition, arithmetic calculations and cognitive thinking, etc.

1.3 Employability Skills

Employability skills refer to traits of employees that make them an asset to the organisation, rather than technical knowledge they possess⁴ [2]. The skills that are valuable in supporting every person arriving at the workforce are employability skills. Good employability skills give the graduates an advantage in their respective fields and workplaces. Therefore Institutions should focus on building the employability skills of their students by paying attention to train them in this regard. Generic skills other than conceptual skills from curriculum through text books and class room learning help students to build their employability skills and enhance their placement opportunities. Generic skills refer to the skills students learn to behave and interact effectively with others. Robinson⁵ stated that employability skills are classified as academic skills, higher-order thinking skills and personal traits with detailed skill sets. Indicated that from the viewpoints of the employers, ‘employability’ is referred as work readiness, that is, learning the skills, knowledge, attitudes and behaviour that enable the graduates to make useful contributions to achieve the goals of the organisation [6]. Employability skills are not skills that not exactly job specific, but they

⁴ Buck L. L. & Barrick R. K., (1987), “They are trained, but are they employable?” Vocational Education Journal, 62(5), pp. 29-31.

⁵J. P. Robinson, “What are employability skills?” The Workplace, 5(3), pp. 1-3, 2000. Available from: <http://www.foretica.org/wp-content/uploads/2016/01/employability-skills.pdf>

are the skills that are necessary for all industries and for all types of jobs from entry level to chief executive officer. The skills that are required not only to get a job, but also to perform the tasks effectively and progress in an organisation and contribute for the effective functioning of the firm. Sherer⁶ specified that employers are generally having the opinion that students passing out from the universities are not having sufficient skills [6]. They need to get and improve required skills to meet the needs of the business and help the enterprise to manage the cut throat global competition.

1.3.1 Importance of developing Employability Skills

Students should develop their employability skills to contribute to the productivity and efficient functioning of organisations, when they get employed in organisations. To get employed in a better organisation, they need to build their skills to prove their ability and competence in the interviews. Technological improvements and changes, globalisation, changes in customers' demography, cut throat competition and shift in economy have forced the companies to change their business strategies. In the changing business setup, employees are expected to perform efficiently to support the organisation to meet the above mentioned challenges. For that potential employees need to improve their technical as well as generic skills. Graduates are potential employees who are going to get employed in organisations when they complete their studies. Graduates with good employability skills work efficiently in complex work environment, effectively interact with customers, flexible with work and co-workers, team players and need less supervision. John Griffith, Joint Chairman, KPMG stated that businesses organisations, colleges and universities should put their efforts together to train young people and prepare them for the workplace and provide them the information on career choices available to them. A portfolio of skills that enhances the employability of the candidates has to be imparted to them when they are graduating from colleges or universities.

⁶ Sherer, M., &Eadie, R. (1987), "Employability Skills: Key to Success. Thrust, 17(2), pp. 16-17.

Students with special skills who can distinct themselves from the crowd are preferred in the industry. Identifying the needs of the employers and imparting the skills both technical and generic enhance the employment opportunities of the employees. Effective organisations understand the significance of helping employees and potential employees to manage their career and provide professional developmental inputs for effective functioning. Employability skills are significant for the students to get along with co-workers, take critical decisions, problem solving, earn respect and in the long run to become ambassadors of the enterprise.

1.3.2 Role of Stake holders in developing Employability skills

Universities, Colleges and Placement Cell have a significant role to play in developing the employability skills of the graduates. They should act as a bridge between educational institution and employer. The needs and expectations of the corporate are to be informed to the graduates to create an awareness among them before the skills are developed. The transition from education to employment should be taken care by the educational institutions and universities by incorporating skills development modules in the curriculum itself. Gaps in skills vary from industry to industry. The importance of imparting employability skills increased after the corporates felt there is a gap in the competence expected and the competence possessed by the graduates. Skill gaps lead to poor performance in the workplace. The nature of employment is also changing. Employees were involved in doing routine jobs and the nature of employment and the expectations of employers have changed today. Corporates feel very less percent of the graduates are employable and they lack soft skills in handling customers and clients. When institutions do not play their role, graduates skill gap increases and they become unemployable. Graduates are to be prepared to face the employment challenge by taking corrective actions by understanding the dynamic corporate requirements.

Skills based learning should be given importance by changing the curriculum, experiential learning through projects and internships, improving the communication skills of the students through class room presentations, case discussions, group discussions, and role plays. Learning environment provided to the students should be favourable to the students to build their skills. Graduates of the present generation need lot of encouragement to take part in the placement training programmes, and have more seriousness in developing those skills. Every programme and course should have a component to enhance the employability skills of the students.

1.3.3 Skills expected by the Employers

Various studies have been referred by the researcher to have a better understanding on the employability skills that are expected by the employers. They are as follows

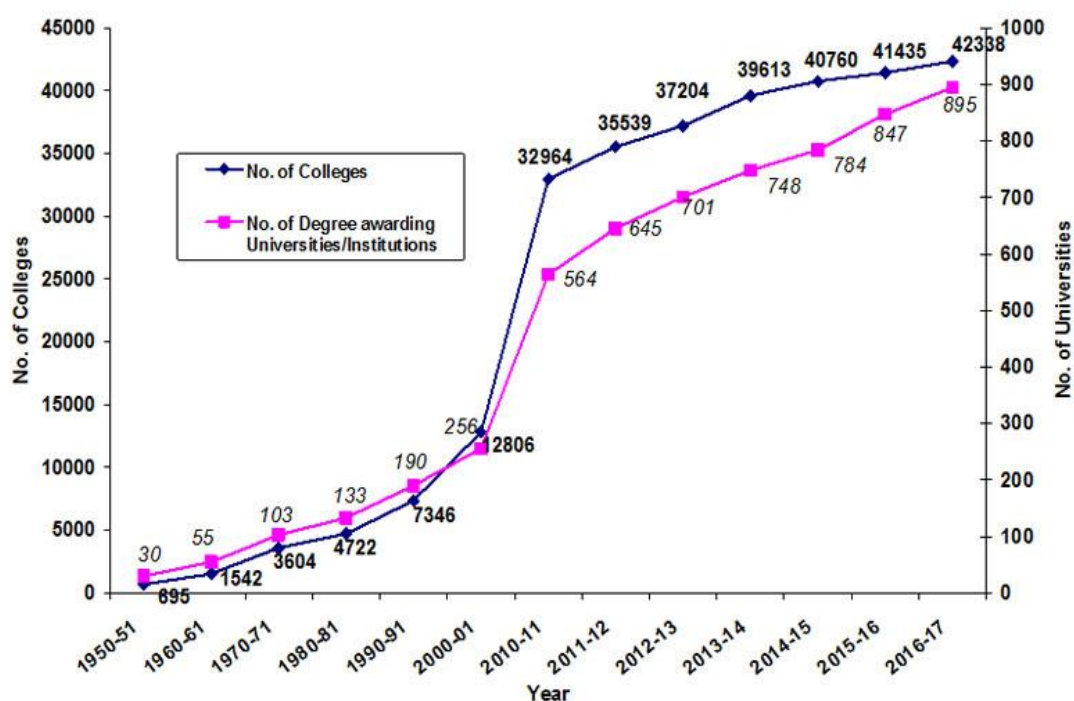
- Communication skills (both oral & written)
- Teamwork
- Problem solving skills
- Taking Initiative
- Planning
- Self-management
- Learning skills
- Technical competency
- Work Ethics
- Determination

These skills are required along with the conceptual knowledge they get through the lectures in the higher educational institutions. Curriculum embedded with these skills improve the student's competency and prepare them to face the interview. For example, giving group assignments and group projects improve their teamwork skills, giving oral presentations and blogging improves their oral and written communication skills.

1.3.4 College Education in India

India is going to have 140 million people in college age group by 2030. This can be considered a boon or huge strength to boost the economy of the country. By channelizing the strength properly, youth of our nation can rule the world economy. All this is possible by imparting right and future knowledge to contribute better in the workplace. By imparting world-class inputs to them through curriculum and right education system, which is possible. Higher education system in Universities of India still far behind the standards when compared to best universities of the world. According to the data of QS World University Rankings of the year 2016, only two Indian universities were included in the top 200 and only ten came in top 700 and the data also confirms that poor enrolment of students and Courseshortage are the reasons for the low performance. According to the survey conducted in 28 states and Union Territories by Wheebox, an assessment firm on communications on their numerical ability and logical thinking, and domain knowledge revealed that only 34 percent of the graduates are employable. The study also found that employability skills of students from Punjab, Haryana, Tamil Nadu, Odisha, Uttar Pradesh, Andhra Pradesh, Karnataka, and West Bengal are good, whereas the employability skills of the students from Jammu & Kashmir, Nagaland, Manipur, Meghalaya, Bihar and Jharkhand are poor. As per UGC website, there are 789 universities, 37204 colleges and 11443 stand-alone institutions in India, up to the year 2017. Figure 1.1 depicts the growth of higher educational institutes in India.

Figure 1.1
Growth of Educational Institutions in India



The growth should also be proved in quality of education. Educational institutions, teachers, Universities and graduates have the shared responsibility for the growth of employability skills as well as the growth of the nation.

Competency mapping is the about understanding the learning activities and skills set of the students. It is highly essential in the present era to make the employment opportunities better for the students. The educational institutions must ensure that various competency skills are imbibed in the students' besides the curricula which they would be mandatorily learning. A precarious prerequisite of any educational institute, team and individual is representing the competencies compulsorily to accommodate the purposes at all three junctures institution, team and self.

Table 1.1
Key Competences

Skills/ Stakeholders	Student	Teacher	Syllabus
Logical and analytical ability	Self-Learning, Learning by doing	Guidance	Books and Exercises, Internships & Dissertations
Self-learning ability	Learning by secondary sources	Encouraging students to learn by exercises	Exercises
Achievement orientation and self confidence	Volunteer to participate in events.	Students should be encouraged to participate in Fests, contests	Contests and Presentations, internships
Values and Social Skills	Social involvement Projects	Guidance	Field Trips and Team building activities
Communication skills	Newspapers, discussion	Encouragemen t and guidance	Communication, Debates, Group Discussion
Technology and interdisciplinary domain knowledge	Self-learning	Lecturing & guiding, Industry collaboration	Internships, Project works. Practical sessions & mini Projects
Awareness on the social issues and Ability to work in teams	Newspaper reading	Guidance	Library sessions, Newspaper reading

Table 1.1 indicates the roles played by each stake holder to improve the employability skills of the students. The stakeholders, viz. student, teacher take part with effective curriculum to impart knowledge to boost the confidence level of the students. The researcher felt the following key competencies to be nurtured, inculcated and developed in the classroom culture to improve the employability skills of the students.

Table 1.2 indicates the challenges faced by the stakeholders viz. students, academia & Industry in improving the employability skills of the students. The challenges should be noted and understood by each of them and the gaps should be removed by taking necessary steps. Colleges should encourage and provide an environment (class room culture) for effective learning. It is said that teaching is incomplete without effective learning. Especially in adult learning, teaching is successful in effective learning through the classroom culture.

Merely by achieving this can requests be predictable in the field of education and forthcoming professional development of any student. So the employability skills which are

acquired by learning and understanding various knowledge, which are obviously outwardly anticipated by the Indian companies regardless of the industry category. Those competencies essentially should encompass the personal aptitudes, fundamental knowledge about various industries as to how they operate, talents and capabilities. Though the employability skills outline as observed by employers at present in service industry and in manufacturing industry is to some extent dissimilar. In contrast, it is astonishing that the employability skills now-a-days have a substantial dissimilarity instead.

Table 1.2
Challenges Faced by the Stakeholders

	Stakeholders		
	Student	Academia	Industry
Challenges	Guidance & Direction on their career path	Curriculum is built by UGC / AICTE	Disrupted by the technology and new industry domains
	Abundance of information may lead to distraction	Less flexible curriculum	Candidates with good coding and technical abilities are not much available
	Conventional learning methods & tools	Lacking practical based learning environment	Ready to deploy resources and employees with innovative thinking
	Pedagogy	Pressure in completing the course within the timelines	Retainable resources
	Comprehension ability	Lack of industry exposure and lack of training to know innovative approach	Talent gaps in recruits

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CHAPTER II

REVIEW OF LITERATURE

This section discusses the various literatures on competency required for graduates that are expected by corporate. The reviews are arranged in reverse chronological order.

Sharangee Dutta⁷ (2019) in an article published in times of India stated that there is a gap between industry and academia in India. Many students are shifting to creative courses than the conventional courses. Parents have a sceptical view on denying the proven conventional courses. Students have no knowledge on job opportunities and advantage of the new / creative courses on fine arts, design and fashion technology, therefore they could not convince their parents. The researcher also opined that in foreign countries, students have the complete freedom to choose their courses and education, whereas in India, parents play a major role in deciding the career of their children.

David Messer⁸ (2018) stated that in the United Kingdom, the youth lack suitable employability skills and suggested to provide work based placement opportunity to overcome the issue. Past research works have confirmed that work based placement was felt useful by the youth for their career and enhance their skills. This research work was conducted with an aim to extend the previous research works conducted by involving 300 degree students. The students were asked questions on pre and post placement feedback on employability skills and the work experience gained by them previously. Findings of the study revealed that students employability skills increased after the placement when compared to pre-placement. But the rating regarding the employability

⁷ Sharangee Dutta (2019), “Why are millennials Shifting Towards Creative Careers”, <https://timesofindia.indiatimes.com/home/education>.

⁸ David Messer, (2018) “Work Placements at 14-15 years and Employability Skills”, *Education + Training*, Vol. 60(1), pp.16-26.

skills of the students rated by employers were slightly lower. The researcher had also mentioned that students have high expectations on placement benefits.

David Yoong et al.⁹ (2017) indicated that Malaysian government has published a blueprint to provide the solutions to the issues on employability. The blueprint published identified the key players to solve the issue of employability of Malaysian graduates. With the intention to make the graduates more employable it was formulated. The authors of the study criticised the roles assigned to the experts by comparing them with the other scholarly research work. Malaysian government expects the higher educational institutions to give importance to meet the industry requirements and prepare the students to enhance their placement skills and meet the demands of employers. Efforts should be made to mould the graduates to make them a good workforce. Long term planning should be made by the institutions to make students more employable.

Kapucu¹⁰ (2017) discussed about a concept called curriculum mapping. This is an evaluation tool used to express and review an academic curriculum. The study was conducted to suggest a suitable curriculum for public administration, public policy, public affairs programs and to improve the learning objectives of the students. The study discussed the systematic approach of incorporating learning objectives, students' engagement and competency development into the curriculum mapping. The author of the study revealed that competency based education should be implemented to improve the skill set of the students. There are benefits and challenges in designing the curriculum for the students and in assessing the abilities of the students of public administration program.

⁹ David Yoong, Zuraidah Mohd Don & Maryam Foroutan (2017), "Prescribing Roles in the Employability of Malaysian Graduates", *Journal of Education and Work*, Vol. 30(4), pp. 432-444.

¹⁰ Kapucu, Naim (2017), "Competency-based Curriculum Mapping as a Tool for Continuous Improvement for Master of Public Administration (MPA) Programs", *International Journal of Public Administration*, Vol. 40 (11), pp. 968-978.

Jennifer Simonds, Ellen Behrens & Jessica Holzbauer¹¹ (2017) studied on the course introduced to the students in the western United states on psychology and also studied the role of competency based education. Two sections were offered the course, one is for the classroom and the other one is students study through online. 11 Undergraduate students from online section participated in this study and 24 students from classroom-based section taken the course participated in the study. The authors presented the course design that included learning outcomes of the students, course projects assigned to them, assignments, instructional procedures and instructor's perceptions on learning outcomes. This case study based research exemplifies how competency-based courses can be planned and implemented in conventional academic environment in both online and classroom-based set up. The study revealed that competency-based education is an effective pedagogical tool for students to learn. For the course instructors, starting with learning goals is effective practice of competency based education that is significant in designing the course, method of instruction, evaluating students' work, and in assessing the course. Students were benefitted learning through live project based learning on realistic application and well-designed courses. Competency based education enhance their ability, engagement and leaning improve their job market.

Beulah Viji¹² (2016) stated that in era of globalization, workplace needs business experts to obtain new skills set, latest knowledge and attitudes to tackle assortments and difficulties of the different business environment effectively. To make various organisational process effective, competency mapping is performed in the organisations. The author mentioned that competency is behaviour rather than ability or skill. This study conducted by involving IT

¹¹ Jennifer Simonds, Ellen Behrens, & Jessica Holzbauer. (2017), "Competency-Based Education in a Traditional Higher Education Setting: A Case Study of an Introduction to Psychology Course", *International Journal of Teaching and Learning in Higher Education*, Vol. 29 (2) pp. 412-428.

¹² Beulah Viji, C. M. (2016), "Enhancement of Employee Performance through Competency Mapping in it Sector -- An Empirical Analysis", *Clear International Journal of Research in Commerce & Management*, Vol. 7(9), pp. 8-14

employees as respondents and identified the role played by competency mapping. The role of competency mapping in the process of skill enhancement and improving organisational productivity is studied in this research work. This descriptive research study revealed that dynamic changes in the technological environment increased the significance of quality of services to clients by recruiting competent employees. Therefore competency mapping is significant in IT industry for better client service.

Sullivan & Downey¹³ (2015) in their study stated that that instructors of the course and administrators of the universities participated in a program for development of competency-based courses opined that course designing is highly time-consuming process and lot of efforts required. Competency based education in universities has enhanced the engagement level of the students in the process of learning. High school students rendered their opinion on competency based learning opined that teachers are working together, engaged in peer teaching, handling learning process with responsibility and also attend classes more often than in a traditional model. The authors of the study have also stated that a high level of engagement, relevance, significance and meaning of delivery of content were also high in competency based education setting. The study suggested the teachers to be competent, familiar and comfortable with the use of rubrics.

Christophe A. O. Assamoi¹⁴ (2015) stated that employers look for competent and ready to work graduates with expected skills set and competencies and required capabilities. The need for competent graduates is increasing and employers are searching for such candidates. The study assessed whether science and technology students are possessing required core competencies to meet the requirement of the employers. The findings of the study revealed that students of science and technology participated in the study are developing core

¹³ Sullivan, S. C., & Downey, J. A. (2015), "Shifting educational paradigms: From traditional to competency-based education for diverse learners", *American Secondary Education*, Vol. 43(3), pp. 4-19.

¹⁴ Christophe A. O. Assamoi (2015), "Core Competencies Development among Science and Technology (S&T) College Students and New Graduates", *American Journal of Educational Research*, Vol. 3(9) pp. 1077-1084.

competencies and the competencies are developed by them when its importance is felt by them. To be an expert in their respective field their core competencies should be improved. If students have positive perception towards the expected core competencies they develop them. It is the responsibility of the institutions to instruct and educate the graduates to develop the competencies to make their job opportunities better.

Sinkovics, et al.¹⁵ (2015) in their study stated that core constituent of International Business postgraduate programs throughout the world is the master's dissertation. Students in their dissertation are expected to write a document around 20,000 words based on the study they do. The work can be an empirical research. In the process of evaluation the dissertation was given importance that accounts for more than a quarter of a candidate's final grade. The impact of the dissertation on the course and in delivering outcomes remains unidentified. Authors of the study addressed the limitations by rendering an empirical understanding of the perceived usefulness of the dissertation by the students and the impact of master's-level dissertations on the personal development and intellectual development of students. Findings of the study revealed that unique ability of the undergoing an effective dissertation enhances student employability for scientifically interested candidates, deep learners in their studies and also the functional learners.

Muhammad¹⁶ (2014) conducted a study by involving the students of Yarmouk University to understand their perception on employability skills. The study tries to understand the relationship among students with science background and humanities background and their perspectives in developing their employability skills. The results of the study revealed that science students have better understanding of the significance of employability skills than the

¹⁵ Sinkovics, R. R., Richardson, C., & Lew, Y. K. (2015), "Enhancing Student Competency and Employability in International Business through Master's Dissertations", *Journal of Teaching in International Business*, Vol. 26(4), pp. 293-317.

¹⁶ Muhammad K. Al-Alawneh (2014), "Measuring students' employability skills as they are perceived at Yarmouk University", *Canadian Social Science*, Vol. 10 (1), pp. 10-20.

students of humanities. The factors considered for understanding their perceptions are empathy, communication, and coping with stress.

Lawson et al.,¹⁷ (2014) in the article “Focusing Accounting Curricula on Students' discussed the competencies required for the accounting students at the entry-level accomplishment in public accounting. The study was a collaborative work by the authors with Institute of Management Accountants (IMA) and the Management Accounting Section (MAS) of the American Accounting Association (AAA). The study focused on how to bring a connection between accounting institutes and map the competencies of the accounting graduates according to the expectations of the corporate and develop the curriculum accordingly. The study recommended that accounting education should focus on long term career expectations and should also comprise organisational settings apart from public auditing. Values by accountants should be given importance apart from academic requirements in the curriculum.

Steele et al.¹⁸ (2014) stated that need for association and acquiring necessary competencies were identified as a challenging task for administrators and instructors. The authors identified the necessity for skillful, innovative and promised teaching in competency-based Education classrooms. Instructors for competency based education are expected to involve students in active learning and participation, focus instruction around students, permit flexibility in designing the courses and assure that learning activities are suitable to prepare them for employment.

¹⁷ Lawson Raef A. (Chair), Edward J. Blocher, Peter C. Brewer, Gary Cokins, James E. Sorensen, David E. Stout, Gary L. Sundem, Susan K. Wolcott, and Marc J. F. Wouters, (2014), “Focusing Accounting Curricula on Students' Long-Run Careers: Recommendations for an Integrated Competency-Based Framework for Accounting Education”, *Issues In Accounting Education American Accounting Association* Vol. 29,(2) pp. 295–317.

¹⁸ Steele, J. L., Lewis, M. W., Santibanez, L., FaxonMills, S., Rudnick, M., Stecher, B. M., & Hamilton, L. S. (2014), “Competency-based education in three pilot programs: What it is, how it's implemented, and how it's working”, *Santa Monica*, www.rand.org/pubs/research_briefs/RB9796.html.

Muhammad K. Al-Alawneh¹⁹ (2014) conducted a study by involving the students of Yarmouk University and identified the perception of the students on employability skills. The results of the study indicated that graduates who have enrolled for life skills program at the university have competency like stress management, empathy and good interpersonal skills. Students' perceptions will have a positive impact on competencies if life skills courses are introduced to them. The universities are recommended to introduce life skill course to improve the skills and competencies of the students towards employability and increase their job opportunity. Life skill courses enhance the ability on communication, help them to manage stress, empathy towards others. Interpersonal skills and prepare them to be a better team member.

Romer C. Castillo²⁰ (2014) conducted a study at Batangas State University by involving Accounting Students as respondents to understand their perception on employability skills. Three types of skills viz. fundamental skills, teamwork skills and personal management skills were assessed. Out of the three skills, students opined that personal management skills are significant and fundamental skills were ranked least. Male students are more skilled than female students when employability skills are concerned in the perceptions of the students. There is no significant difference in the perception of the employers on employability skills regarding gender. There are significant differences in the perceptions of the employers regarding personal management skills and teamwork skills of the students.

Suniti Banadaranaïke et al.²¹ (2014) emphasised the significant difference between various disciplines and the usage of cognitive skills and affective skills. These skills include feelings, human touch, emotions and conversations. Geology graduates among all graduates have

¹⁹ Muhammad K. Al-Alawneh (2014), "Measuring students' employability skills as they are perceived at Yarmouk University", *Canadian Social Science*, Vol. 10 (1), pp. 10-20.

²⁰ Romer C. Castillo (2014), "Employability + Skills of Graduating Business and Accounting Students of Batangas State University", *International Journal of Sciences: Basic and Applied Research*, Vol. 13(1), *Basic and Applied Research* pp 303-315.

²¹ Suniti Banadaranaïke & John Willision (2014), "Boosting Graduate Employability: Bridging the Cognitive and Affective Domains", *ACEN National Conference, Gold Coast*. pp. 1-3.

positive and significant learning experience towards technological skills compared to students of environment. Nature of the discipline has an influence on learning skills of the students. Students of environment have significant learning experience than geology students. Students of environmental studies have projected higher application towards problem solving skills than geology students. Geology students emphasize on managing natural resources and conservation.

Vikhe Gautam & Preeti Arawal²² (2014) conducted a study to understand the skill gap analysis between institutions and expectations of the Industry. The study also understood the perception gap between the Human resource managers of the corporate and the placement officers who are responsible to train the students to develop their employability skills. The study involved manufacturing companies, service concerns and business schools located in Pune, Nasik and Aurangabad to render their opinion on employability skills. The findings of the study revealed that there are gaps between the skill set of the students, their competency and expectations of the manufacturing companies and service concerns. The authors suggested that business schools and management institutes should reduce the skills gap and prepare the students for their employment.

Varwandkar Ajit²³ (2013) conducted a study on the elements of employability skills of graduates. The study was conducted in Chhattisgarh. The study distinguished the factors affecting the employability of graduates. Author indicated that process for the skills related to space information, compassion, interpersonal relations and administrative capacity have an impact on the employability of graduates. The factor 'Inspiration' is not having an impact on employability of graduates.

²² Vikhe Gautam V, Preeti Agrawal (2014), "Industry-Institute Employability Skill Gap Analysis, *International Journal of Research and Development - A Management Review*, Vol. 3(4), pp.1-18

²³ Varwandkar, A. (2013), "Factors Impacting Employability Skills of Engineers", *International Journal of Science and Research*, Vol. 2(4), pp. 30-32.

Suresh Kumar et al.²⁴ (2013) specified that the basic skills students get at school level have a positive impact on building their career of students in future. Extra-curricular activities like participating in arts, sports, games and special event are also contributing to develop students' personality and through that employability skills too. Medium instruction and quality of teaching also influence the students to improve their employability skills. In the process of selection for job, most of the students' get rejected in group discussion and other preliminary tests. Communication skills play an important role in these stage that help the students to get through. Percentage of the students, number of times the students' participation in the group discussion and the placement drive have an association with employment of the students. Students' personality and characteristics enhance the job opportunities of the students.

Jackson D²⁵ (2013) conducted a study on employability skill in West Australian University by involving students with different demographic background. Develop employability skills in students is very important to prepare them for their career. Perceptions of the students on attributes of employability skills varies based on their demographic background. The results of the revealed that self-awareness is more important to the students for whom English is not their primary language. Problem solving is more vital skills felt by international students, more precisely students born in Asia, and English not as their primary language. Students give importance to work effectively at work place and they have shown least importance for communication, taking initiative, data analysis and using technology to develop the enterprise.

²⁴ Suresh Kumar N , Prasanth MK, Ajith Sundaram (2013), "Campus placements in Kerala-An empirical study at the selected Engineering Colleges in Kerala", *International Journal of Scientific and Research Publications*, Vol. 3(1), pp 1-6.

²⁵ Jackson, D (2009), "An international Profile of Industry-Relevant Competencies and Skills Gap in Modern Graduates", *International Journal of Management Education*. Vol. 8(3), pp. 29-58.

Perera, et al.²⁶ (2013) specified that academics, industry and professional bodies have the joint responsibility on competency development of the students. The gaps between the competencies and expectation of the employers should be eliminated. The study investigated the expectations of the academia, professional bodies and the academic stakeholders. The results of the study revealed that there are differences in the expectation and the standards of the stakeholders. The competency of the graduates should be improved based on the expectations of the professionals of the industry by setting a benchmark.

Mohammed Shamsuri et al.²⁷ (2013) studied the perceptions of employers on the employability skills that graduates should have when they seek employment. The study also assessed the satisfaction level of employers towards the graduates' employability skills. Employers prefer graduates' problem identification skills and problem solving ability as significant skills. Employers have ranked theoretical knowledge and basic skills on entrepreneurial activities as last. The study recommended universities to give importance to improve the skills of students on problem identification skills and problem solving skills.

Mourshed et al.²⁸ (2013) studied the relation between supply and demand of workforce in the labour market. Employers have more power to influence the growth. Employers' expectations were identified through the study. The most needed and skills were identified in national and international labour market. 36 percent of the employers in the gulf region felt that lack of skills in graduates caused problems in terms of quality of work, cost involved in training and time. The authors have also highlighted a world-bank statistics that revealed that only 45 percent of the human resource managers felt that graduates have sufficient skills to get a job and they are not satisfied about the skills set and competencies of graduates.

²⁶ Perera, S., Pearson, J., Ekundayo, D., & Zhou, L. (2013), "Professional, academic and industrial development needs: a competency mapping and expert opinion review", *International Journal of Strategic Property Management*, Vol. 17(2), pp. 143-160.

²⁷ Mohammed Shamsuri, RobaniAnidah, ZanariahJano&Izaidin Ab. Majid (2013), "Employers' Perception on Engineering, Information and Communication Technology (ICT) students' Employability Skills", *Global Journal of Engineering Education*, Vol. 15 (1).

²⁸ Mourshed, M., Farrell, D. & Barton, D., (2013), "Education to Employment: Designing a System that Works, World Bank Group", I.F.C. & Islamic Development Bank, 2011. *Education for Employment: Realizing Arab youth potential.* (Report)

Masura Rahmat & Kamsuriah²⁹ (2012) studied the relationship between employability skills and graduate skills of the information science & technology students. Their abilities, work capabilities, aptitudes, soft skills were measured and its impact on employability was understood by the authors. The results of the study indicated that there is a relationship between graduates; impression regarding their aptitude and employability. The review based study recommends extricate whether the level of aptitudes controlled by graduates amongst their evaluations are appropriate in enabling graduates to perform in the current of employment market.

Ali Fadzilah Akmal et al.³⁰ (2012) conducted a study on perception of the students on importance of employability skills. The study was conducted by involving the University students of Malaysia. The results of the study indicated that students are profoundly aware of the significance of employability skills, they have an ambiguous impression on the soft skills required for the workplace and effective soft skills training to develop their skills bring required changes in their perceptions towards the standing of employability skills.

Gaby Atfield & Kate Purcell³¹ (2012) in their study assessed the skills that are mostly preferred by employers and the skills that are mostly useful for the graduates. The study attempted to fill the gap between graduate labour market supply and the demand. The perceptions of the final year degree students of United Kingdom was studied and the employers expectations from them were recorded. The results of the study indicated that students perceive that subject knowledge on math, engineering, science and technology is important than the skill set in these areas. The perceptions of the students vary based on the

²⁹ Masura, R. & Kamsuriah, A. (2012), "Relationship between Employability and Graduates' Skill", *International Business Management*, Vol. 6(4), pp. 440-445.

³⁰ Fadzilah Akmal Ali, Yasmiza Long, Fakhrul Anwar Zainol and Maslina Mansor (2012), "Student's self-perceived importance of employability skills needed: A case study in University of Sultan Zainal Abidin, Malaysia", *International Conference on Management*. pp. 1038-1054.

³¹ Atfield, G. and Purcell, K. (2012), "The fit between graduate labour market supply and demand: 3rd year UK undergraduate degree final year students' perceptions of the skills they have to offer and the skills employers seek", Working Paper 4, *Institute for Employment Research, University of Warwick*, Jan 2012.

demographic variables like, gender, background and reputation of the institutes, courses taken by the students and subjects studied in their course.

Lewis Barber³² (2012) conducted a study by involving the students of University of Gloucestershire on employability skills and sustainability. A questionnaire was framed to do the survey and collected the data from students on employability skills and work focussed learning. The study revealed that graduates are proactive in learning the employability related skills. Team work, innovation and creative problem solving are top three skills students should possess to build sustainable society and future. The results of the study revealed that students were not aware of sustainability skills. University should involve in refining the sustainability and employability skills of the students.

Anand Ramu Patil³³ (2012) found that employability skills for the students is influenced and developed through curriculum, pedagogy, learning directions and guidance provided by Course and institutions and connections with the corporate world through internships and other assignments. By customizing of management education according to the needs of the corporate and interests of the graduates employability opportunities can be increased in order to hasten the contribution to the nation's economy and for a better society.

Anete Mezote³⁴ (2011) stated that apart from academic and profession skills, graduates should also possess cross-cultural communication skills. The study was conducted at Latvia University by involving the graduate students of the university. These skills are necessary to confirm positive and effective business cooperation, relationship with international clients. In the globalized scenario and business requirements demands the understanding of culture of other people and clients. Therefore competence on cross culture has become vital skill for

³² Steele, J. L., Lewis, M. W., Santibanez, L., FaxonMills, S., Rudnick, M., Stecher, B. M., & Hamilton, L. S. (2014), "Competency-based education in three pilot programs: What it is, how it's implemented, and how it's working", *Santa Monica*, www.rand.org/pubs/research_briefs/RB9796.html.

³³ Patil, Anand Ramu (2012), "Pedagogy of Business Education for employability Interdependency of the factors Determining employability of the management students", *AIMA Journal of Management & Research*, Vol. 6 (4/4)

³⁴ AneteMezote (2011), "Development of Cross-cultural communication skills of engineering students", *Engineering for Rural Development*, Jelgava, pp. 26-27.

employees who work for multi-national companies. This skill has to be incorporated in the curriculum. The study confirms that majority of the students lack this skill. The author also mentioned that graduates lack communication skills also that affects the cross cultural communication.

Eszter Andrea Rady³⁵ (2011) conducted a study on training quality for graduates and competency of the students. The study was conducted with students of University of Debrecen, Hungary. The author of the study indicated that competence of graduates greatly influence the future and the technique implemented by them for refining the interpersonal competence. University had introduced two elective courses on self-knowledge and personality development by understanding its importance to equip the students.

Kay A. Hodge & Janet L. Lear³⁶ (2011) conducted a study and compared the perceptions students as well as Course of business schools. The competencies required for the students to get employed after their graduation were assessed. Students and Course members' perception on various competencies were assessed. The results of the study indicated that there are significant differences in the perceptions of Course members and students regarding personal management, time management, critical thinking skills, oral and written communication, problem solving skills, ethics, listening skills and leadership skills.

Andreas Blom & Hiroshi Saeki³⁷ (2011) specified that educational institutes are not supplying sufficient skills to the employers that affect the growth of the country. This study involved 49 employers to render their opinion on employability skills and the gaps in the skills possessed by the graduates in the hiring process. The study was conducted to understand the employability skill of employability skills of graduates. The results of the study indicated that soft skills are influenced by family settings, school environment and

³⁵ Eszter Andrea Rady (2011), "The Implementation of Personality Development and Self-Knowledge Subjects in Engineering Training in Debrecen", *Fascicle of Management and Technological Engineering*, Vol.10 (20).

³⁶ Kay A. Hodge and Janet L. Lear (2011), "Employment Skills for 21st Century Workplace: The Gap between Course and Student", *Journal of Career and Technical Education*, Vol. 26(2).

³⁷ Blom, A. & Saeki, H. (2011), "Employability and Skill Set of Newly Graduated Engineers in India", *Policy Research Working Paper* 5640, The World Bank South Asia Region Education Team.

economic status of the student. All the students must improve their employability skills, communication skills and professional skills.

Venetia Saunders & Katherine Zuzel³⁸ (2010) conducted a study to evaluate the employability skills of bio molecular students and graduates and the views of employers who have employed them. The study described the methods applied to find out and rank the employability skills expected by the employers who appoint bio science students. Questionnaire method was applied by the researcher to gather the data from employers and students. Through the study, students' skills were categorised as personal qualities, core skills and subject knowledge. Employers preferred core skills and personal attributes of the students as important skill set for employability. Students rated technical skills are more important than other two skills.

Rebecca Boden & Maria Nedeva³⁹ (2010) state that the factors of graduate employability is broadly outlined. In this study, the authors argued that despite the fact that universities in the United Kingdom have an engrossment in generating useful and productive graduates, the constant neo-liberalisation of higher education system has prompted a rambling shift in characterisations of employability. Universities were platform for learning and meet the job requirements for the graduates earlier. In the present trend, employing graduates has become a performing function and challenging assignment. The results of the study indicated employability reports are unfavourably affecting pedagogies and curriculum, to the dis-benefit of graduates, institutes, companies, societal justice and general public.

Vathsala&Lasantha⁴⁰ (2010) in their study conducted in Sri Lanka by involving the graduates explored the employability skills required by the employers. The perception on employability skills by the employers, Course members of the university lecturers and

³⁸ Venetia Saunders & Katherine Zuzel (2010), "Evaluating Employability Skills: Employer and Student Perceptions", *Bioscience Education Journal*, Vol. (15)1, pp. 1-15.

³⁹ Rebecca Boden & Maria Nedeva (2010), "Employing Discourse: Universities and Graduate Employability", *Journal of Education Policy*, Vol. 25(1), pp. 37-54.

⁴⁰ Vathsala Wickramasinghe and Lasantha Perera (2010), "Graduates', University Lecturers' and Employers' Perceptions towards Employability Skills", *Education and Training*, Vol. 52(3). pp. 226-244.

graduates were assessed. The results of the study indicates that perception of male graduates, female graduates, Course members of the university and employers on employability skills differ. Each group has its own view on the skills required for placements and jobs. This gap has to be identified and necessary steps are to be taken to bridge the gap. Gender has an influence on employability skills, therefore based on the requirements training has to be provided to improve employability skills for male and female graduates.

Staffan⁴¹ (2010) studied the perceptions of the students on the employability skills and the opportunities. The author specified that graduates are expected to have skills set that are expected by the corporates to perform better in workplace. The expectations are changing and the changes should be understood by the graduates. Rapid increase in higher educational institutions are affecting the significance of college education.

Colin U. Chisholm⁴² (2010) indicated that Emotional Competence is an important soft skill expected by employers and the author recommended to the institutions to include it in engineering curriculum and equip the graduates to build the skills. Emotional competence is a component of Emotional Intelligence. The author had conducted a study on emotional intelligence by involving arts & science college students, engineering students and business management students. The study recorded the similarities and differences in emotional intelligence level of students. The results of the study indicated that engineering graduates have low emotional intelligence compared to other two category of students. A lesser amount of open ended discussions in class rooms and less reflective courses of nature of engineering courses are the reasons for less emotional intelligence in engineering students. The author had also recommended to make the instructional methods effective for improvement of emotional intelligence of the students.

⁴¹ Staffan Nilsson, (2010) "Enhancing individual employability: the perspective of engineering graduates", *Education + Training*, Vol. 52 (6/7), pp.540-551.

⁴² Colin U. Chisholm (2010), "The formation of engineers through the development of Emotional Intelligence and Emotional Competence for global practice", *Global Journal of Engineering Education*, Vol. 12(1), pp. 1-11

Gautam Biswas et al.⁴³ (2010) aimed to bring in a comprehensive evaluation of the position of engineering education in India by considering the global expectations of the employers who prefer engineering graduates for employment. The study marks scrutinising experiments related to the factors of access, quality, equity and regional imbalance. The authors had also analysed the weaknesses of the current system and found the necessities of contemporary teaching learning methodologies and procedures. The study suggested Course qualification and competency as significant factors for improvement of the students.

Rao⁴⁴ (2010) stated that the present curriculum of management education is not training the management graduates to manage ambiguity. Students are also not capable of facing challenges with confidence in the vibrant business situations and dynamic environment. Conceptual knowledge of the students on management theories and case study based approached are not equipping them to face challenges in the world of technology. To face the challenges raised due to dynamic technological environment, students need to prepare themselves to manage change and face challenges. The present education system is not preparing the students to tackle difficulties and manage changes. To manage complex situations and business uncertainties, curriculum should be changed accordingly to develop the required ability of the students.

Bridgstock⁴⁵ (2009) specified that knowledge and skills are important for increasing employability skills of the graduates and career management skills, generic skills and discipline –related knowledge are necessary for proving better performance in a work situation. Soft skills are referred as generic skills (**Andrews & Higson 2008**) here. Core skills, transferable skills and key competencies (**Mayer, 1992**) are also significant beyond what they learn from university curriculum. Recent trends in the educations sector increased

⁴³ Gautam Biswas, Chopra, K.L., Jha, C.S. & Singh, D.V. (2010), “Profile of Engineering Education in India-Status, Concerns and Recommendations”, *Narosa Publishing House Pvt, Ltd.*

⁴⁴ Rao, M.S (2010), “Overcoming Challenges in Management Education”, <http://www.timesascent.in/contentid=2010051420100514150852409e84a0afb>.

⁴⁵ Bridgstock, R. (2009), “The graduate attributes we’ve overlooked: Enhancing Graduate Employability through Career Management Skills”, *Higher Education Research & Development*, 28(1), pp. 31–44.

the pressure for them to produce graduates with employability skills. They are expected to contribute to place them in a good company. Employability skills involves more than the conceptual skills and generic skills. Graduates are expected to be proactive and manage themselves to be better employable candidates.

Louise Gracia⁴⁶ (2009) conducted a study on employability and higher education. The results of the study indicated that development of employability skills for students is not a gender neutral activity. The author also indicated that graduate students are not receiving any groundwork or support from the institutions in relation to employability either before or during their placements. Majority of the students participated in the study use a compliance strategy. They accept the positions as “normal” and thus conspiring with the imitation of gender inequity. As a result many students have abridged their expectations of success, constrained their perception of employability skills and students self-confidence also increased. Author felt that higher education system has biased approach on employability and students development.

Chung-Khain et al.⁴⁷ (2009) conducted a study on differences in perception on employability skills of students and employers. The results of the study indicated that undergraduates are over-estimating their abilities as fresh graduates and think they are capable for higher salary. Fresh graduates are not satisfied for the salary fixed because of their unreasonable expectations on salaries. Employers are not happy with their perceptions and unrealistic expectation and expect the colleges to change their opinions.

Chung-Khain Wye & Yet-Mee Lim⁴⁸ (2009) studied whether the core competencies possessed by undergraduates are meeting the requirements of the employers. The authors have also assessed the impact of personal qualities of the graduates and the skills they

⁴⁶ Louise Gracia (2009), “Employability and Higher Education: Contextualizing Female Students' Workplace Experiences to Enhance Understanding of Employability Development”, *Journal of Education and Work*, Vol. 22, pp. 301-318.

⁴⁷ Chung-Khain Wye and Yet-Mee Lim (2009), “Perception differential between employers and undergraduates on the importance of employability skills”, Vol. 2(1), *International Education Studies*, p.99.

⁴⁸ Wye Chung-Khain and LimYet-Mee (2009), “Perception Differential between Employers and Undergraduates on the Importance of Employability Skills”, CCSE, *International Education Studies*, Vol.2 (1), Malaysia.

develop during their studies. Authors revealed that, graduates think that good CGPA is sufficient for getting good employment and this wrong perception and mind set are the reasons for not improving their competencies. The study included both employers and graduates and recorded their opinion. The results of the study indicated that there are mismatches between the competencies, personal qualities and skills of the undergraduates and expectations of the employers. The authors recommended that universities should set the curriculum and courses for undergraduates to improve their skills, perception and attitude to build their employability skills.

Stephen B. Knouse et al.⁴⁹ (2008) conducted to understand the impact of internships programs carried out by the students on employability and its other benefits. The results of the study indicated that internship studies increase the employment opportunities and improve their skills also. Work related skills and organisational learning are also gained by the graduated through their internships. Internships also help the graduates to have realistic expectations. Students are also satisfied with the experience they gain and with the mentoring during internships. Overall results indicated that internship are very importance and beneficial for the students before they get employed.

Arun Patil et al.⁵⁰ (2008) has conducted a study on competencies required for graduates to perform their jobs better and meet the expectations of employers. He recommended a uniform accreditation process for all engineering institutions to achieve global standard and competencies. More than hundred employers were interviewed and their opinion on 23 essential attributes were recorded. The findings of the study revealed that there are significant gaps in the expectations of the employers and the existing competencies of the engineering students. The gaps are in students' communication skills, problem solving skills,

⁴⁹ Stephen B. Knouse, and Gwen Fontenot (2008), "Benefits of the business college Internship: a research review by the American Counseling Association", *Journal of Employment Counseling*, Vol. 45. p.64.

⁵⁰ Patil, Anand Ramu (2012), "Pedagogy of Business Education for employability Interdependency of the factors Determining employability of the management students", *AIMA Journal of Management & Research*, Vol. 6 (4/4).

interpersonal skills, creative thinking, time-management, working as a team, handling stressful situation and willingness and capacity to learn new tasks.

Shane Robinson⁵¹ (2008) through their study on assessment of employability skills indicated that graduates prefer to improve their problem solving skills, working independently and operating in stressful situations. But they are giving least prominence to improve their skills on political implications of the decisions taken by them. The graduate respondents participated in the study felt that they are competent enough when they work with fellow employees and supervisors and not sufficiently competent in identifying political implications for the decisions taken. Similar studies conducted by three various researchers on competency mapping confirmed its significant impact on students' improvement.

Malini Reddy⁵² (2008) through her study stated that management institutes should enhance the quality by realizing the potential threats from the global competition and they should also convert their weaknesses into opportunities. **Irala (2006)** had opined that management education in India has to take contingent decisions. In the new millennium management education is expected to have exceptional growth in India. The authors suggested to improve the competencies of the educational institutes to have financial and academic freedom to reach the desired destination. **Singh (2007)** observes that only the institutions with excellence that fundamentals set right will survive and excel in future.

Rae⁵³ (2007) in the research study conducted on university's contribution in competency building stated that universities are not reflecting their contribution through the curriculum to match the requirements of the employers. They should give importance to the expectations of the employers when they are planning their curriculum for the students. The focus should not

⁵¹ Shane Robinson & Bryan L. Garton (2008), "An Assessment of the Employability Skills needed by Graduates in the College of Agriculture, Food and Natural Resources" at the *University of Missouri*. p.103

⁵² Malini Reddy Y (2008), "Global Accreditation System in Management Education: A Critical Analysis", *South Asian Journal of Management*, Vol. 15, pp. 61-80.

⁵³ Rae, D. (2007), "Connecting Enterprise and Graduate Employability: Challenges to the Higher Education's Culture and Curriculum?", *Education and Training*, Vol. 49, pp. 605-619.

be only on students' admissions and income it should also be on making the students competent to meet the employment requirements of the enterprises.

Ballal⁵⁴ (2006) specified that graduate management educational institutions focus on providing professional competencies for the students on building their knowledge, skills and attitude. The competencies mentioned should be inbuilt in courses designed by the Course. Curriculum and academic plan by business schools should be done meticulously to improve the competencies of the students by keeping their development and placement opportunities in mind. Evaluation system is significant in understanding the competency of the students and evaluations schemes should be incorporated in the curriculum.

Weligamage (2006) in his study specified that employers felt work related experience is significant for employees for their better performance. Personality of the graduates, self-confidence and attitude towards the work are the qualities preferred by employers. They also felt that the problem solving skills, creativity and thinking skills of the graduates required for the job are not up to the expectations. Graduates are academically sound but they lack knowledge on latest developments and applications related to their fields. Employers recommended that management curriculum should integrate conceptual knowledge and work environment applications to reduce the gap between theory and actual application of classroom learning. Team work, presentation skills and overall personality development are to be developed in graduates to meet the expectations of the employers.

Sanjay Goel⁵⁵ (2006) specified that 30 percent of the engineering graduates in India take jobs in IT industry regardless their specialization. But they lack required skills like English, team working and creative thinking according to NASSCOM. The study compared the procedures of National Academy of Engineers of the United States of America and National Board of Accreditation of India. The NAE clarifications denote that if engineering Course are to

⁵⁴ Ballal, H.S. (2009), "FICCI-Higher Education Summit", November 6th 2009, New Delhi.

⁵⁵ Sanjay Goel (2006), "Competency Focused Engineering Education with Reference to IT Related Disciplines: Is the Indian System Ready for Transformation?", *Journal of Information Technology Education*, Vol. 5, India.

effectively prepare students for practice as a group and some percentage of the Course must have reliable practical in the world of non-academic practice. In Indian system however, the NBA standard associated to Course competence does not make any precise indication of prerequisite on practical exposure. This makes a thoughtful disconnect between corporate requirements and professional graduate education. The author recommended to teach necessary skills for engineers suggested by national academy engineers.

Ball⁵⁶ (2006) through his research study observed that traditional evaluation system in universities and colleges had always focused on students' accomplishments and scores in exams. Importance was not given to periodic reviews by the contribution of students. Curriculum was designed in such a way that students' ability were judged based on scores. This scenario has to be changed by changing the curriculum to give importance for overall development of the students. Earlier studies prior to 1990 have given importance for technical skills, conceptual skills and communication skills to increase the job opportunities of the students. But employers expect right attitude, adaptability skills from the graduates in the present situation.

Coll&Zegwaard⁵⁷ (2006) conducted a study to know the perception of all stakeholders viz. students, employers, Course and fresh graduates on expectation of the competencies required for the workforce by corporate and compared the findings of the study with other similar studies conducted previously. Twenty four major competencies were listed using a seven point Likert scale and the opinion of the respondents were recorded. Respondents felt all the competencies listed were important and the ability and interest to learn those competencies is the key point of success. Fresh graduates felt cognitive skills are more important than any other skills out of all and science and technology students felt behavioural and cognitive

⁵⁶ Ball, S.R. (2006), "Bridging the gap. In C.Wankel and R. DeFillippi (Eds.), *New Vision for Management Education*", Connecticut: *Information Age Publishing Inc.*, pp. 87–106.

⁵⁷ Coll, R. K. &Zegwaard, K. E. (2006), "Perception of desirable Graduate Competencies for Science and Technology new Graduates", *Research in Science & Technological Education*, 24(1), pp. 29-58.

skills are significant. Employers and Course felt cognitive skills are more important for graduates.

Nguyen, Yoshinari, Shigeji⁵⁸ (2006) conducted a study with Japanese employers to understand the competence of higher education graduates and to know the perception of students in the field of engineering. Employers' expectations on required skills is categorized into two set. The first category consists of specialized knowledge, qualifications and degree they possess and the second category consists of personal qualities suitable for employment that include knowledge, traits, skills and attitude. The results of the study revealed that Japanese students are aware of the expectations of the employers. The students underestimate their skills due to lack of self-confidence. Part time jobs have a positive impact in building skills and competency of higher education students. Course and parents are also influencing them in building personal qualities.

Ogbeide⁵⁹ (2006) conducted a study on employability skills required in graduates and their perceptions on competencies required for their career in hospitality industry. Leadership skills are very important for engineering graduates among other skills expected by the industry. Curriculum development plays a major role in improving the skills of the students. Interpersonal skills and human relationship skills should be given importance when curriculum is developed for the graduate students. The author insists on the importance of internships students undertake when they are studying and looking jobs in hospitality industry. Well-structured internships with effective supervisions will bring desired results in competency building. Institutions should encourage the students to get work experience through internships before they graduate from the institutions to be successful in their career.

⁵⁸ Nguyen, N. D., Yoshinari, Y. & Shigeji, M. (2006), "University Education and employment in Japan: Students' perceptions on employment attributes and implications for university education", *Quality Assurance in Education*, Vol. 13(3), pp. 202-218.

⁵⁹ Ogbeide, Godwin-Charles (2006), "Employability Skills and Students Self Perceived Competence for Careers in the Hospitality Industry", *Ph.D. Thesis, University of Missouri-Columbia*.

Bonni Falkner⁶⁰ (2005) conducted a study to assess the perception of graduate students on the quality services provided by the University. The findings of the study revealed that the current batch students in colleges, recently passed out graduates and students graduated in the past three years have opined that they are not getting the anticipated level of service by the University. Students were not interested in the physical infrastructural facilities but they need services related to quality that improves their employability skills.

Raybould & Sheedy⁶¹ (2005) stated that graduates from colleges should improve that ability to work in critical situations and in unusual situations, studying under pressure, improve their action planning skills and abilities, communication skills, Information technology skills, interpersonal skills, self-confidence, self-management skills and willingness to learn new things. These activities help the students to be attractive to employers and enhance their placement opportunities.

Hodges & Burchell⁶² (2003) studied the opinion of the employers in appoint business graduates and their performance. The study was conducted in New Zealand. The study also identified the gap between the performance of the graduates and the importance given to competencies. The study adopted survey method using questionnaire and employers were involved to render their opinion on twenty five competencies of business graduates and their roles in their first year of employment. Employers rated the performance of fresh graduates in their first year of employment for all the competency listed. Graduates ability, willingness, soft skills and cognitive skills were tested. For business graduates soft skills are more important than the cognitive skills. Employers are happy with the performance of the fresh

⁶⁰ Bonni Falkner (2005), "An analysis of graduate students' perceptions of quality services provided by university of Wisconsin-Stout, A research paper The Graduate School University of Wisconsin-Stout May, 2005, Menomonie, WI 5475 1. p.51.

⁶¹ Raybould Joanne, Victoria Sheedy (2005), "Are Graduates Equipped with the Right Skills in the Employability Stakes?", *Industrial and Commercial Training*, Vol. 37(5), pp. 259-263.

⁶² Hodges, D. & Burchel, N. (2003), "Business Graduate Competencies: Employers' Views on Importance and Performance", *Asia-Pacific Journal of Cooperative Education*, Vol. 4(2), pp. 16-22.

graduates in their first year of employment but they felt there is strong gap in the skill set possessed by the graduates and their expectations.

Phillip Brown et al.⁶³ (2003) studied the concept of employability and publishes an article on the same in a knowledge driven economy. Emphasis on employability influence the economic wellbeing of candidates and the competitive advantage of the countries depend on the knowledge, skill set and inventiveness of the workforce. Graduates are expected to play a significant role in managing the 'knowledge-driven' economy in forthcoming years. The purpose of the study was to project that the approach employability is characteristically distinct in official declarations is extremely defective because it overlooks the 'duality of employability'. There are gaps between education, employment and the labour market expectations.

Arya⁶⁴ (2002) specified that networking and consistent interaction between academia and industry is significant in improving the placement opportunity for the students and that enhances their competency also. It will improve the relationship between the institutes and corporates and mutually both the parties get the benefit. Expectations of the industry can be known to the institutes and students understand the gaps in the competencies through the interaction and improve their capabilities.

Georgie Whitton⁶⁵ (2002) specified the economics and education literature on the influence on employability of dimensions that have been supposed as 'unobservable'. The study also mentioned that individuals are heterogeneous by nature. Therefore the same graduates develop different competencies and skill set through their formal education. They are mentioned as 'unobservables'. Educational institutes should understand the importance of

⁶³ Phillip Brown, Anthony Hesketh & Sara Williams (2003), "Employability in a Knowledge-Driven Economy", *Journal of Education and Work*, Vol. 16(2), pp. 107-126.

⁶⁴ Arya Varun, (2002), "Sustaining Quality in Management Education", Retrieved from: www.indianmba.com/Coursecolumn.

⁶⁵ Whitton, George (2002), "Skills for Employability: A Review of Key Issues from the literature and Implications for VET Delivery", Working Paper No.11, *Queensland Department of Employment and Training*, UK.

imparting the skills in graduates to enhance their job opportunities and curriculum and pedagogy should be framed accordingly.

Richards-Wilson⁶⁶ (2002) mentioned the difference between academic set up and corporate setup in his study. The study specified that academic set up focuses on philosophical and cultural values of the students and the corporate setup expects business related specific and precise economic results. Corporate world is dynamic and their responses to the external changes are very fast whereas academics are not moving in the expected speed to provide industry based education to the students to enhance the knowledge and equip themselves. Both the academic and business entities are operating in different levels. Hierarchical decision making in academia is pulling the system back from development.

Pfeffer⁶⁷ (2002) specified in his study that the outmoded curriculum of management education that are used in the present system is not prepare the graduates adequately for the challenges of the external world. As professional managers, they have to face challenges and it is difficult for them to face with the knowledge they get from institutions. The curriculum followed by a business school is questionable whether it provide the right skill set and knowledge to meet the corporate requirements to meet modern-day challenges. Many research studies revealed deep concerns about the curriculum and its mismatch between industry requirements and business school curriculum and courses.

2.1 Research Gap

Various research studies are conducted on employability skills and competency mapping in India and abroad. Very few studies have assessed the competency of the students when they are studying in college. Studies have been conducted on recording the opinion of students and managers. There are no comprehensive studies conducted on competency mapping and employability skills by combining the opinion of HR Managers, Training and Placement

⁶⁶ Richards-Wilson, S. (2002), "Changing the way MBA programs do business-lead or languish", *Journal of Education for Business*, pp. 296–300.

⁶⁷ Pfeffer, J. and Fong, C.T. (2002), "The End of Business Schools? Less Success than Meets the Eye", *Academy of Management Learning and Education*, Vol. 1(1), pp. 78– 95.

Officers and students' perception. This study has filled the above mentioned particular gap and also covered the role of course content in influencing the skills of graduates. This is a comprehensive study that has recorded the opinion of all the stake holders responsible of building competency in Graduate students.

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CHAPTER III RESEARCH METHODOLOGY

3.1 Research Methodology

Research methodology is a significant tool to guide the researcher to conduct the research work systematically and answer the research questions with evidence. It is a scientific method to analyse the issues and to come to an authentic conclusion. The cogency of any research activity depends upon the formulation of a research framework and perform it accordingly. This study on competency mapping and employability skills used both primary data and secondary data. The aim of the thesis is to identify whether the graduates in arts and science college is trained on building their competency as per the requirements of the industry. The primary data for the purpose of the study was gathered from placement officers, employers as well as students of arts and science colleges. Data were collected by using a structured questionnaire. The following section discusses the research design, sample design and data collection methods.

3.2 Need for the Study

Education is an essential competent in building a good society. Education system should be proper for a country, if it has to grow consistently. Proper education system enables the students to get good employment and contribute to the nation and the society. Competencies build by the students when they are in college help them to get employment and perform their tasks in organisations. ***This study specifically focus on competency mapping and employability skills of the graduate students of arts and science colleges in Tamilnadu.*** The competency level of the students should be identified to train them for further improvement. Most of the students are unemployable because of lack of placement skills. This study helps to identify the skill gap and the opinion of the placement trainers and employers on the employable skills of the students. According to a survey report published in livemint 37 percent of the arts graduates are employable. This scenario has to be changed and the

employability skills are to be developed by understanding the reasons that affect graduate's employability.

3.3 Statement of the Problem

The purpose of education is to impart knowledge which further leads to employment with the help of that knowledge. Favourable environment provided to the students enhance their employability skills. There is need for understanding the perception of students on employability skills imparted to them in the educational institutions, employers' as well placement trainers' perception should also be considered to have better understanding on competencies and employability skills of the students. Ministry of HR and education, parent and Institutions spend huge amount on education. The positive outcome for the efforts, time and money spent on education depends on learning the skills effectively and getting good employment. The technical and soft skills learnt by the students are measured and the opinion on students' competency is understood through the perception and opinion of the employers as well as placement trainers through this study. Opinion of the students on incorporating employability skills in the curriculum is understood and whether they are able to apply the knowledge is also studied through this research work. After a methodical inquiry of the existing literatures on competency mapping, employability skills expected by corporate and discussing the facts on students competency with academic experts the following research questions are framed to this study.

3.4 Research Questions

- a) What are the general competencies required for the students that are useful in enhancing their placement opportunities?
- b) What are the usefulness of the course content and curriculum practised by the educational institutions?
- c) What are the opinions of the students on competencies learnt by them?

- d) Is there a difference in the perception of arts and science students in competency development?
- e) What are the opinions of the employers on competencies of the arts and science college students?
- f) What are the opinions of the placement officers and placement trainers on students' employability skills?
- g) Is there any influence between course content practiced in arts & science colleges and the employability skills of the students?

3.5 Objectives of the Study

Based on the research questions stated above, the following objective are set for the study:

- 1) To study the competency of the students of Arts & Science colleges.
- 2) To understand the relationship between the competence of the students and course content in arts and science colleges.
- 3) To understand the perception of the managers on competencies of students of arts and college students.
- 4) To understand the perception of the placement officers on students employability skills.
- 5) To study the relationship between the course content and employability skills.

3.6 Research Design

A research design is a framework for the method for collecting data, the instruments employed to collect the information and the data collected is analysed to attain the goals set for the research. It is an arrangement for collecting data and analysing it to syndicate relevance to the research purpose. It is employed to structure the research, to specify that all the elements are designed to work together. For the purpose of this research on competency mapping, descriptive research design has been adopted to have a detailed understanding on the topic considered for the study. Descriptive research design is used in studies to describe the characteristics of the sample being studied.

3.7 Sampling Method

The study involved employers, students and placement trainers as respondents. Three different set of questions were asked to them with three different structured questionnaire to gather the primary information. 1000 students from various colleges all over Tamilnadu had participated in the study. 50 employers who have visited the colleges for conducting campus interview have also rendered their opinion on employability skill students possess. The trainers in the institution were also involved as respondents for the purpose of the study.

3.8 Sample determination technique

There are about 60 universities and more than 2200 arts and science colleges in Tamilnadu according to 2011 data. Around 18 lac students enrol every year in these colleges. In that 4,66,450 students are post graduate students and 20,11,407. The total number of students mentioned in this section includes all the programmes. In twenty lakhs under graduate students 33.79 percent of the students are undergraduate students and 11.94 percent of the students are science graduates. The data regarding the number of students were extracted from ministry of HRD website.

Table 3.1 Guide to Minimum Sample Size
(95% confidence level, +/- 5% margin of error)

Population Size	Sample Size	Population Size	Sample Size
10	10	550	226
20	19	600	234
40	36	700	248
50	44	800	260
75	63	900	269
100	80	1,000	278
150	108	1,200	291
200	132	1,300	297
250	152	1,500	306
300	169	3,000	341
350	184	6,000	361
400	196	9,000	368
450	207	50,000	381
500	217	100,000+	385

(Source: R. V. Krejcie, and D. W. Morgan, "Determining Sample Size for Research Activities", Educational and Psychological Measurement, Vol. 30: 607-610, 1970)

In Table 3.1, Krejcie & Morgan (1970) indicated and provided the guideline to decide the right sample size. The sample determination technique is used by many researchers when the population is huge. When the population exceeds one lakh, the sample suggested by the author is 385. To have more authenticity and since total state is covered for the study a sample of one thousand is determined by the researcher. This sample number enhances the authenticity of the perceptions and opinions of population.

3.9 Framework of Sampling

Students from Arts and Science colleges all over Tamilnadu have participated in the study. Undergraduate students have rendered their opinion on the employability skills and the competency they acquire through the institutions. They have rendered their opinion on managerial skills, leadership skills, critical thinking skills etc. A sample of fifty employers who visited the college for campus placement and the fifty placement trainers who take train

the students on placement activities were also interviewed to add value and authenticity to the study.

3.10 Primary Data

The primary data were collected from the students, HR Managers and placement trainers of more than fifty colleges in Tamilnadu. Student of self-financing ss / government colleges, employers and placement trainers in colleges have rendered their opinion for primary data. A set of three well-structured questionnaire with Likert scales was constructed to record the opinion of the three different categories of respondents mentioned. The questionnaire distributed to the students gathered information on basic literacy and numerical skills, critical thinking skills, managerial skills, leadership skills, communication skills, etc. They were asked whether they are able to acquire these skills through their institutions. The next part of the primary data were collected from placement trainers that covered their opinion on cognitive skills, content skills, process skills and the social skills of the students. The third part of the questionnaire recorded the opinion of the employers who have visited the institutions for campus placement, this part of the questionnaire was used to understand the opinion of the employers on communication skills, team work skills, problem solving skills etc. of the students. Some of the students were quick in responding to the questionnaire and some of them took two to three days and filled the questionnaire and returned to the researcher. In total 1000 students were involved as respondents to understand the practices of competency mapping and employability skills in their institutions. 50 managers of HR department who interview the students and 50 placement officers have also rendered their opinion on competency mapping and employability skills of the graduate students. The data collected were tabularised and examined as per the objectives of the study.

3.11 Secondary Data

Although the central aim of this research work is contingent upon the primary data, like any other research work, this study also referred secondary information to get clarity and for better understanding of competency mapping and employability skills. For the purpose of literature review, research articles and reports were gathered from magazines, national and international journals, dailies and information published on internet, research thesis, dissertations and various other valid records. The most recent information was gathered from well-resourced libraries like IIM Bangalore and also from online databases like EBSCO, science direct and Emerald. Standard text books were also used to acquire the theoretical acquaintance and for thorough understanding of the title considered for the study.

3.12 Tools of Data Collection

The research problems, objectives and hypothesis were first framed and descriptive study was preferred for the purpose of this research work. As per objectives decided for the study, three well-structured questionnaires were framed and data were collected from students, employers and placement trainers. Students from arts and science colleges in Tamilnadu were involved as respondents for this research. Employers and placement trainers were also included to render their opinion on students' employability skills. Data collected from these three set of respondents were analysed and findings were presented based on the primary data.

3.13 Pilot Study (Pre-test)

The key aspect of the present research was identified through the preliminary interviews (Pilot study) with a few students studying in self-financing colleges. A well-structured questionnaire was constructed with the consultation of research supervisor and experts in the research field. After framing the questionnaire, it was circulated to 25 sample respondents who are studying in government colleges as well as private colleges. After their comments and suggestions the questionnaire was redesigned and used for the main study. Respondents who were participated for the pilot study were not included for the research study.

3.14 FRAMEWORK OF ANALYSIS

The data thus collected was presented in a simple tabular form and the following statistical tools were used appropriately.

- Percentage
- Mean
- Standard Deviation
- Friedman test
- Analysis of Variance
- Bar Charts
- Regression Analysis and
- Structural Equation Modelling

3.15 PERIOD OF THE STUDY

The primary data was collected for a period of one year from the respondents, ie students studying in arts & science colleges of Tamilnadu. Data were collected during February 2019 to February 2020. Web resources were also referred to collect the latest information about the quality of education and competency required to the students to enhance the employability skills. Review of relevant literature took a period of six months at the beginning of the research work and also during the research to refine the reviews. Analysis and interpretation of the data took another six months. The last six months has been used for rough drafting and giving the thesis its final form.

3.16 LIMITATIONS OF THE STUDY

This study is confined only to the government and private colleges in Tamil Nadu state. Hence, the results arrived from the study may or may not be applied to other states. Further, survey method was adopted to collect data from HR managers, placement officers and students for this study, which has its own limitations. Certain respondents had given information from memory which might not be accurate about the facilities provided by the

institutions. However, in order to make the consequences consistent for drawing conclusions pertinent for the universe of the study, extreme care had been taken to minimize the bias, through cross checks, whenever the accuracy and reliability of the data given by the respondents were doubted.

3.17 CHAPTER SCHEME

Chapter I - Deals with Introduction and Design of the study which covers introduction,

Chapter II - Review of relevant literature. Various research studies were referred on competency building, competency mapping, employability skills, employers' opinion on graduates' skills, students' perception on their skills and the reviews are presented in this chapter. The reviews are arranged in reverse chronological order.

Chapter III – Research Methodology - Need for the study, statement of the problem, objectives of the study, research methodology, period of study, scope of the study, limitations of the study and chapter scheme.

Chapter IV - Data Analysis and Interpretation.

Chapter V - Summary of Findings, Suggestions and Conclusion.

CHAPTER IV

DATA ANALYSIS & INTERPRETATION

SECTION I STUDENTS EMPLOYABILITY SKILLS - THE HR MANAGER PERSPECTIVE

The student employability skills in HR manager's perspective are discussed in this section. Managers who interview the students in campus are approached to opine the employability skills of the students. The results obtained are tabulated after carefully analysing the data to fulfil the objectives formulated for the study.

4.1.1 Description of Demographic variables of the respondents

Table 4.1.1
Demographic details of the Respondents (HR Managers)

		Frequency	Percentage
Size of the Company	Small	10	20
	Medium /Large	40	80
Nature of industry	Manufacturing	16	32
	Service	26	52
	Others	08	16
Designation	Business	7	14
	Corporate	12	24
	Functional/Operational	31	62
Education	UG	19	38
	PG	24	48
	>PG	7	14
Experience in year	1 to 5	16	32
	6 to10	13	26
	>10	21	42
Company location	Semi urban	6	12
	Urban	44	88
Total		50	100

The table 4.1.1 shows the distribution of demographic variables of the respondents (HR Managers) observed over the factors viz. Size of the Company, Nature of industry, Designation, Education, Experience in years”.

Regarding the **Size of the Company** the distribution shows that 20% of the respondents are from Small Company and 80% of the respondents are from Medium/Large Company. Thus it can be interpreted that highest percentage of Size of the Company is Medium/Large. Regarding the **Nature of industry** the distribution shows that 32% of the managers participated from manufacturing sector, 52% participated from service sector and 16% from other category. Thus it can be interpreted that highest percentage of Nature of industry is Services. Regarding the **Designation** the distribution shows that 14% of the respondents are business, 24% of the respondents are Corporate and 62% of the respondents are Functional/Operational. Thus it can be interpreted that highest percentage of the respondents are Functional/Operational.

Regarding the **Education** the distribution shows 38% of the respondents are Undergraduates, 48% of the respondents are Post graduates and 14% of the respondents are above Post Graduate. Thus it can be interpreted that highest percentage are Postgraduates.

Regarding the **Experience in years** the distribution shows that 32% of respondents having experience of 1 to 5 years, 26% of the respondents having experience of 6 to 10 years, 42% of the respondents having experience of Above 10 years. Thus it can be interpreted that highest percentage of respondents having experience of Above 10 years.

Regarding the **Company location** the distribution shows that 12% of Company location is Semi-urban and 88% of the Company location is Urban. Thus it can be interpreted that highest percentage of Company location is Urban.

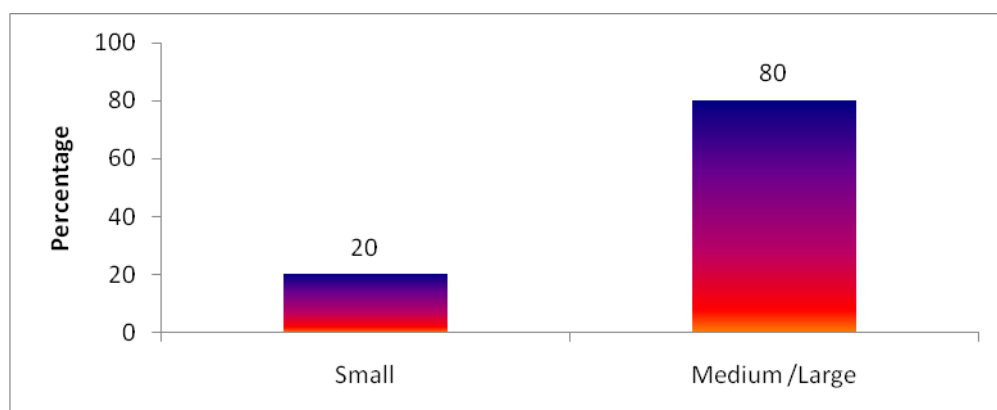


Fig 4.1.1.a Nature of Industry of the Respondents

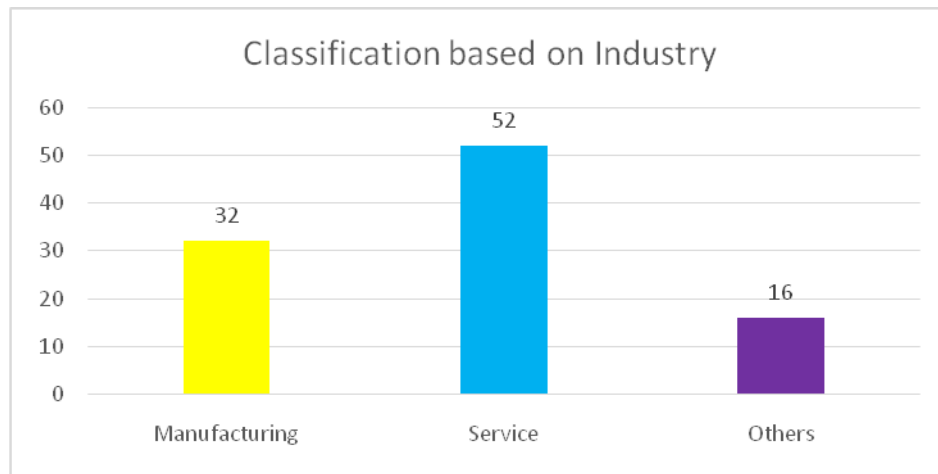


Fig 4.1.1b Nature of Industry

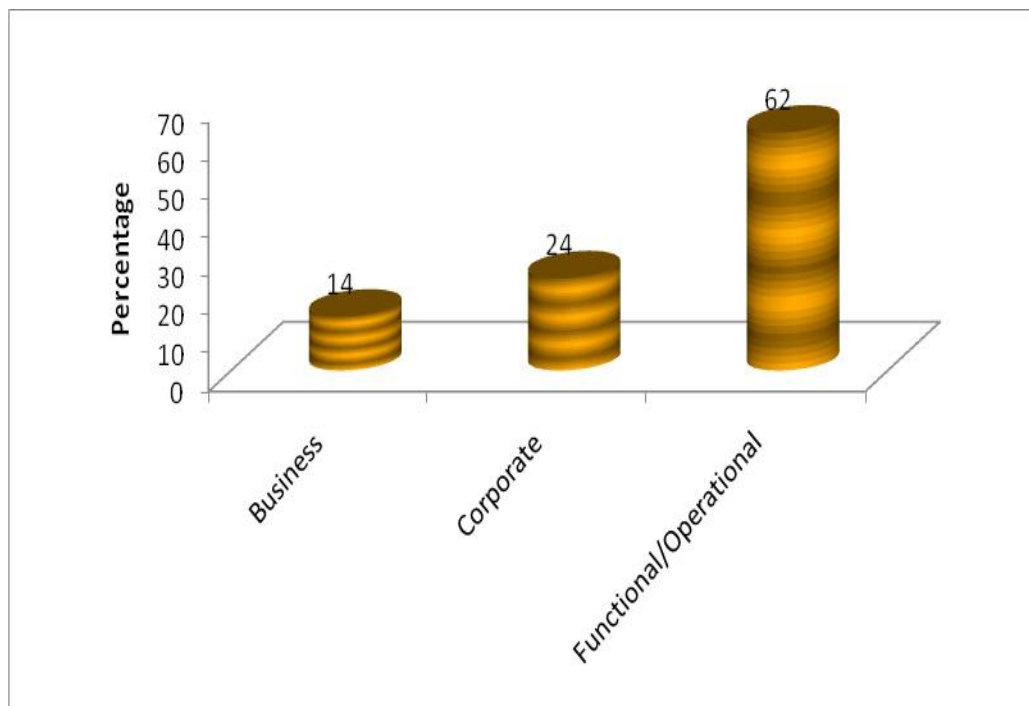


Fig 4.1.1c Designation of the Respondents

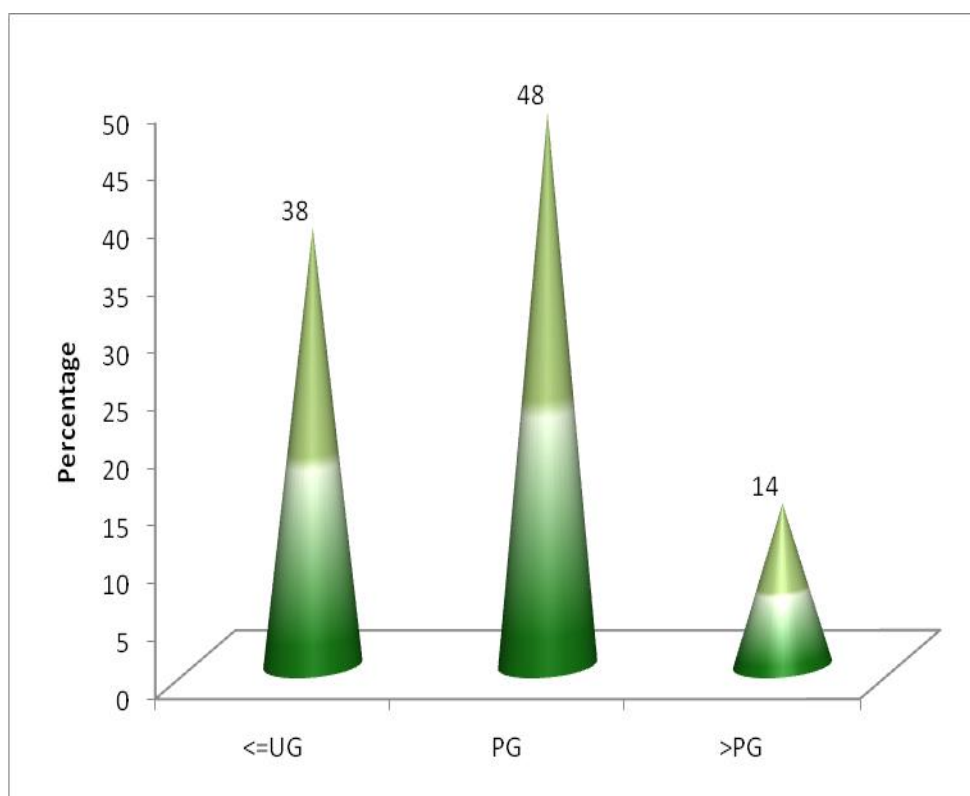


Fig 4.1.1d Education of the Respondents

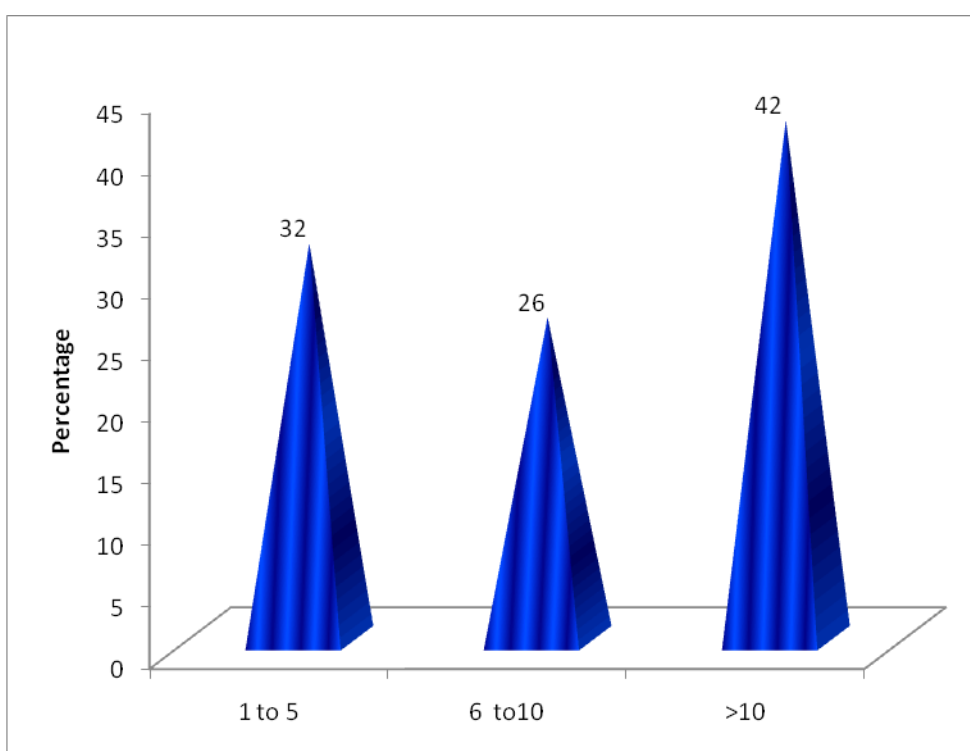


Fig 4.1.1e Experience of the Respondents

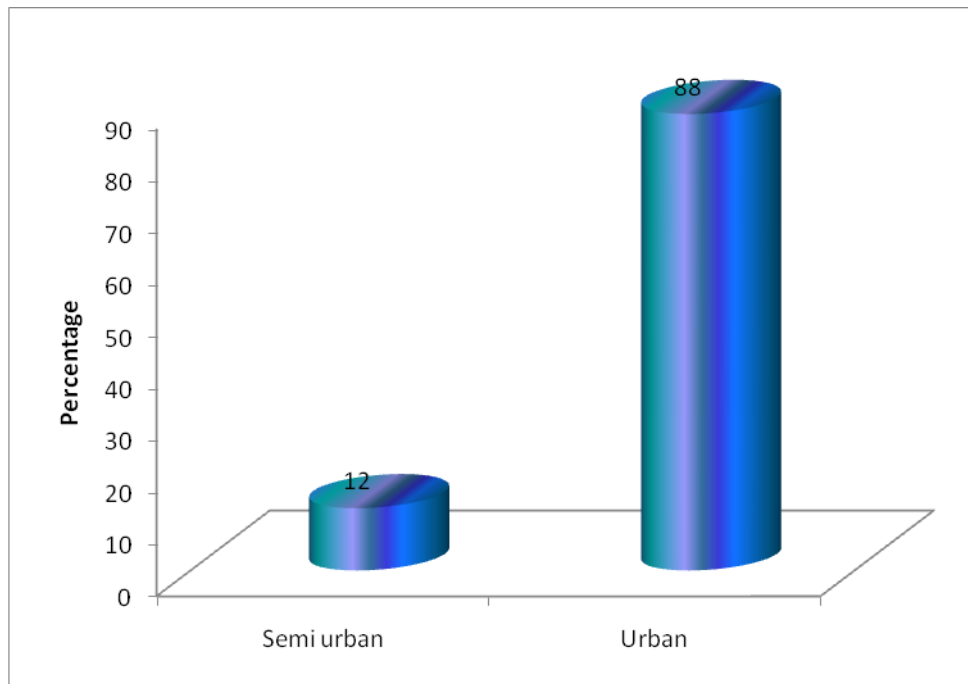


Fig 4.1.1f Location of the Company of the Respondents

SECTION II: Students Employability Skills - The HR Manager Perspective

Employability skills of the students are assessed in his based on the perspectives of the HR Manager. Students Employability Skills regarding Communication, Team Work, Problem Solving, Initiative and enterprise, Self-Management, Technical Competency, Planning and Organizing in HR Manager Perspective is analyzed.

4.2.1 Students Employability Skills - Communication

The Students Employability Skills - Communication in the opinion of HR Manager are observed over the factors of “*Listening and understanding, Speaking clearly and directly, Writing to the needs of the audience, Negotiating responsively, Other than English language skills, Understanding of internal and external customers, Persuading effectively, Establishing and using networks, Being assertive and Sharing information*” and analysed.

Table 4.2.1 Students Employability Skills - Communication

	Strongly disagree		Disagree		Neutral		Somewhat agree		Agree		Strongly agree		Total
	N	%	N	%	N	%	N	%	N	%	N	%	
Listening and understanding					1	2	12	24	15	30	22	44	50
Speaking clearly and directly					4	8	5	10	21	42	20	40	50
Writing to the needs of the audience			5	10	3	6	11	22	21	42	10	20	50
Negotiating responsively	2	4	2	4	1	2	13	26	24	48	8	16	50
Other than English language skills	1	2	2	4	5	10	19	38	22	44	1	2	50
Understanding of internal and external customers	2	4			5	10	6	12	26	52	11	22	50
Persuading effectively	2	4			2	4	14	28	25	50	7	14	50
Establishing and using networks			1	2	2	4	15	30	13	26	19	38	50
Being assertive and Sharing information			2	4	10	20	9	18	22	44	7	14	50

It is clear from the table 4.2.1 that 2% of the HR managers participated as respondents have a Neutral opinion, 24% of the respondents have somewhat agreed, 30% of the respondents have agreed and 44% of the respondents have strongly agreed regarding the ‘*Listening and understanding*’ skill of communication.

8% of the HR managers participated as respondents Neutral, 10% of the respondents have somewhat agreed, 42% of the respondents have agreed and 40% of the respondents have strongly agreed on the skill “*Speaking clearly and directly*”.

10% of the respondents have disagreed, 6% of the respondents have a Neutral opinion, 22% of the respondents have somewhat agreed, 42% of the respondents have agreed

and 20% of the respondents have strongly agreed on the skill ***“Writing to the needs of the audience”***.

4% of the respondents have strongly disagreed, 4% of the respondents have disagreed, 2% of the respondents have a Neutral opinion, 26% of the respondents have somewhat agreed, 48% of the respondents have agreed and 16% of the respondents have strongly agreed on the skill ***“Negotiating responsively”***.

2% of the respondents have strongly disagreed, 4% of the respondents have disagreed, 10% of the respondents have a Neutral opinion, 38% of the respondents have somewhat agreed, 44% of the respondents have agreed and 2% of the respondents have strongly agreed that student have the skill ***“Other than English language skills”***.

4% of the respondents have strongly disagreed, 10% of the respondents have a Neutral opinion, 12% of the respondents have somewhat agreed, 52% of the respondents have agreed and 22% of the respondents have strongly agreed on the skill ***“Understanding of internal and external customers”***.

4% of the respondents have strongly disagreed, 4% of the respondents have a Neutral opinion, 28% of the respondents have somewhat agreed, 50% of the respondents have agreed and 14% of the respondents have strongly agreed on the skill ***“Persuading effectively”***.

2% of the respondents have disagreed, 4% of the respondents have a Neutral opinion, 30% of the respondents have somewhat agreed, 26% of the respondents have agreed and 38% of the respondents have strongly agreed on the skill ***“Establishing and using networks”***.

4% of the respondents have disagreed, 20% of the respondents have a Neutral opinion, 18% of the respondents have somewhat agreed, 44% of the respondents have agreed and 14% of the respondents have strongly agreed on the skill ***“Being assertive and Sharing information”***.

It is clear from the table 4.2.1 that majority of the respondents have agreed with the factor of “*Speaking clearly and directly, Writing to the needs of the audience, Negotiating responsively, Other than English language skills, Understanding of internal and external customers, Persuading effectively, Being assertive and Sharing information*”. Strongly Agreed with the factor of “*Listening and understanding, Establishing and using networks*”.

Table 4.2.1 a Friedman Test- Communication

	Mean	SD	Mean Rank	Rank	Reliability
Listening and understanding	6.16	0.87	6.14	1	0.767
Speaking clearly and directly	6.14	0.90	6.11	2	
Writing to the needs of the audience	5.46	1.42	4.86	4	
Negotiating responsively	5.50	1.39	4.62	5	
Other than English language skills	5.18	1.14	3.63	9	
Understanding of internal and external customers	5.70	1.30	5.03	8	
Persuading effectively	5.58	1.20	4.47	6	
Establishing and using networks	5.92	1.08	5.77	3	
Being assertive and Sharing information	5.40	1.20	4.37	7	

In order to identify the factor which is more influencing the respondent towards Communication the Friedman’s test analysis was used and the results were given in Table 4.2.1 a.

It could be noted from the above table that among the 14 factors of “Listening and understanding” was ranked first. It is followed by the “Speaking clearly and directly”, “Establishing and using networks” was ranked third.

4.2.2 Students Employability Skills - Team Work

The Students Employability Skills - Team Work observed over the factors of “*Working across different culture, Working as an individual and as a member of a team, Knowing how to define a role as part of the team, Applying team work to a range of situations, Identifying the strengths of the team members, Coaching and mentoring*” are analyzed.

Table 4.2.2 Students Employability Skills - Team Work

	Strongly disagree		Disagree		Neutral		Somewhat agree		Agree		Strongly Agree		Total
	N	%	N	%	N	%	N	%	N	%	N	%	
Working across different culture			2	4	4	8	13	26	18	36	13	26	50
Working as an individual and as a member of a team			2	4	5	10	6	12	22	44	15	30	50
Knowing how to define a role as part of the team	2	4	2	4	1	2	16	32	19	38	10	20	50
Applying team work to a range of situations	2	4			4	8	9	18	23	46	12	24	50
Identifying the strengths of the team members	2	4	2	4			16	32	16	32	14	28	50
Coaching and mentoring			6	12	11	22	3	6	18	36	12	24	50

It is clear from the table 4.2.2 that 4% of the respondents have disagreed, 8% of the respondents have a Neutral opinion, 26% of the respondents have somewhat agreed, 36% of the respondents have agreed and 26% of the respondents have strongly agreed on the skill **‘Working across different culture.**

4% of the respondents have disagreed, 10% of the respondents have a Neutral opinion, 12% of the respondents have somewhat agreed, 44% of the respondents have agreed and 30% of the respondents have strongly agreed on the skill **“Working as an individual and as a member of a team”**

4% of the respondents have strongly disagreed, 4% of the respondents have disagreed, 2% of the respondents have a Neutral opinion, 32% of the respondents have

somewhat agreed, 38% of the respondents have agreed and 20% of the respondents have strongly agreed on the skill “***Knowing how to define a role as part of the team***”.

4% of the respondents have strongly disagreed, 8% of the respondents have a Neutral opinion, 18% of the respondents have somewhat agreed, 46% of the respondents have agreed and 24% of the respondents have strongly agreed on the skill “***Applying team work to a range of situations***”. 4% of the respondents have strongly disagreed, 4% of the respondents have disagreed, 32% of the respondents have somewhat agreed, 32% of the respondents have agreed and 28% of the respondents have strongly agreed on the skill “***Identifying the strengths of the team members***”.

12% of the respondents have disagreed, 22% of the respondents have a Neutral opinion, 6% of the respondents have somewhat agreed, 36% of the respondents have agreed and 24% of the respondents have strongly agreed on the skill “***Coaching and mentoring***”.

It is clear from the table 4.2.2 that majority of the respondents have agreed with the factor of “*Working across different culture, Working as an individual and as a member of a team, Knowing how to define a role as part of the team, Applying team work to a range of situations, Identifying the strengths of the team members, Coaching and mentoring*”.

Table 4.2.2 a Friedman Test- Team Work

	Mean	SD	Mean Rank	Rank	Reliability
Working across different culture	5.68	1.19	3.56	4	0.928
Working as an individual and as a member of a team	5.82	1.21	4.01	1	
Knowing how to define a role as part of the team	5.48	1.42	3.20	8	
Applying team work to a range of situations	5.70	1.30	3.59	3	
Identifying the strengths of the team members	5.60	1.46	3.55	6	
Coaching and mentoring	5.26	1.61	3.10	9	
Persuading effectively	5.68	1.19	3.56	4	
Establishing and using networks	5.82	1.21	4.00	2	
Being assertive and Sharing information	5.48	1.43	3.21	6	

In order to identify the factor which is more influencing the respondent towards Team Work the Friedman's test analysis was used and the results were given in Table 4.2.2 a.

It could be noted from the above table that among the 14 factors of "Working as an individual and as a member of a team" was ranked first. It is followed by the "Establishing and using networks", "Applying team work to a range of situations" was ranked third.

4.2.3 Students Employability Skills - Problem Solving

HR managers opinion on Students Employability Skills –particularly on Problem Solving observed over the factors of "*Developing creative and innovative solutions, An independently solving the any problems, Applying a range of strategies to problem solving, Using numeracy in various industry aspects, The strategies across a range of areas, Resolving customers complex issues*" are analyzed and discussed here.

Table 4.2.3 Students Employability Skills - Problem Solving

	Strongly disagree		Disagree		Somewhat disagree		Neutral		Somewhat agree		Agree		Strongly agree		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Developing creative and innovative solutions			2	4			2	4	13	26	20	40	13	26	50
An independently solving the any problems	2	4					7	14	12	24	21	42	8	16	50
Applying a range of strategies to problem solving			4	8	2	4	3	6	8	16	24	48	9	18	50
Using numeracy in various industry aspects	2	4	2	4	2	4	11	22	8	16	18	36	7	14	50
The strategies across a range of areas	2	4	8	16			4	8	7	14	20	40	9	18	50
Resolving customers complex issues	2	4	6	12	2	4	5	10	1	2	25	50	9	18	50

It is clear from the table 4.2.3 that 4% of the HR managers participated as respondents have disagreed, 4% of the respondents have a Neutral opinion, 26% of the respondents have somewhat agreed, 40% of them have agreed and 26% of the respondents have strongly agreed on ‘*Developing creative and innovative solutions*’.

4% of the respondents have strongly disagreed, 14% of the respondents have a Neutral opinion, 24% of the respondents have somewhat agreed, 42% of the respondents have agreed and 16% of the respondents have strongly agreed on “*An independently solving the any problems*”. 8% of them have disagreed, 4% of the respondents have somewhat disagreed, 6% of the respondents have a Neutral opinion, 16% of the respondents have

somewhat agreed, 48% of the respondents have agreed and 18% of the respondents have strongly agreed on the skill “***Applying a range of strategies to problem solving***”.

4% of the HR managers participated as respondents have strongly disagreed, 4% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 22% of the respondents have a Neutral opinion, 16% of the respondents have somewhat agreed, 36% of the respondents have agreed and 14% of the respondents have strongly agreed on the skill “***Using numeracy in various industry aspects***”.4% of the respondents have strongly disagreed, 16% of the respondents have disagreed, 8% of the respondents have a Neutral opinion, 14% of the respondents have somewhat agreed, 40% of the respondents have agreed and 18% of the respondents have strongly agreed on “***The strategies across a range of areas***”.4% of the respondents have strongly disagreed, 12% of them have disagreed, 4% of the respondents have somewhat disagreed, 10% of the respondents have a Neutral opinion, 2% of the respondents have somewhat agreed, 50% of the respondents have agreed and 18% of the respondents have strongly agreed on the skills “***Resolving customers complex issues***”.

It is clear from the table 4.2.3 that majority of the respondents have agreed with the factor of “*Developing creative and innovative solutions, An independently solving the any problems, Applying a range of strategies to problem solving, Using numeracy in various industry aspects, The strategies across a range of areas, Resolving customers complex issues*”.

In order to identify the factor which is more influencing the respondent towards Problem Solving the Friedman’s test analysis was used and the results were given in Table 4.2.3 a.

Table 4.2.3 a Friedman Test- Problem Solving

	Mean	SD	Mean Rank	Rank	Reliability
Developing creative and innovative solutions	5.76	1.13	4.01	1	0.928
An independently solving the any problems	5.44	1.30	3.53	3	
Applying a range of strategies to problem solving	5.46	1.40	3.86	2	
Using numeracy in various industry aspects	5.06	1.53	3.03	6	
The strategies across a range of areas	5.04	1.83	3.12	5	
Resolving customers complex issues	5.16	1.80	3.45	4	

It could be noted from the above table that among the 6 factors of “Developing creative and innovative solutions” was ranked first. It is followed by the “Applying a range of strategies to problem solving”, “An independently solving the any problems” was ranked third.

4.2.4 Students Employability Skills - Initiative and enterprise

The Students Employability Skills - Initiative and enterprise observed over the factors of “*Adapting to new situations, Developing a strategic, creative, long term vision, Being creative towards enterprise, Identifying opportunities not obvious to others, Generating a range of options, Initiating innovative solutions*” are analysed.

Table 4.2.4 Students Employability Skills - Initiative and enterprise

	Strongly disagree		Disagree		Somewhat disagree		Neutral		Somewhat agree		Agree		Strongly agree		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Adapting to new situations			2	4	2	4	2	4	9	18	22	44	13	26	50
Developing a strategic, creative, long term vision	2	4	6	12	4	8	1	2	11	22	16	32	10	20	50
Being creative towards enterprise			2	4			9	18	7	14	22	44	10	20	50
Identifying opportunities not obvious to others			6	12			8	16	12	24	14	28	10	20	50

Generating a range of options			2	4	4	8	11	22	8	16	17	34	8	16	50
Initiating innovative solutions			2	4			2	4	7	14	25	50	14	28	50

It is clear from the table 4.2.4 that 4% of the HR managers participated as respondents have disagreed that students have initiative and enterprising skill, 4% of the respondents have somewhat disagreed, 4% of the respondents have a Neutral opinion, 18% of the respondents have somewhat agreed, 44% of the respondents have agreed and 26% of the respondents have strongly agreed regarding the skill '*Adapting to new situations*.

4% of the HR managers participated as respondents have strongly disagreed, 12% of the respondents have disagreed, 8% of the respondents have somewhat disagreed, 2% of the respondents have a Neutral opinion, 22% of the respondents have somewhat agreed, 32% of the respondents have agreed and 20% of the respondents have strongly agreed on the skill "*Developing a strategic, creative, long term vision*". 4% of the respondents have disagreed, 18% of the respondents have a Neutral opinion, 14% of the respondents have somewhat agreed, 44% of the respondents have agreed and 20% of the respondents have strongly agreed on the skill "*Being creative towards enterprise*". 12% of them have disagreed, 16% of the respondents have a Neutral opinion, 24% of them have somewhat agreed, 28% of the respondents have agreed and 20% of the respondents have strongly agreed on the skill "*Identifying opportunities not obvious to others*".

4% of the respondents have disagreed, 8% of the respondents have somewhat disagreed, 22% of the respondents have a neutral opinion, 16% of the respondents have somewhat agreed, 34% of the respondents have agreed and 16% of the respondents have strongly agreed on the skill "*Generating a range of options*".

4% of the respondents have disagreed, 4% of the respondents have a neutral opinion, 14% of the respondents have somewhat agreed, 50% of the respondents have agreed and 28% of the respondents have strongly agreed on the skill “***Initiating innovative solutions***”

It is clear from the table 4.2.4 that majority of the respondents have agreed with the factor of “*Adapting to new situations, Developing a strategic, creative, long term vision, Being creative towards enterprise, Identifying opportunities not obvious to others, Generating a range of options, Initiating innovative solutions*”.

In order to identify the factor which is more influencing the respondent towards Initiative and enterprise the Friedman’s test analysis was used and the results were given in Table 4.2.4 a.

Table 4.2.4 a Friedman Test- Initiative and enterprise

	Mean	SD	Mean Rank	Rank	Reliability
Adapting to new situations	5.72	1.25	3.91	2	0.891
Developing a strategic, creative, long term vision	5.02	1.80	3.01	6	
Being creative towards enterprise	5.54	1.23	3.54	3	
Identifying opportunities not obvious to others	5.16	1.53	3.19	4	
Generating a range of options	5.16	1.38	3.10	5	
Initiating innovative solutions	5.90	1.11	4.25	1	

It could be noted from the above table that among the 6 factors of “Initiating innovative solutions” was ranked first. It is followed by the “Adapting to new situations”, “Being creative towards enterprise” was ranked third.

4.2.5 Students Employability Skills - Self-Management

The Students Employability Skills - Self-Management observed over the factors of “*Having a personal vision and goals, Evaluating & monitoring own performance, Having knowledge & confidence in own ideas & visions, Articulating own ideas and visions, Taking responsibility*” are analysed.

Table 4.2.5 Students Employability Skills - Self-Management

	Strongly disagree		Disagree		Somewhat disagree		Neutral		Somewhat agree		Agree		Strongly agree		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Having a personal vision and goals					2	4	2	4	7	14	28	56	11	22	50
Evaluating & monitoring own performance	2	4	4	8	2	4			6	12	24	48	12	24	50
Having knowledge & confidence in own ideas & visions	2	4	2	4	2	4			6	12	25	50	13	26	50
Articulating own ideas and visions			4	8	2	4	2	4	7	14	19	38	16	32	50
Taking responsibility	2	4	2	4	2	4	4	8	5	10	17	34	18	36	50

It is clear from the table 4.2.5 that 4% of the HR managers participated as respondents have somewhat disagreed, 4% of the respondents have a Neutral opinion, 14% of the respondents have somewhat agreed, 56% of the respondents have agreed and 22% of the respondents have strongly agreed on the skill '*Having a personal vision and goals*'. 4% of the respondents have strongly disagreed, 8% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 12% of the respondents have somewhat agreed, 48% of the respondents have agreed and 24% of the respondents have strongly agreed that students can "*Evaluate & monitor their own performance*".

4% of the respondents have strongly disagreed, 4% of the respondents have disagreed, 4% of them have somewhat disagreed, 12% of the respondents have somewhat agreed, 50% of the respondents have agreed and 26% of the respondents have strongly agreed on the skill "*Having knowledge & confidence in own ideas & visions*". 8% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 4% of the respondents have a

Neutral opinion, 14% of the respondents have somewhat agreed, 38% of the respondents have agreed and 32% of the respondents have strongly agreed that students have the skill of ***“Articulating own ideas and visions”***.

4% of the respondents have strongly disagreed, 4% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 8% of the respondents have a Neutral opinion, 10% of the respondents have somewhat agreed, 34% of the respondents have agreed and 36% of the respondents have strongly agreed that students have the skill of ***“Taking responsibility”***

It is clear from the table 4.2.5 that majority of the respondents have agreed with the factor of *“Having a personal vision and goals, Evaluating & monitoring own performance, Having knowledge & confidence in own ideas & visions, Articulating own ideas and visions”* and the HR managers have strongly agreed that students have the skill *“Taking responsibility”*.

In order to identify the factor which is more influencing the respondent towards Self-Management the Friedman’s test analysis was used and the results were given in Table 4.2.5 a.

Table 4.2.5 a Friedman Test- Self Management

	Mean	SD	Mean Rank	Rank	Reliability
Having a personal vision and goals	5.88	0.94	3.12	1	0.891
Evaluating & monitoring own performance	5.48	1.67	2.86	5	
Having knowledge & confidence in own ideas & visions	5.66	1.52	2.96	4	
Articulating own ideas and visions	5.66	1.48	3.02	3	
Taking responsibility	5.62	1.64	3.04	2	

It could be noted from the above table that among the 5 factors of “Having a personal vision and goals” was ranked first. It is followed by the “Taking responsibility”, “Articulating own ideas and visions” was ranked third.

4.2.6 Students Employability Skills - Technical Competency

The Students Employability Skills - Technical Competency observed over the factors of “*Having a range of basic IT skills, Applying IT as a management tool, Using IT to organise data, Being willing to learn new IT skills, Having the physical capacity to apply technology*” are analysed.

Table 4.2.6 Students Employability Skills - Technical Competency

	Strongly disagree		Disagree		Somewhat disagree		Neutral		Somewhat agree		Agree		Strongly agree		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Having a range of basic IT skills					2	4	8	16	14	28	15	30	11	22	50
Applying IT as a management tool			6	12	2	4	9	18	8	16	15	30	10	20	50
Using IT to organise data			8	16	2	4	3	6	13	26	18	36	6	12	50
Being willing to learn new IT skills					2	4	4	8	3	6	28	56	13	26	50
Having the physical capacity to apply technology	2	4	2	4	2	4	4	8	7	14	21	42	12	24	50

Table 4.2.6 indicated that 4% of the HR managers participated as respondents have somewhat disagreed, 16% of the respondents have a Neutral opinion, 28% of the respondents have somewhat agreed, 30% of the respondents have agreed and 22% of the respondents have strongly agreed regarding the ‘*Having a range of basic IT skills*’.

12% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 18% of the respondents have a Neutral opinion, 16% of the respondents have somewhat agreed, 30% of the respondents have agreed and 20% of the respondents have strongly agreed on the skill “*Applying IT as a management tool*”

16% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 6% of the respondents have a Neutral opinion, 26% of the respondents have somewhat agreed, 36% of the respondents have agreed and 12% of the respondents have strongly agreed that students have the skill of “**Using IT to organise data**”

4% of the respondents have somewhat disagreed, 8% of the respondents have a Neutral opinion, 6% of the respondents have somewhat agreed, 56% of the respondents have agreed and 26% of the respondents have strongly agreed that students are **willing to learn new IT skills**’.

4% of the respondents have strongly disagreed, 4% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 8% of the respondents have a Neutral opinion, 14% of the respondents have somewhat agreed, 42% of the respondents have agreed and 24% of the respondents have strongly agreed that students are “**Having the physical capacity to apply technology**”.

It is clear from the table 4.2.6 that majority of the respondents have agreed with the factor of “*Having a range of basic IT skills, Applying IT as a management tool, Using IT to organise data, Being willing to learn new IT skills, Having the physical capacity to apply technology*”.

In order to identify the factor which is more influencing the respondent towards Technical Competency the Friedman’s test analysis was used and the results were given in Table 4.2.6 a.

Table 4.2.6 a Friedman Test- Technical Competency

	Mean	SD	Mean Rank	Rank	Reliability
Having a range of basic IT skills	5.50	1.13	3.02	3	0.820
Applying IT as a management tool	5.08	1.60	2.66	4	
Using IT to organise data	4.98	1.60	2.62	5	
Being willing to learn new IT skills	5.92	1.01	3.55	1	
Having the physical capacity to apply technology	5.46	1.57	3.15	2	

It could be noted from the above table that among the 6 factors of “Being willing to learn new IT skills” was ranked first. It is followed by the “Having the physical capacity to apply technology”, “Having a range of basic IT skills” was ranked third.

4.2.7 Students Employability Skills - Planning and Organizing

The Students Employability Skills - Planning and Organizing observed over the factors of *“Managing time and priorities- setting time lines, Being resourceful, Taking initiative and making decisions, Adapting resource allocations to cope with contingencies, Establishing clear project goals and deliverables, Allocating people and other factors to tasks, Planning the use of factors including time management, Continuous improvement and planning processes, Developing a vision and a proactive plan to accompany it, Predicting - weighing up risk and evaluate alternatives, Collecting, analysing and organising information”* are analyzed.

Table 4.2.7 Students Employability Skills - Planning and Organizing

	Strongly Disagree		Disagree		Somewhat Disagree		Neutral		Somewhat agree		Agree		Strongly Agree		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Managing time and priorities- setting time lines			4	8	2	4	3	6	3	6	24	48	14	28	50
Being resourceful			2	4	2	4			10	20	21	42	15	30	50
Taking initiative and making decisions			4	8	2	4	2	4	6	12	23	46	13	26	50
Adapting resource allocations to cope with contingencies			6	12	2	4	1	2	13	26	21	42	7	14	50
Establishing clear project goals and deliverables			2	4	2	4	9	18	7	14	22	44	8	16	50
Allocating people and other factors to tasks	2	4	4	8	4	8	5	10	6	12	21	42	8	16	50
Planning the use of factors including time management			4	8	2	4	5	10	12	24	21	42	6	12	50
Continuous improvement and planning processes					6	12	1	2	10	20	22	44	11	22	50
Developing a vision and a proactive plan to accompany it			7	14	2	4	2	4	4	8	26	52	9	18	50
Predicting - weighing up risk and evaluate alternatives	2	4	5	10	4	8	6	12	6	12	19	38	8	16	50
Collecting, analysing and organising information	2	4	3	6	2	4	4	8	4	8	24	48	11	22	50

It is evident from the table 4.3.1 that 8% of the HR managers participated as respondents have disagreed, 4% of the respondents have somewhat disagreed, 6% of the respondents have a Neutral opinion, 6% of the respondents have somewhat agreed, 48% of the respondents have agreed and 28% of the respondents have strongly agreed that students are capable of '**Managing time and priorities- setting time lines.**

4% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 20% of the respondents have somewhat agreed, 42% of the respondents have agreed and 30% of the respondents have strongly agreed on the skill, "**Being resourceful**".

8% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 4% of the respondents have a Neutral opinion, 12% of the respondents have somewhat agreed, 46% of the respondents have agreed and 26% of the respondents have strongly agreed that students are good at "**Taking initiative and making decisions**".

12% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 2% of the respondents have a Neutral opinion, 26% of the respondents have somewhat agreed, 42% of the respondents have agreed and 14% of the respondents have strongly agreed that students have the skills of "**Adapting resource allocations to cope with contingencies**".

4% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 18% of the respondents have a Neutral opinion, 14% of the respondents have somewhat agreed, 44% of the respondents have agreed and 16% of the respondents have strongly agreed that students have the skills of "**Establishing clear project goals and deliverables**".

4% of the respondents have strongly disagreed, 8% of the respondents have disagreed, 8% of the respondents have somewhat disagreed, 10% of the respondents have a Neutral opinion, 12% of the respondents have somewhat agreed, 42% of the respondents have agreed

and 16% of the respondents have strongly agreed that students have the skills of “***Allocating people and other factors to tasks***”.

8% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 10% of the respondents have a Neutral opinion, 24% of the respondents have somewhat agreed, 42% of the respondents have agreed and 12% of the respondents have strongly agreed that students have the skills of “***Planning the use of factors including time management***”.

12% of the respondents have somewhat disagreed, 2% of the respondents have a Neutral opinion, 20% of the respondents have somewhat agreed, 44% of the respondents have agreed and 22% of the respondents have strongly agreed that students are good at “***Continuous improvement and planning processes***”.

14% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 4% of the respondents have a neutral opinion, 8% of the respondents have somewhat agreed, 52% of the respondents have agreed and 18% of the respondents have strongly agreed that students are capable of “***Developing a vision and a proactive plan to accompany it***”.

4% of the respondents have strongly disagreed, 10% of the respondents have disagreed, 8% of the respondents have somewhat disagreed, 12% of the respondents have a neutral opinion, 12% of the respondents have somewhat agreed, 38% of the respondents have agreed and 16% of the respondents have strongly agreed that students are capable of “***Predicting - weighing up risk and evaluate alternatives***”.

4% of the respondents have strongly disagreed, 6% of the respondents have disagreed, 4% of the respondents have somewhat disagreed, 8% of the respondents have a Neutral opinion, 8% of the respondents have somewhat agreed, 48% of the respondents have agreed

and 22% of the respondents have strongly agreed that students are capable of “**Collecting, analysing and organising information**”.

It is clear from the table 4.2.7 that majority of the respondents have agreed with the factor of “*Managing time and priorities- setting time lines, Being resourceful, Taking initiative and making decisions, Adapting resource allocations to cope with contingencies, Establishing clear project goals and deliverables, Allocating people and other factors to tasks, Planning the use of factors including time management, Continuous improvement and planning processes, Developing a vision and a proactive plan to accompany it, Predicting - weighing up risk and evaluate alternatives, Collecting, analysing and organizing information*”.

In order to identify the factor which is more influencing the respondent towards Planning and Organizing the Friedman’s test analysis was used and the results were given in Table 4.2.7 a.

Table 4.2.7 a Friedman Test- Planning and Organizing

	Mean	SD	Mean Rank	Rank	Reliability
Managing time and priorities- setting time lines	5.66	1.47	6.91	2	0.954
Being resourceful	5.82	1.22	7.14	1	
Taking initiative and making decisions	5.62	1.44	6.72	3	
Adapting resource allocations to cope with contingencies	5.24	1.49	5.53	8	
Establishing clear project goals and deliverables	5.38	1.29	5.74	7	
Allocating people and other factors to tasks	5.08	1.70	4.94	11	
Planning the use of factors including time management	5.24	1.36	5.23	9	
Continuous improvement and planning processes	5.62	1.21	6.60	4	
Developing a vision and a proactive plan to accompany it	5.34	1.62	6.03	6	
Predicting - weighing up risk and evaluate alternatives	4.96	1.75	4.99	10	
Collecting, analysing and organising information	5.42	1.63	6.17	5	

It could be noted from the above table that among the 11 factors of “Being resourceful” was ranked first. It is followed by the “Managing time and priorities- setting time lines”, “Taking initiative and making decisions” was ranked third.

SECTION III: Average Score Analysis - Students Employability Skills - HR Manager Perspective

An attempt has been made to study the dimension wise opinion on Students Employability Skills. After converting the qualitative information of the opinion into a quantitative one the average score were obtained from the respondents on various factors like ‘*Communication, Team Work, Problem Solving, Initiative and enterprise, Self-Management, Technical Competency, Planning and Organizing, Overall Students Employability Skills*’ and obtained results are presented in Table 4.3.

Table 4.3 Students Employability Skills

Factors	N	Min	Max	Mean	SD	Mean %
Communication	50	31	61	51.04	6.28	83.67
Team Work	50	9	42	33.54	7.06	79.86
Problem Solving	50	11	42	31.92	7.24	76.00
Initiative and enterprise	50	17	42	32.50	6.46	77.38
Self-Management	50	14	35	28.30	6.15	80.86
Technical Competency	50	15	35	26.94	5.35	76.97
Planning and Organizing	50	25	77	59.38	13.54	77.12
Overall Students Employability Skills	50	127	321	263.62	46.12	82.12

Factor wise distribution of mean, Standard Deviation and mean percentage of Students Employability Skills shows that among 8 factors, the highest mean % score (51.04 ± 6.28) which is 83.67% is obtained for the factor “Communication” whereas, the lowest mean % score (31.92 ± 7.24) which is 76.00% was obtained for ‘Problem Solving’. The

mean score on ‘Team Work’ was (33.54 ± 7.06) which is 79.86%. The mean score on ‘Initiative and enterprise’ was (32.50 ± 6.46) which is 77.38%. The mean score on ‘Self-Management’ was (28.30 ± 6.15) which is 80.86%. The mean score on ‘Technical Competency’ was (26.94 ± 5.35) which is 76.97%. The mean score on ‘Planning and Organizing’ was (59.38 ± 13.54) which is 77.12%. The mean score on ‘Overall Students Employability Skills’ was (263.62 ± 46.12) which is 82.12%.

Students Employability Skills with respect to demographic variables

In this section the Students Employability Skills in HR manager’s Perspective is analysed with respect to the demographic variables **Size of the Company, Nature of industry, Designation, Education, Experience in years and Company location** was analysed in this section.

Null Hypothesis: There is no significant difference between the mean scores regarding Students Employability Skills with respect to the selected demographic variables.

Alternative Hypothesis: There is a significant difference between the mean scores regarding Students Employability Skills with respect to the selected demographic variables.

&&&

4.3.1 Size of company and HR Managers’ Opinion on Students Employability Skills

To study the effect of Size of company, the distribution of Students Employability Skills according to Size of company is shown in the following table 4.3.1. It could be noted from the table 4.3.1 that regarding the factor ‘*Communication*’ among Small Company the mean score was (53.40 ± 2.72) and among Medium/Large Company the mean score was (50.45 ± 6.78) . Regarding the factor ‘*Team Work*’ among Small Company the mean score was (33.20 ± 7.70) and among Medium/Large Company the mean score was (33.63 ± 7.00)

Regarding the factor ‘*Problem Solving*’ among Small Company the mean score was (34.60 ± 6.88) and among Medium/Large Company the mean score was (31.25 ± 7.25) .

Regarding the factor '*Initiative and enterprise*' among Small Company the mean score was (33 ± 5.81) and among Medium/Large Company the mean score was (32.38 ± 6.67).

Regarding the factor '*Self-Management*' among Small Company the mean score was (29.40 ± 1.71) and among Medium/Large Company the mean score was (28.03 ± 6.81).

Regarding the factor '*Technical Competency*' among Small Company the mean score was (28.60 ± 4.09) and among Medium/Large Company the mean score was (26.53 ± 5.59).

Table 4.3.1
Size of company and HR Managers' Opinion on Students Employability Skills

Factors	Size of company	N	Mean	SD	t	P
Communication	Small	10	53.40	2.72	1.34	0.186
	Medium /Large	40	50.45	6.78		
Team Work	Small	10	33.20	7.70	0.17	0.867
	Medium /Large	40	33.63	7.00		
Problem Solving	Small	10	34.60	6.88	1.32	0.193
	Medium /Large	40	31.25	7.25		
Initiative and enterprise	Small	10	33.00	5.81	0.27	0.787
	Medium /Large	40	32.38	6.67		
Self-Management	Small	10	29.40	1.71	0.63	0.533
	Medium /Large	40	28.03	6.81		
Technical Competency	Small	10	28.60	4.09	1.10	0.278
	Medium /Large	40	26.53	5.59		
Planning and Organizing	Small	10	62.40	8.98	0.79	0.436
	Medium /Large	40	58.63	14.45		
Overall Students Employability Skills	Small	10	274.60	32.86	0.84	0.406
	Medium /Large	40	260.88	48.83		

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Planning and Organizing*' among Small Company the mean score was (62.40 ± 8.98) and among Medium/Large Company the mean score was (58.63 ± 14.45) Regarding the factor '*Overall Students Employability Skills*' among Small

Company the mean score was (274.60 ± 32.86) and among Medium/Large Company the mean score was (260.88 ± 48.83)

Thus, it is inferred from the above analysis that The awareness about *Communication* was found maximum among Small Company, about *Team Work* it was found among Medium/Large Company, about *Problem Solving* it was found among Small Company, about *Initiative and enterprise* it was found among Small Company, about *Self-Management* it was found among Small Company, about *Technical Competency* it was found among Small Company and about *Planning and Organizing* it was found among Small Company, about *Overall Students Employability Skills* it was found among Small Company.

Further to test the significant difference between the mean score among the respondents with respect Size of company the t test is used and the result is also shown in table 4.3.1. Since the P value is greater than 0.05 regarding *Communication*, *Team Work*, *Problem Solving*, *Initiative and enterprise*, *Self-Management*, *Technical Competency*, *Planning and Organizing*, *Overall Students Employability Skills* and hence there is no significant difference in the mean scores found with respect to Size of company regarding these Factors.

4.3.2 Nature of industry and HR Managers' Opinion on Students Employability Skills

To study the effect of Nature of industry, the distribution of Students Employability Skills according to Nature of industry is shown in the following table 4.3.2. It could be noted from the table 4.3.2 that regarding the factor '*Communication*' among Services the mean score was (50.44 ± 6.81) and among others the mean score was (52.57 ± 4.47) . Regarding the factor '*Team Work*' among Services the mean score was (32.58 ± 7.98) and among others the mean score was (36.300 ± 2.77) . Regarding the factor '*Problem Solving*' among Services the mean score was (31.28 ± 7.85) and among others the mean score was (33.57 ± 5.23) . Regarding the factor '*Initiative and enterprise*' among Services the mean score was (32.14 ± 6.60) and among others the mean score was (33.43 ± 6.22) .

Regarding the factor '*Self-Management*' among Services the mean score was (28.53 ± 6.12) and among others the mean score was (27.71 ± 6.41). Regarding the factor '*Technical Competency*' among Services the mean score was (26.97 ± 5.25) and among others respondents the mean score was (26.86 ± 5.83).

Table 4.3.2

Nature of industry and HR Managers' Opinion on Students Employability Skills

Factors	Nature of Industry	N	Mean	SD	t	P
Communication	Services	36	50.44	6.81	1.08	0.287
	Others	14	52.57	4.47		
Team Work	Services	36	32.58	7.98	1.56	0.126
	Others	14	36.00	2.77		
Problem Solving	Services	36	31.28	7.85	1.01	0.319
	Others	14	33.57	5.23		
Initiative and enterprise	Services	36	32.14	6.60	0.63	0.531
	Others	14	33.43	6.22		
Self-Management	Services	36	28.53	6.12	0.42	0.679
	Others	14	27.71	6.41		
Technical Competency	Services	36	26.97	5.25	0.07	0.946
	Others	14	26.86	5.83		
Planning and Organizing	Services	36	58.31	14.84	0.90	0.374
	Others	14	62.14	9.31		
Overall Students Employability Skills	Services	36	260.25	49.08	0.83	0.413
	Others	14	272.29	37.67		

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Planning and Organizing*' among Services the mean score was (58.31 ± 14.84) and among others the mean score was (62.14 ± 9.31). Regarding the factor '*Overall Students Employability Skills*' among Services the mean score was (260.25 ± 49.08) and among others the mean score was (272.29 ± 37.367).

Thus, it is inferred from the above analysis that The awareness about *Communication* was found maximum among others, about *Team Work* it was found among others, about

Problem Solving it was found among others, about *Initiative and enterprise* it was found among others, about *Self-Management* it was found among Services, about *Technical Competency* it was found among Services and about *Planning and Organizing* it was found among others, about *Overall Students Employability Skills* it was found among others.

Further to test the significant difference between the mean score among the respondents with respect Nature of industry the t test is used and the result is also shown in table 4.3.2. Since the P value is greater than 0.05 regarding *Communication*, *Team Work*, *Problem Solving*, *Initiative and enterprise*, *Self-Management*, *Technical Competency*, *Planning and Organizing*, *Overall Students Employability Skills* and hence there is no significant difference in the mean scores was found with respect to Nature of industry regarding these Factors.

4.3.3 Company location and HR Managers' opinion on Students Employability Skills

To study the effect of Company location, the distribution of Students Employability Skills according to Company location is shown in the following table 4.3.3. It could be noted from the table 4.3.3 that regarding the factor '*Communication*' among Semi urban area the mean score was (47.33 ± 2.73) and among Urban area the mean score was (51.55 ± 6.47) . Regarding the factor '*Team Work*' among Semi urban area the mean score was (30.33 ± 1.03) and among Urban area the mean score was (33.98 ± 7.42) .

Regarding the factor '*Problem Solving*' among Semi urban area the mean score was (32.00 ± 8.53) and among Urban area the mean score was (31.91 ± 7.16) . Regarding the factor '*Initiative and enterprise*' among Semi urban area the mean score was (23.33 ± 4.03) and among Urban area the mean score was (33.34 ± 6.29) . Regarding the factor '*Self-Management*' among Semi urban area the mean score was (19.00 ± 6.99) and among Urban area the mean score was (29.57 ± 4.87) . Regarding the factor '*Technical Competency*' among Semi urban area the mean score was (20.00 ± 6.99) and among Urban area the mean score was (29.57 ± 4.87) .

Table 4.3.3
Company location and HR Managers' Opinion on Employability Skills

Factors	Company location	N	Mean	SD	T	P
Communication	Semi urban	6	47.33	2.73	1.56	0.124
	Urban	44	51.55	6.47		
Team Work	Semi urban	6	30.33	1.03	1.19	0.240
	Urban	44	33.98	7.42		
Problem Solving	Semi urban	6	32.00	8.53	3.05	0.004**
	Urban	44	31.91	7.16		
Initiative and enterprise	Semi urban	6	26.33	4.03	2.64	0.011*
	Urban	44	33.34	6.29		
Self-Management	Semi urban	6	19.00	6.99	4.73	<0.001**
	Urban	44	29.57	4.87		
Technical Competency	Semi urban	6	20.00	6.99	3.83	<0.001**
	Urban	44	27.89	4.40		
Planning and Organizing	Semi urban	6	44.67	12.40	3.07	0.003**
	Urban	44	61.39	12.52		
Overall Students Employability Skills	Semi urban	6	219.67	37.76	2.64	0.011*
	Urban	44	269.61	44.18		

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Planning and Organizing*' among Semi urban area the mean score was (44.67 ± 12.40) and among Urban area the mean score was (61.39 ± 12.52) . Regarding the factor '*Overall Students Employability Skills*' among Semi urban area the mean score was (219.67 ± 37.76) and among Urban area the mean score was (269.61 ± 44.18) .

Thus, it is inferred from the above analysis that The awareness about *Communication* was found maximum among Urban area, about *Team Work* it was found among Urban area, about *Problem Solving* it was found among Semi-urban area, about *Initiative and enterprise* it was found among Urban area, about *Self-Management* it was found among Urban area, about *Technical Competency* it was found among Urban area and about *Planning and Organizing* it was found among Urban area, about *Overall Students Employability Skills* it was found among Urban area.

Further to test the significant difference between the mean score among the respondents with respect Company location the t test is used and the result is also shown in table 4.3.3. Since the P value is less than 0.05 regarding *Problem Solving*, *Initiative and enterprise*, *Self-Management*, *Technical Competency*, *Planning and Organizing*, *Overall*

Students Employability Skills and hence there is highly significant difference in the mean scores was found with respect to Company location regarding these Factors.

4.3.4 Designation and HR Managers' Opinion on Students Employability Skills

To study the effect of Designation, the distribution of opinion regarding Students Employability Skills according to Designation is shown in the following table 4.3.4. It could be noted from the table 4.3.4 that regarding the factor '*Communication*' shows with respect to Business the mean score was (55.00 ± 3.06) , with respect to Corporate the mean score was (53.42 ± 3.00) and with respect to Functional/Operational the mean score was (49.23 ± 7.06) .

Regarding the factor '*Team Work*' shows with respect to Business the mean score was (39.14 ± 2.27) , with respect to Corporate the mean score was (35.08 ± 3.80) and with respect to Functional/Operational the mean score was (31.68 ± 7.96) .

Regarding the factor '*Problem Solving*' shows with respect to Business the mean score was (37.43 ± 3.21) , with respect to Corporate the mean score was (34.58 ± 5.32) and with respect to Functional/Operational the mean score was (29.65 ± 7.61) .

Regarding the factor '*Initiative and enterprise*' shows with respect to Business the mean score was (37.71 ± 2.93) , with respect to Corporate the mean score was (35.08 ± 3.00) and with respect to Functional/Operational the mean score was (30.32 ± 7.01) . Regarding the factor '*Self-Management*' shows with respect to Business the mean score was (31.29 ± 1.70) , with respect to Corporate the mean score was (31.50 ± 2.02) and with respect to Functional/Operational the mean score was (26.39 ± 7.05) .

Regarding the factor '*Technical Competency*' shows with respect to Business the mean score was (28.29 ± 4.96) , with respect to Corporate the mean score was (30.17 ± 3.41) and with respect to Functional/Operational the mean score was (25.39 ± 5.53) . Regarding the factor '*Planning and Organizing*' shows with respect to Business the mean score was (70.29 ± 5.35) , with respect to Corporate the mean score was (64.58 ± 4.29) and with respect to Functional/Operational the mean score was (54.90 ± 15.09) .

Table 4.3.4

Designation and HR Managers' Opinion on Students Employability Skills

Factors	Designation						ANOV A	P
	Business		Corporate		Functional/Operation al			
	Mean	SD	Mean	SD	Mean	SD		
Communication	55.00	3.06	53.42	3.00	49.23	7.06	3.98	0.025*
Team Work	39.14	2.27	35.08	3.80	31.68	7.96	4.00	0.025*
Problem Solving	37.43	3.21	34.58	5.32	29.65	7.61	5.11	0.010* *
Initiative and enterprise	37.71	2.93	35.08	3.00	30.32	7.01	6.04	0.005* *
Self-Management	31.29	1.70	31.50	2.02	26.39	7.05	4.52	0.016*
Technical Competency	28.29	4.96	30.17	3.41	25.39	5.53	4.19	0.021*
Planning and Organizing	70.29	5.35	64.58	4.29	54.90	15.09	5.80	0.006* *
Overall Students Employability Skills	299.14	16.27	284.42	18.07	247.55	50.67	6.30	0.004* *

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Overall Students Employability Skills*' shows with respect to Business the mean score was (299.14 ± 16.27) , with respect to Corporate the mean score was (284.42 ± 18.07) and with respect to Functional/Operational the mean score was (247.55 ± 50.67) .

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Communication* was found maximum among Business, about *Team Work* it was found among Business, about *Problem Solving* it was found among Business, about *Initiative and enterprise* it was found among Business, about *Self-Management* it was found among Corporate, about *Technical Competency* it was found among Corporate and about *Planning and Organizing* it was found among Business, about *Overall Students Employability Skills* it was found among Business.

Further to test the significant difference between the mean score among the respondents with respect Designation the ANOVA is used and the result is also shown in table 4.3.4. Since the P value is less than 0.01 regarding *Communication, Team Work, Problem Solving, Initiative and enterprise, Self-Management, Technical Competency, Planning and Organizing, Overall Students Employability Skills* and hence there is significant difference in the mean scores was found with respect to Designation regarding these Factors.

4.3.5 Educational Qualification and HR Managers' Opinion on Students Employability Skills

To study the effect of Education, the distribution of opinion regarding Students Employability Skills according to Education is shown in the following table 4.3.5. It could be noted from the table 4.3.5 that regarding the factor '*Communication*' shows with respect to graduates the mean score was (52.95 ± 3.12) , with respect to post graduates the mean score was (49.79 ± 8.24) and with respect to Above PG the mean score was (50.14 ± 3.72) . Regarding the factor '*Team Work*' shows with respect to graduates the mean score was (34.58 ± 5.53) , with respect to post graduates the mean score was (33.13 ± 8.55) and with respect to Above PG the mean score was (32.14 ± 5.37) . Regarding the factor '*Problem Solving*' shows with respect to graduates the mean score was (32.95 ± 3.34) , with respect to post graduates the mean score was (30.75 ± 8.40) and with respect to Above PG the mean score was (33.14 ± 10.62) .

Regarding the factor '*Initiative and enterprise*' shows with respect to graduates the mean score was (33.11 ± 4.85) , with respect to post graduates the mean score was (32.50 ± 7.11) and with respect to Above PG the mean score was (30.86 ± 8.45) .

Table 4.3.5**Educational Qualification and HR Managers' Opinion on Students Employability Skills**

Factors	Education						ANOVA	p
	<=UG		PG		>PG			
	Mean	SD	Mean	SD	Mean	SD		
Communication	52.95	3.12	49.79	8.24	50.14	3.72	1.45	0.245**
Team Work	34.58	5.53	33.13	8.55	32.14	5.37	0.37	0.690**
Problem Solving	32.95	3.34	30.75	8.40	33.14	10.62	0.60	0.556**
Initiative and enterprise	33.11	4.85	32.50	7.11	30.86	8.45	0.30	0.741**
Self-Management	29.79	5.73	27.08	7.10	28.43	2.07	1.03	0.365**
Technical Competency	26.84	5.64	27.13	5.86	26.57	2.64	0.03	0.968**
Planning and Organizing	61.79	12.24	58.08	14.40	57.29	14.91	0.48	0.619**
Overall Students Employability Skills	272.00	34.25	258.46	54.72	258.57	44.91	0.50	0.612**

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Self-Management*' shows with respect to graduates the mean score was (29.79 ± 5.73), with respect to post graduates the mean score was (27.08 ± 7.10) and with respect to Above PG the mean score was (28.43 ± 2.07).

Regarding the factor '*Technical Competency*' shows with respect to graduates the mean score was (26.384 ± 5.64), with respect to post graduates the mean score was (27.13 ± 5.86) and with respect to Above PG the mean score was (26.57 ± 2.64). Regarding the factor '*Planning and Organizing*' shows with respect to graduates the mean score was (61.79 ± 12.24), with respect to post graduates the mean score was (58.08 ± 14.40) and with respect to Above PG the mean score was (57.29 ± 14.91).

Regarding the factor '*Overall Students Employability Skills*' shows with respect to graduates the mean score was (272.00 ± 34.25), with respect to post graduates the mean score was (258.46 ± 54.72) and with respect to Above PG the mean score was (258.57 ± 44.91).

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Communication* was found maximum among UG, about *Team Work* it was found among UG, about *Problem Solving* it was found among Above PG, about *Initiative and enterprise* it was found among UG, about *Self-Management* it was found among UG, about *Technical Competency* it was found among PG and about *Planning and Organizing* it was found among UG, about *Overall Students Employability Skills* it was found among UG.

Further to test the significant difference between the mean score among the respondents with respect Education the ANOVA is used and the result is also shown in table 4.3.5. Since the P value is greater than 0.05 regarding *Communication*, *Team Work*, *Problem Solving*, *Initiative and enterprise*, *Self-Management*, *Technical Competency*, *Planning and Organizing*, *Overall Students Employability Skills* and hence there is no significant difference in the mean scores was found with respect to Education regarding these Factors.

4.3.6 Experience and HR Managers' Opinion on Students Employability Skills

To study the effect of Experience in year, the distribution of opinion regarding Students Employability Skills according to Experience in year is shown in the following table 4.3.6. It could be noted from the table 4.3.6 that regarding the factor '*Communication*' shows with respect to 1 to 5 years the mean score was (53.06 ± 3.62), with respect to 6 to 10 years the mean score was (49.23 ± 9.71) and with respect to Above 10 years the mean score was (50.62 ± 4.95).

Regarding the factor '*Team Work*' shows with respect to 1 to 5 years the mean score was (36.19 ± 3.45), with respect to 6 to 10 years the mean score was (31.23 ± 10.57) and with respect to Above 10 years the mean score was (32.95 ± 6.07).

Regarding the factor '*Problem Solving*' shows with respect to 1 to 5 years the mean score was (33.88 ± 4.22), with respect to 6 to 10 years the mean score was (28.62 ± 9.77) and with respect to Above 10 years the mean score was (32.48 ± 6.87).

Table 4.3.6

Experience and HR Managers' Opinion on Students Employability Skills

Factors	Experience in year						ANOVA	p
	1 to 5		6 to10		>10			
	Mean	SD	Mean	SD	Mean	SD		
Communication	53.06	3.62	49.23	9.71	50.62	4.95	1.44	0.246**
Team Work	36.19	3.45	31.23	10.57	32.95	6.07	1.97	0.151**
Problem Solving	33.88	4.22	28.62	9.77	32.48	6.87	2.09	0.135**
Initiative and enterprise	34.50	3.90	29.92	9.13	32.57	5.76	1.87	0.166**
Self-Management	30.06	3.02	24.31	9.41	29.43	4.30	4.25	0.020*
Technical Competency	29.38	3.90	24.15	7.54	26.81	3.87	3.81	0.029*
Planning and Organizing	65.63	5.64	52.00	19.36	59.19	11.56	4.09	0.023*
Overall Students Employability Skills	282.69	18.51	239.46	70.02	264.05	36.64	3.47	0.039*

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Initiative and enterprise*' shows with respect to 1 to 5 years the mean score was (34.50 ± 3.90), with respect to 6 to 10 years the mean score was (29.92 ± 9.13) and with respect to Above 10 years the mean score was (32.57 ± 5.76). Regarding the factor '*Self-Management*' shows with respect to 1 to 5 years the mean score was (30.06 ± 3.02), with respect to 6 to 10 years the mean score was (24.31 ± 9.41) and with respect to Above 10 years the mean score was (29.43 ± 4.30).

Regarding the factor '*Technical Competency*' shows with respect to 1 to 5 years the mean score was (29.38 ± 3.90), with respect to 6 to 10 years the mean score was (24.15 ± 7.54) and with respect to Above 10 years the mean score was (26.81 ± 3.87). Regarding the factor '*Planning and Organizing*' shows with respect to 1 to 5 years the mean score was (65.63 ± 5.64), with respect to 6 to 10 years the mean score was (52.00 ± 19.36) and with respect to Above 10 years the mean score was (59.19 ± 11.56). Regarding the factor '*Overall Students Employability Skills*' shows with respect to 1 to 5 years the mean score was

(282.69 ± 18.51), with respect to 6 to 10 years the mean score was (239.46 ± 70.02) and with respect to Above 10 years the mean score was (264.05 ± 36.64).

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Communication* was found maximum among 1 to 5 years, about *Team Work* it was found among 1 to 5 years, about *Problem Solving* it was found among 1 to 5 years, about *Initiative and enterprise* it was found among 1 to 5 years, about *Self-Management* it was found among 1 to 5 years, about *Technical Competency* it was found among 1 to 5 years and about *Planning and Organizing* it was found among 1 to 5 years, about *Overall Students Employability Skills* it was found among 1 to 5 years.

Further to test the significant difference between the mean score among the respondents with respect Experience in year the ANOVA is used and the result is also shown in table 4.3.6. Since the P value is less than 0.05 regarding *Self-Management*, *Technical Competency*, *Planning and Organizing*, *Overall Students Employability Skills* and hence there is significant difference in the mean scores was found with respect to Experience in year regarding these Factors.

5.1.1 Description of Demographic Variables of the Trainers

Table 5.1.1
Demographic Details of the Respondents (Trainers)

		Frequency	%
Nature of trainer	National	37	74
	International	13	26
Education	<=UG	16	32
	PG	17	34
	>PG	17	34
Income in lakh per year	<= 3	10	20
	3 to 6	22	44
	> 6	18	36
Experience in year	1 to 5	15	30
	6 to10	19	38
	>10	16	32
Total		50	100

The table 5.1.1 shows the distribution of demographic variables of the respondents (Placement officers) observed over the factors of “Nature of trainer, Education, Income in lakh per year”.

Regarding the ***Nature of Trainer*** the distribution shows that 74% of the respondents stated as National trainer and 26% of the respondents stated as International trainer. Thus it can be interpreted that highest percentage of Nature of trainer is National.

Regarding the ***Education*** the distribution shows 32% of the respondents stated as undergraduates, 34% of the respondents stated as Postgraduates and 34% of the respondents stated as Above Postgraduates. Thus it can be interpreted that highest percentage are Postgraduates.

Regarding the ***Income in lakh per year*** the distribution shows that 20% of the respondent’s income is Up to 3 lakhs, 44% of the respondent’s income is 3 to 6 lakhs and 36% of the respondents income is Above 6 lakhs. Thus it can be interpreted that highest percentage of Income in lakh per year is 3 to 6 lakhs.

Regarding the ***Experience in years*** the distribution shows that 30% of respondents experience is 1 to 5 years, 38% of the respondents experience is 6 to 10 years, 32% of the respondents experience is Above 10 years. Thus it can be interpreted that highest percentage of respondents experience is 6 to 10 years.

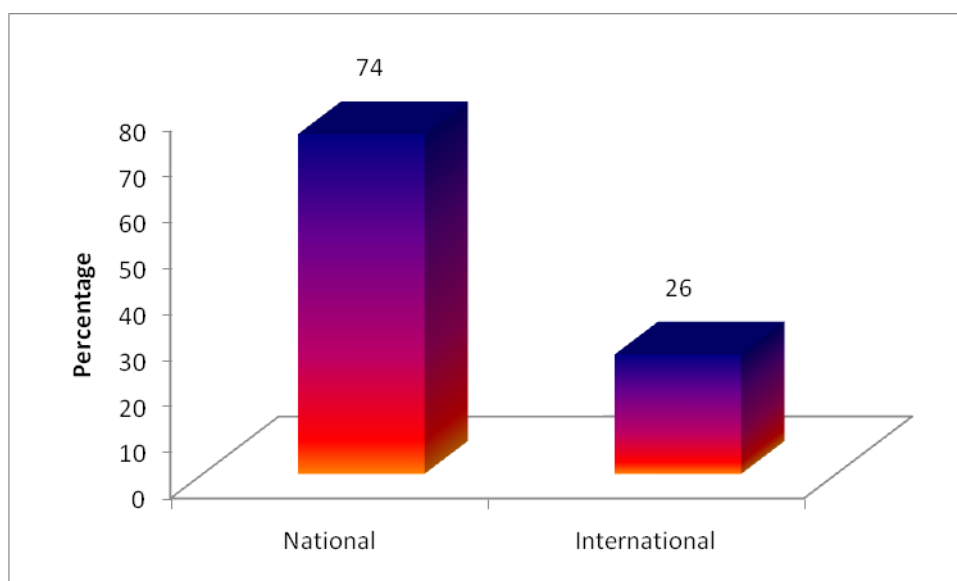


Fig 5.1.1a Trainer's Exposure

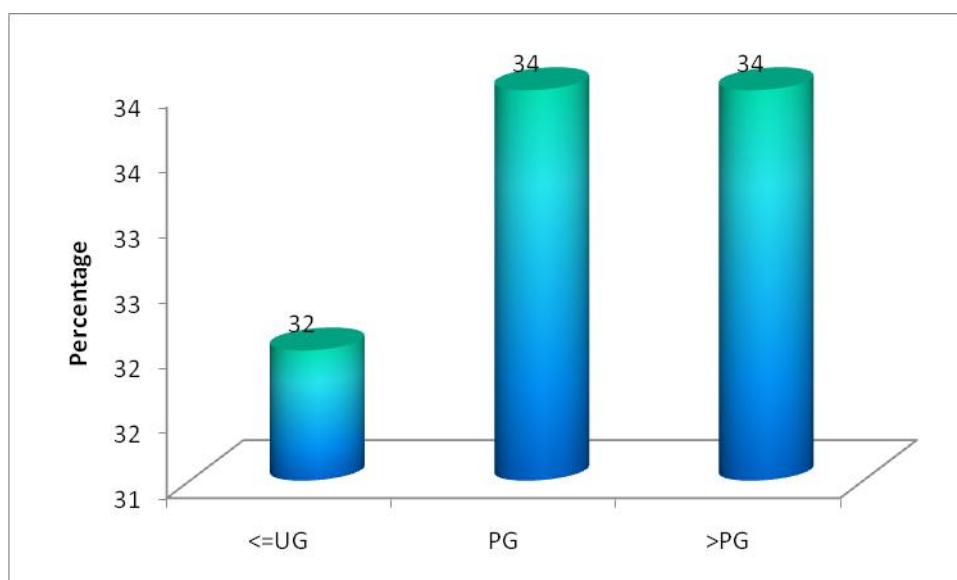


Fig 5.1.1b Educational Qualification of the Respondents

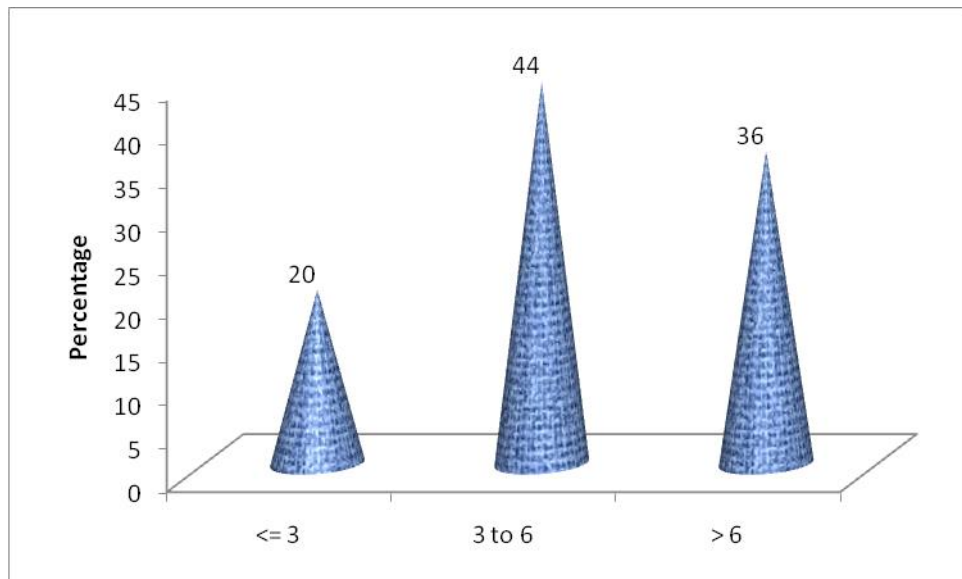


Fig 5.1.1c Income (in lakh per year) of the Respondents

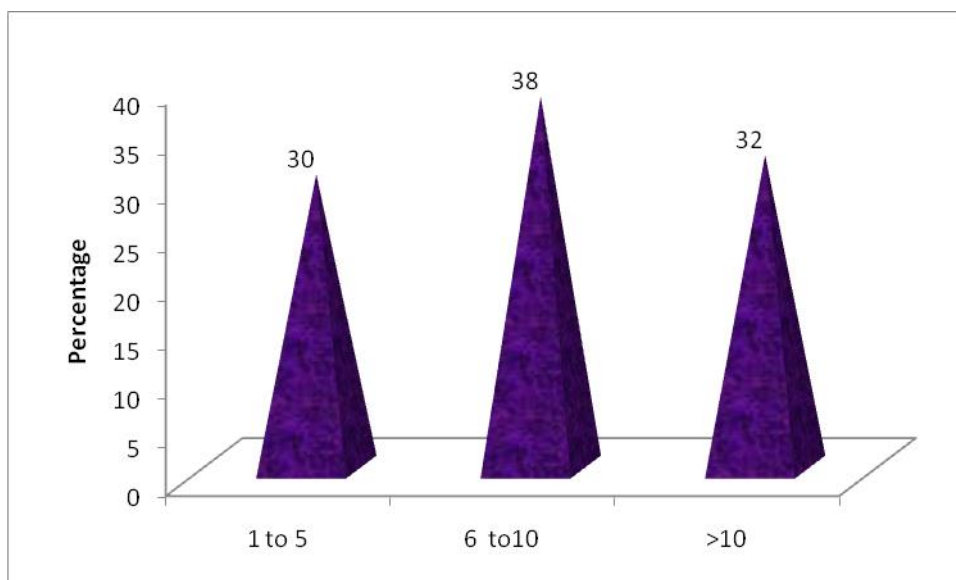


Fig 5.1.1d Experience of the Respondents

5.2.1 Trainers' Opinion on Cognitive Skills of the Students

The opinions about Cognitive Skills observed over the factors of “*Cognitive flexibility, Logical reasoning, Problem sensitivity, Data visualization, Positive attitude in every single one aspect, Personality development programs, Acceptance criticism and be human,*” are analysed. It is clear from the table 5.2.1 that 2% of the respondents stated as Below average, 30% of the respondents stated as Average, 46% of the respondents stated as

above average and 22% of the respondents stated as Excellent Regarding the '**Cognitive flexibility**.'

Regarding the factor "**Logical reasoning**" 2% of the respondents stated as Below average, 16% of the respondents stated as Average, 58% of the respondents stated as above average and 24% of the respondents stated as Excellent.

Regarding the factor "**Problem sensitivity**" 2% of the respondents stated as Below average, 26% of the respondents stated as Average, 48% of the respondents stated as above average and 24% of the respondents stated as Excellent.

Regarding the factor "**Data visualization**" 2% of the respondents stated as Below average, 34% of the respondents stated as Average, 44% of the respondents stated as above average and 20% of the respondents stated as Excellent.

Regarding the factor "**Positive attitude in every single one aspect**" 2% of the respondents stated as Below average, 10% of the respondents stated as Average, 30% of the respondents stated as above average and 58% of the respondents stated as Excellent. Regarding the factor "**Personality development programs**" 12% of the respondents stated as Average, 38% of the respondents stated as above average and 50% of the respondents stated as Excellent.

It is clear from the table 5.2.1 that majority of the respondents stated as above average with the factor of "*Cognitive flexibility, Logical reasoning, Problem sensitivity, Data visualization*" and about Excellent with the factor of "*Positive attitude in every single one aspect, Personality development programs*".

Table 5.2.1 Trainers' Opinion on Cognitive Skills of the Students

	Below average		Average		Above average		Excellent		Total
	N	%	N	%	N	%	N	%	
Cognitive flexibility	1	2	15	30	23	46	11	22	50
Logical reasoning	1	2	8	16	29	58	12	24	50
Problem sensitivity	1	2	13	26	24	48	12	24	50
Data visualization	1	2	17	34	22	44	10	20	50
Positive attitude in every single one aspect	1	2	5	10	15	30	29	58	50
Personality development programs			6	12	19	38	25	50	50

In order to identify the factor which is more influencing the respondent towards Cognitive Skills the Friedman's test analysis was used and the results were given in Table 5.2.1 a.

Table 5.2.1 a Friedman Test- Cognitive Skills

	Mean	SD	Mean Rank	Rank	Reliability
Cognitive flexibility	3.88	0.77	3.09	4	0.779
Logical reasoning	4.04	0.70	3.49	3	
Problem sensitivity	3.94	0.77	3.09	4	
Data visualization	3.82	0.77	2.95	6	
Positive attitude in every single one aspect	4.44	0.76	4.36	1	
Personality development programs	4.38	0.70	4.02	2	

It could be noted from the above table that among the 6 factors of "Positive attitude in every single one aspect" was ranked first. It is followed by the "Personality development programs", "Logical reasoning" was ranked third.

5.2.2 Trainers' Opinion on Content Skills of the Students

The opinion about Content Skills observed over the factors of "Active learning, Practical labs and assignment work, Programming proficiency, Oral expression, Reading comprehension, Written expressions, Self-confidence and think out of the box, Self-motivation skill and hard work, Snooping of seminars / conferences, Soft skills, technical skills and ICT

skills” are analysed. It is clear from the table 5.2.2 that 20% of the respondents stated as Average, 26% of the respondents stated as above average and 54% of the respondents stated as Excellent Regarding the ‘**Active learning**.

Regarding the factor “**Practical labs and assignment work**” 24% of the respondents stated as Average, 30% of the respondents stated as above average and 46% of the respondents stated as Excellent.

Regarding the factor “**Programming proficiency**” 8% of the respondents stated as Below average, 26% of the respondents stated as Average, 38% of the respondents stated as above average and 28% of the respondents stated as Excellent.

Regarding the factor “**Oral expression**” 2% of the respondents stated as Average, 50% of the respondents stated as above average and 48% of the respondents stated as Excellent.

Regarding the factor “**Reading comprehension**” 16% of the respondents stated as Average, 40% of the respondents stated as above average and 44% of the respondents stated as Excellent. Regarding the factor “**Written expressions**” 18% of the respondents stated as Average, 48% of the respondents stated as above average and 34% of the respondents stated as Excellent.

Table 5.2.2 Trainers’ Opinion on Content Skills of the Students

	Below average		Average		Above average		Excellent		Total
	N	%	N	%	N	%	N	%	
Active learning			10	20	13	26	27	54	50
Practical labs and assignment work			12	24	15	30	23	46	50
Programming proficiency	4	8	13	26	19	38	14	28	50
Oral expression			1	2	25	50	24	48	50
Reading comprehension			8	16	20	40	22	44	50
Written expressions			9	18	24	48	17	34	50

Self-confidence and think out of the box			7	14	26	52	17	34	50
Self-motivation skill and hard work			4	8	24	48	22	44	50
Snooping of seminars / conferences			15	30	30	60	5	10	50
Soft skills, technical skills and ICT skills	2	4	11	22	28	56	9	18	50

Regarding the factor “***Self-confidence and think out of the box***” 14% of the respondents stated as Average, 52% of the respondents stated as above average and 34% of the respondents stated as Excellent.

Regarding the factor “***Self-motivation skill and hard work***” 8% of the respondents stated as Average, 48% of the respondents stated as above average and 44% of the respondents stated as Excellent.

Regarding the factor “***Snooping of seminars / conferences***” 30% of the respondents stated as Average, 60% of the respondents stated as above average and 10% of the respondents stated as Excellent. Regarding the factor “***Soft skills, technical skills and ICT skills***” 4% of the respondents stated as Below average, 22% of the respondents stated as Average, 56% of the respondents stated as above average and 18% of the respondents stated as Excellent.

It is clear from the table 5.2.2 that majority of the respondents stated as above average with the factor of “*Programming proficiency, Oral expression, Written expressions, Self-confidence and think out of the box, Self-motivation skill and hard work, Snooping of seminars / conferences, Soft skills, technical skills and ICT skills*” and about Excellent with the factor of “*Active learning, Practical labs and assignment work, Reading comprehension*”. In order to identify the factor which is more influencing the respondent towards Content Skills the Friedman’s test analysis was used and the results were given in Table 5.2.2 a. It could be noted from the table that among the 10 factors of “Oral expression” was ranked first.

It is followed by the “Self-motivation skill and hard work”, “Active learning” was ranked third.

Table 5.2.2a Friedman Test- Content Skills

	Mean	SD	Mean Rank	Rank	Reliability
Active learning	4.34	0.80	6.17	2	0.798
Practical labs and assignment work	4.22	0.82	5.83	5	
Programming proficiency	3.86	0.93	4.48	8	
Oral expression	4.46	0.54	6.55	1	
Reading comprehension	4.28	0.73	5.99	4	
Written expressions	4.16	0.71	5.34	7	
Self-confidence and think out of the box	4.20	0.67	5.68	6	
Self-motivation skill and hard work	4.36	0.63	6.31	3	
Snooping of seminars / conferences	3.80	0.61	4.18	10	
Soft skills, technical skills and ICT skills	3.88	0.75	4.47	9	

5.2.3 Trainers’ Opinion on Process Skills of the Students

The opinion about Process Skills observed over the factors of “*Active listening, Critical thinking, Monitoring self and others, Actively participating placement training workshops, Aptitude and reasoning, Contemporary design and application their domain, Teamwork competence, Curiosity of industry interface, Current affairs acquaintance, Interview and ethics, Managerial skills and emerging projects initiative*” are analyzed. It is clear from the table 5.2.3 that 4% of the respondents stated as Average, 64% of the respondents stated as Above Average and 32% of the respondents stated as Excellent Regarding the ‘**Active listening.**

Regarding the factor “**Critical thinking**” 6% of the respondents stated as Below Average, 20% of the respondents stated as Average, 42% of the respondents stated as Above Average and 32% of the respondents stated as Excellent.

Regarding the factor “**Monitoring self and others**” 4% of the respondents stated as Below average, 14% of the respondents stated as Average, 50% of the respondents stated as above average and 32% of the respondents stated as Excellent.

Regarding the factor “**Actively participating placement training workshops**” 4% of the respondents stated as Extremely poor, 28% of the respondents stated as Average, 34% of the respondents stated as Above Average and 34% of the respondents stated as Excellent. Regarding the factor “**Aptitude and reasoning**” 30% of the respondents stated as Average, 38% of the respondents stated as above average and 32% of the respondents stated as Excellent.

Regarding the factor “**Contemporary design and application their domain**” 4% of the respondents stated as Extremely poor, 26% of the respondents stated as Average, 50% of the respondents stated as above average and 20% of the respondents stated as Excellent. Regarding the factor “**Teamwork competence**” 10% of the respondents stated as Average, 42% of the respondents stated as Above Average and 48% of the respondents stated as Excellent.

Regarding the factor “**Curiosity of industry interface**” 18% of the respondents stated as Average, 68% of the respondents stated as above average and 14% of the respondents stated as Excellent. Regarding the factor “**Current affairs acquaintance**” 4% of the respondents stated as Extremely poor, 2% of the respondents stated as Below average, 26% of the respondents stated as Average, 50% of the respondents stated as above average and 18% of the respondents stated as Excellent.

Table 5.2.3 Trainers' Opinion on Process Skills of the Students

	Extremely poor		Below average		Average		Above average		Excellent		Total
	N	%	N	%	N	%	N	%	N	%	
Active listening	0	0	0	0	2	4	32	64	16	32	50
Critical thinking	0	0	3	6	10	20	21	42	16	32	50
Monitoring self and others	0	0	2	4	7	14	25	50	16	32	50
Actively participating placement training workshops	2	4	0	0	14	28	17	34	17	34	50
Aptitude and reasoning	0	0	0	0	15	30	19	38	16	32	50
Contemporary design and application their domain	2	4	0	0	13	26	25	50	10	20	50
Teamwork competence	0	0	0	0	5	10	21	42	24	48	50
Curiosity of industry interface	0	0	0	0	9	18	34	68	7	14	50
Current affairs acquaintance	2	4	1	2	13	26	25	50	9	18	50
Interview and ethics	0	0	0	0	7	14	36	72	7	14	50
Managerial skills and emerging projects initiative	0	0	2	4	9	18	28	56	11	22	50

Regarding the factor “**Interview and ethics**” 14% of the respondents stated as Average, 72% of the respondents stated as above average and 14% of the respondents stated as Excellent. Regarding the factor “**Managerial skills and emerging projects initiative**” 4% of the respondents stated as Below Average, 18% of the respondents stated as Average, 56% of the respondents stated as Above Average and 22% of the respondents stated as Excellent.

It is clear from the table 5.2.3 that majority of the respondents stated as Above Average with the factor of “*Active listening, Critical thinking, Monitoring self and others, Actively participating placement training workshops, Aptitude and reasoning, Contemporary design and application their domain, Curiosity of industry interface, Current affairs*

acquaintance, Interview and ethics, Managerial skills and emerging projects initiative” and about Excellent with the factor of “Teamwork competence”.

In order to identify the influencing factor the respondent towards Process Skills the Friedman’s test analysis was used and the results were given in Table 5.2.3 a.

Table 5.2.3 a Friedman Test- Process Skills

	Mean	SD	Mean Rank	Rank	Reliability
Active listening	4.28	0.54	6.88	2	0.810
Critical thinking	4.00	0.88	5.93	5	
Monitoring self and others	4.10	0.79	6.34	3	
Actively participating placement training workshops	3.94	1.00	5.91	6	
Aptitude and reasoning	4.02	0.80	6.00	4	
Contemporary design and application their domain	3.82	0.90	5.31	10	
Teamwork competence	4.38	0.67	7.48	1	
Curiosity of industry interface	3.96	0.57	5.66	8	
Current affairs acquaintance	3.76	0.92	5.06	11	
Interview and ethics	4.00	0.53	5.82	7	
Managerial skills and emerging projects initiative	3.96	0.75	5.61	9	

It could be noted from the above table that among the 11 factors of “**Teamwork competence**” was ranked first. It is followed by the “Active listening”, “Monitoring self and others” was ranked third.

5.2.4 Trainers’ Opinion on Social Skills of the Students

The opinion about Social Skills observed over the factors of “*Emotional intelligence, Professional ethics and moral values, Acceptance difference, Following directions, Waiting patiently, Resolving conflicts, Acceptance criticism and be human*” are analyzed. It is clear from the table 5.2.4 that 12% of the respondents stated as Average, 54% of the respondents

stated as above average and 34% of the respondents stated as Excellent Regarding the “*Emotional intelligence*”.

Regarding the factor “*Professional ethics and moral values*” 6% of the respondents stated as Average, 50% of the respondents stated as above average and 44% of the respondents stated as Excellent. Regarding the factor “*Acceptance difference*” 8% of the respondents stated as Average, 56% of the respondents stated as above average and 36% of the respondents stated as Excellent.

Regarding the factor “*Following directions*” 6% of the respondents stated as Below average, 10% of the respondents stated as Average, 48% of the respondents stated as above average and 36% of the respondents stated as Excellent.

Regarding the factor “*Waiting patiently*” 2% of the respondents stated as below average, 8% of the respondents stated as Average, 40% of the respondents stated as above average and 50% of the respondents stated as Excellent.

Regarding the factor “*Resolving conflicts*” 4% of the respondents stated as Below average, 24% of the respondents stated as Average, 42% of the respondents stated as above average and 30% of the respondents stated as Excellent.

Table 5.2.4 Opinion about the Social Skills

	Below Average		Average		Above Average		Excellent		Total
	N	%	N	%	N	%	N	%	
Emotional intelligence			6	12	27	54	17	34	50
Professional ethics and moral values			3	6	25	50	22	44	50
Acceptance difference			4	8	28	56	18	36	50
Following directions	3	6	5	10	24	48	18	36	50
Waiting patiently	1	2	4	8	20	40	25	50	50
Resolving conflicts	2	4	12	24	21	42	15	30	50
Acceptance criticism and be human			5	10	27	54	18	36	50

Regarding the factor “**Acceptance criticism and be human**” 10% of the respondents stated as Average, 54% of the respondents stated as above average and 36% of the respondents stated as Excellent.

It is clear from the table 5.2.4 that majority of the respondents stated as above average with the factor of “*Emotional intelligence, Professional ethics and moral values, Acceptance difference, Following directions, Waiting patiently, Resolving conflicts, Acceptance criticism and be human*”.

In order to identify the factor which is more influencing the respondent towards Social Skills the Friedman’s test analysis was used and the results were given in Table 5.2.4 a.

Table 5.2.4 a Friedman Test- Social Skills

	Mean	SD	Mean Rank	Rank	Reliability
Emotional intelligence	4.22	0.65	3.88	5	0.813
Professional ethics and moral values	4.38	0.60	4.47	1	
Acceptance difference	4.28	0.61	4.13	3	
Following directions	4.14	0.83	3.77	6	
Waiting patiently	4.38	0.73	4.35	2	
Resolving conflicts	3.98	0.84	3.33	7	
Acceptance criticism and be human	4.26	0.63	4.07	4	

It could be noted from the above table that among the seven factors of “**Professional ethics and moral values**” was ranked first. It is followed by the “Waiting patiently”, “Acceptance difference” was ranked third.

5.3 Students Employability Skills – Voice from Placement Trainer

An attempt has been made to study the Students Employability Skills as the voice of placement trainer. After converting the qualitative information of the opinion into a quantitative one the average score were obtained from the respondents on various factors like

‘Cognitive Skills, Content Skills, Process Skills, Social Skills, Students Employability Skills - Placement’ and obtained results are and presented in Table 5.3.

Table 5.3 Students Employability Skills

Factors	N	Min	Max	Mean	SD	Mean %
Cognitive Skills	50	15	30	24.50	3.09	81.67
Content Skills	50	34	50	41.56	4.32	83.12
Process Skills	50	33	55	44.22	5.00	80.40
Social Skills	50	22	35	29.64	3.39	84.69
Students Employability Skills – Placement Trainer	50	110	168	139.92	12.47	83.29

Factor wise distribution of mean, Standard Deviation and mean percentage of Students Employability Skills shows that among five factors, the highest mean % score (29.64 ± 3.39) which is 84.69% is obtained for the factor “Social Skills” whereas, the lowest mean % score (44.22 ± 5.00) which is 80.40% was obtained for ‘Process Skills’. The mean score on ‘Cognitive Skills’ was (24.50 ± 3.09) which is 81.67%. The mean score on ‘Content Skills’ was (41.56 ± 4.32) which is 83.12%. The mean score on ‘Students Employability Skills - Placement Trainer’ was (139.92 ± 12.47) which is 83.29%.

Students Employability Skills with respect to demographic variables - Average score analysis

In this section the Students Employability Skills is analysed with respect to the demographic variables *Nature of trainer, Education, Income in lakh per year, Experience in year* was analysed in this section.

Null Hypothesis: There is no significant difference between the mean scores regarding Students Employability Skills with respect to the selected demographic variables, however

for ready to deploy kind of needs there can be difference due to access to many enablements the students get exposed is an alternate hypothesis.

5.3.1 Trainers' Exposure and Students Employability Skills

The effect of Nature of trainer, the distribution of Students Employability Skills according to Nature of trainer is shown in the following table 5.3.1. It could be noted from the table 5.3.1 that regarding the factor '*Cognitive Skills*' among National the mean score was (24.08 ± 2.90) and among International the mean score was (25.69 ± 3.40) . Regarding the factor '*Content Skills*' among National the mean score was (41.08 ± 3.84) and among International the mean score was (42.92 ± 5.42) .

Table 5.3.1
Trainers' Exposure and Students Employability Skills

Factors	Nature of trainer	N	Mean	SD	t	p
Cognitive Skills	National	37	24.08	2.90	1.65	0.106
	International	13	25.69	3.40		
Content Skills	National	37	41.08	3.84	1.33	0.189
	International	13	42.92	5.42		
Process Skills	National	37	43.19	3.92	2.60	0.012*
	International	13	47.15	6.59		
Social Skills	National	37	28.68	2.77	3.84	<0.001**
	International	13	32.38	3.59		
Students Employability Skills - Placement Trainer	National	37	137.03	9.18	2.98	0.004**
	International	13	148.15	16.83		

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Process Skills*' among National the mean score was (43.19 ± 3.92) and among International the mean score was (47.15 ± 6.59) . Regarding the factor '*Social Skills*' among National the mean score was (28.68 ± 2.77) and among International the mean score was (32.38 ± 3.59) . Regarding the factor '*Students Employability Skills* -

Placement Trainer' among National the mean score was (137.03 ± 9.18) and among International the mean score was (148.15 ± 16.83) .

Thus, it is inferred from the above analysis that the awareness about *Cognitive Skills* was found maximum among International, about *Content Skills* it was found among International, about *Process Skills* it was found among International, about *Social Skills* it was found among International, about *Students Employability Skills - Placement Trainer* it was found among International.

Further to test the significant difference between the mean score among the respondents with respect Nature of trainer **the t test** is used and the result is also shown in table 5.3.1. Since the P value is less than 0.05 regarding *Process Skills*, *Social Skills*, and *Students Employability Skills - Placement Trainer* and hence there is significant difference in the mean scores was found with respect to Nature of trainer regarding these Factors.

5.3.2 Educational Qualification of the Trainer and Students Employability Skills

To study the effect of Education, the distribution of opinion regarding Student's Employability Skills is shown in the following table 5.3.2. It could be noted from the table 5.3.2 that regarding the factor '*Cognitive Skills*' shows with respect to graduates the mean score was (23.81 ± 3.43) , with respect to Postgraduates the mean score was (25.12 ± 3.04) and with respect to Above Postgraduates the mean score was (24.53 ± 2.83) .

Regarding the factor '*Content Skills*' shows with respect to graduates the mean score was (40.19 ± 4.02) , with respect to postgraduates the mean score was (43.76 ± 4.12) and with respect to above postgraduates the mean score was (40.65 ± 4.15) .

Regarding the factor '*Process Skills*' shows with respect to graduates the mean score was (42.81 ± 6.17) , with respect to postgraduates the mean score was (44.82 ± 5.35) and with respect to above postgraduates the mean score was (44.94 ± 3.07) .

Regarding the factor '*Social Skills*' shows with respect to graduates the mean score was (28.69 ± 3.61), with respect to postgraduates the mean score was (30.59 ± 2.58) and with respect to above postgraduates the mean score was (29.059 ± 3.81).

Table 5.3.2
Educational Qualification of the Trainer and Students Employability Skills

Factors	Education						ANOVA	p
	<=UG		PG		>PG			
	Mean	SD	Mean	SD	Mean	SD		
Cognitive Skills	23.81	3.43	25.12	3.04	24.53	2.83	0.73	0.487**
Content Skills	40.19 ^a	4.02	43.76 _b	4.12	40.65 ^{a,b}	4.15	3.78	0.030*
Process Skills	42.81	6.17	44.82	5.35	44.94	3.07	0.93	0.401**
Social Skills	28.69	3.61	30.59	2.58	29.59	3.81	1.31	0.278**
Students Employability Skills - Placement Trainer	135.50	13.65	144.29	12.76	139.71	9.94	2.15	0.128**

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Students Employability Skills - Placement Trainer*' shows with respect to graduates the mean score was (135.50 ± 13.65), with respect to postgraduates the mean score was (144.29 ± 12.76) and with respect to above postgraduates the mean score was (139.71 ± 9.94).

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Cognitive Skills* was found maximum among PG, about *Content Skills* it was found among PG, about *Process Skills* it was found among Above PG, about *Social Skills* it was found among PG, about *Students Employability Skills - Placement Trainer* it was found among PG.

Further to test the significant difference between the mean score among the respondents with respect Education the ANOVA is used and the result is also shown in table 5.3.2. Since the P value is less than 0.05 regarding *Content Skills* and hence there is

significant difference in the mean scores was found with respect to Education regarding these Factors.

5.3.3 Income of the Trainer and Students Employability Skills

To study the effect of Income in lakh per year, the distribution of opinion regarding Students Employability Skills according to Income in lakh per year is shown in the following table 5.3.3. It could be noted from the table 5.3.3 that regarding the factor '*Cognitive Skills*' shows with respect to below 3 lakhs the mean score was (23.70 ± 1.49), with respect to 3 to 6 lakhs the mean score was (24.09 ± 3.74) and with respect to Above 6 lakhs the mean score was (25.44 ± 2.73).

Regarding the factor '*Content Skills*' shows with respect to below 3 lakhs the mean score was (42.10 ± 3.07), with respect to 3 to 6 lakhs the mean score was (40.18 ± 4.05) and with respect to Above 6 lakhs the mean score was (42.94 ± 4.89).

Regarding the factor '*Process Skills*' shows with respect to below 3 lakhs the mean score was (43.50 ± 2.84), with respect to 3 to 6 lakhs the mean score was (44.00 ± 4.78) and with respect to Above 6 lakhs the mean score was (44.89 ± 6.23).

Regarding the factor '*Social Skills*' shows with respect to below 3 lakhs the mean score was (27.30 ± 2.87), with respect to 3 to 6 lakhs the mean score was (29.86 ± 3.34) and with respect to Above 6 lakhs the mean score was (30.67 ± 3.25).

Regarding the factor '*Students Employability Skills - Placement Trainer*' shows with respect to below 3 lakhs the mean score was (136.60 ± 8.41), with respect to 3 to 6 lakhs the mean score was (138.14 ± 12.68) and with respect to Above 6 lakhs the mean score was (143.94 ± 13.58).

Table 5.3.3

Income of the Trainer and Students Employability Skills

Factors	Income in lakh per year						ANOVA	p
	<= 3		3 to 6		> 6			
	Mean	SD	Mean	SD	Mean	SD		
Cognitive Skills	23.70	1.49	24.09	3.74	25.44	2.73	1.39	0.258
Content Skills	42.10	3.07	40.18	4.05	42.94	4.89	2.22	0.120
Process Skills	43.50	2.84	44.00	4.78	44.89	6.23	0.277	0.759
Social Skills	27.30 ^a	2.87	29.86 ^{a,b}	3.34	30.67 _b	3.25	3.60	0.035*
Students Employability Skills - Placement Trainer	136.60	8.41	138.14	12.68	143.94	13.58	1.55	0.223

* Significant at 5 %; ** Significant at 1 %

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Cognitive Skills* was found maximum among Above 6 lakhs, about *Content Skills* it was found among Above 6 lakhs, about *Process Skills* it was found among Above 6 lakhs, about *Social Skills* it was found among Above 6 lakhs, about *Students Employability Skills - Placement Trainer* it was found among Above 6 lakhs.

Further to test the significant difference between the mean score among the respondents with respect Income in lakh per year the ANOVA is used and the result is also shown in table 5.3.3. Since the P value is less than 0.05 regarding *Social Skills* and hence there is significant difference in the mean scores was found with respect to Income in lakh per year regarding these Factors.

5.3.4 Experience of the Trainer and Students Employability Skills

To study the effect of Experience in year, the distribution of opinion regarding Students Employability Skills according to Experience in year is shown in the following table 5.3.4. It could be noted from the table 5.3.4 that regarding the factor '*Cognitive Skills*' shows with respect to 1 to 5 years the mean score was (23.40 ± 2.67), with respect to 6 to 10 years

the mean score was (24.74 ± 3.46) and with respect to Above 10 years the mean score was (25.25 ± 2.86) .

Regarding the factor '*Content Skills*' shows with respect to 1 to 5 years the mean score was (41.80 ± 3.41) , with respect to 6 to 10 years the mean score was (42.74 ± 4.79) and with respect to Above 10 years the mean score was (39.94 ± 4.25) .

Regarding the factor '*Process Skills*' shows with respect to 1 to 5 years the mean score was (43.60 ± 4.03) , with respect to 6 to 10 years the mean score was (44.68 ± 6.67) and with respect to Above 10 years the mean score was (44.25 ± 3.55) .

Regarding the factor '*Social Skills*' shows with respect to 1 to 5 years the mean score was (29.47 ± 3.62) , with respect to 6 to 10 years the mean score was (31.00 ± 3.62) and with respect to Above 10 years the mean score was (28.19 ± 2.23) .

Regarding the factor '*Students Employability Skills - Placement Trainer*' shows with respect to 1 to 5 years the mean score was (138.27 ± 10.65) , with respect to 6 to 10 years the mean score was (143.16 ± 15.36) and with respect to Above 10 years the mean score was (137.63 ± 9.89) .

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Cognitive Skills* was found maximum among Above 10 years, about *Content Skills* it was found among 6 to 10 years, about *Process Skills* it was found among 6 to 10 years, about *Social Skills* it was found among 6 to 10 years, about *Students Employability Skills - Placement Trainer* it was found among 6 to 10 years.

Table 5.3.4
Experience of the Trainer and Students Employability Skills

Factors	Experience in year						ANOVA	p
	1 to 5		6 to10		>10			
	Mean	SD	Mean	SD	Mean	SD		
Cognitive Skills	23.40	2.67	24.74	3.46	25.25	2.86	1.51	0.231
Content Skills	41.80	3.41	42.74	4.79	39.94	4.25	1.92	0.158
Process Skills	43.60	4.03	44.68	6.67	44.25	3.55	0.19	0.827
Social Skills	29.47 ^{a,b}	3.62	31.00 ^b	3.62	28.19 ^a	2.23	3.30	0.046*
Students Employability Skills - Placement Trainer	138.27	10.65	143.16	15.36	137.63	9.89	1.04	0.360

* Significant at 5 %; ** Significant at 1 %

Further to test the significant difference between the mean score among the respondents with respect Experience in year the ANOVA is used and the result is also shown in table 5.3.4. Since the P value is less than 0.05 regarding *Social Skills* and hence there is significant difference in the mean scores was found with respect to Experience in year regarding these Factors

Competency Mapping to Enhance Employability Skills of Arts and Science Students in Tamil Nadu – STUDENTS’ VIEW

Analysis of data is a general ways involves a number of closely related operations, which are performed, with the source of summarizing the collected data, organizing these in such a manner that they answer the research questions (Kothari, C.R. 1990). In this chapter, the data collected were systemically processed, tabulated and made suitable for analysis and interpretations. The results obtained were classified, tabulated and the following analyses were performed in fulfilling the objectives of the study.

6.1.1 Description details of the Respondents (Students)

Table 6.1.1

Demographic Details of the Respondents (Students)

		Frequency	%
Gender	Male	238	24
	Female	762	76
Age in years	17 - 20	850	85
	21 - 25	150	15
Course of study	Arts	712	71
	Sciences	288	29
Course of Study	BA	49	5
	BBA	142	14
	BCA	97	10
	BCom	269	27
	BSc	415	42
	Others	28	3
Year of Study	First Year	90	9
	Second year	127	13
	Third year	783	78
Institutions Region	East	59	6
	West	70	7
	North	65	7
	South	806	81
Nature of Institution	Private	909	91
	Government	91	9
Nationality	Indian	973	97
	Others	27	3
Religion	Hindu	685	69
	Muslim	190	19
	Christian	125	13
Reasons for choosing this Institution	Job oriented course	258	26
	Scholarship / Waiver	64	6
	Well reputed	678	68
Total		1000	100

The table 6.1.1 shows the distribution of demographic variables of the respondents observed over the factors of “*Gender, Age, Course of study, Course of Study, Year of Study, Institutions Region, Nature of Institution, Nationality, Religion, and Reasons for choosing this Institution*”. Regarding the **Gender** the distribution shows that 24% of the respondents are Male and 76% of the respondents are female. Thus it can be interpreted that highest percentage of gender is Female.

Regarding the **Age** the distribution shows that 85% of respondents were in the age group of 17 - 20 years and 15% of the respondents belong to the age group of 21 - 25 years. Thus it can be interpreted that highest percentage of age group is 17 - 20 years. Regarding the **Course of study** the distribution shows that 71% of respondents are Arts and 29% of the respondents are Sciences. Thus it can be interpreted that highest percentage of the respondents are Arts.

Regarding the **Course of study** the distribution shows 5% is BA, 14% is BBA, 10% is BCA, 27% is BCOM, 42% is BSc and 3% is Others. Thus it can be interpreted that highest percentage are BSc.

Regarding the **Year of Study** the distribution shows that 9% is First year, 13% of the respondents are Second year and 78% of the respondents are Third year. Thus it can be interpreted that highest percentage is Third year.

Regarding the **Institutions Region** the distribution shows 6% is East, 7% of the respondents West, 7% of the respondents North and 81% is South. Thus it can be interpreted that highest percentage respondents are South.

Regarding the **Nature of Institution** the distribution shows that 91% is Private and 9% is Government. Thus it can be interpreted that highest percentage respondents are Private.

Regarding the **Nationality** the distribution shows that 97% of respondents are Indian and 3% of the respondents are Others. Thus it can be interpreted that highest percentage of the respondents are Indian.

Regarding the **Religion** the distribution shows 69% of the respondents are Hindus, 19% of the respondents Muslim, 13% of the respondents Christian. Thus it can be interpreted that highest percentage are Hindus.

Regarding the **Reasons for choosing this Institution** the distribution shows 26% is Job oriented course, 6% is Scholarship/Waiver, 68% of the respondents are Well reputed. Thus it can be interpreted that highest percentage are Well reputed institutions.

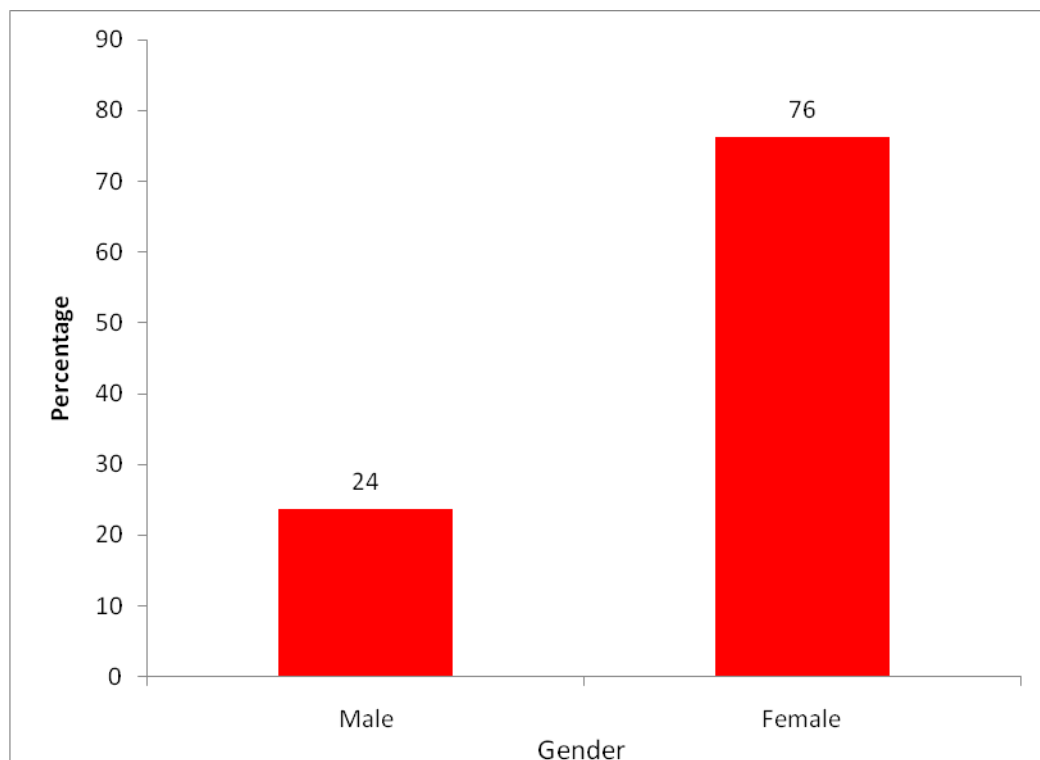


Fig 6.1.1a Gender Classification of the Respondents

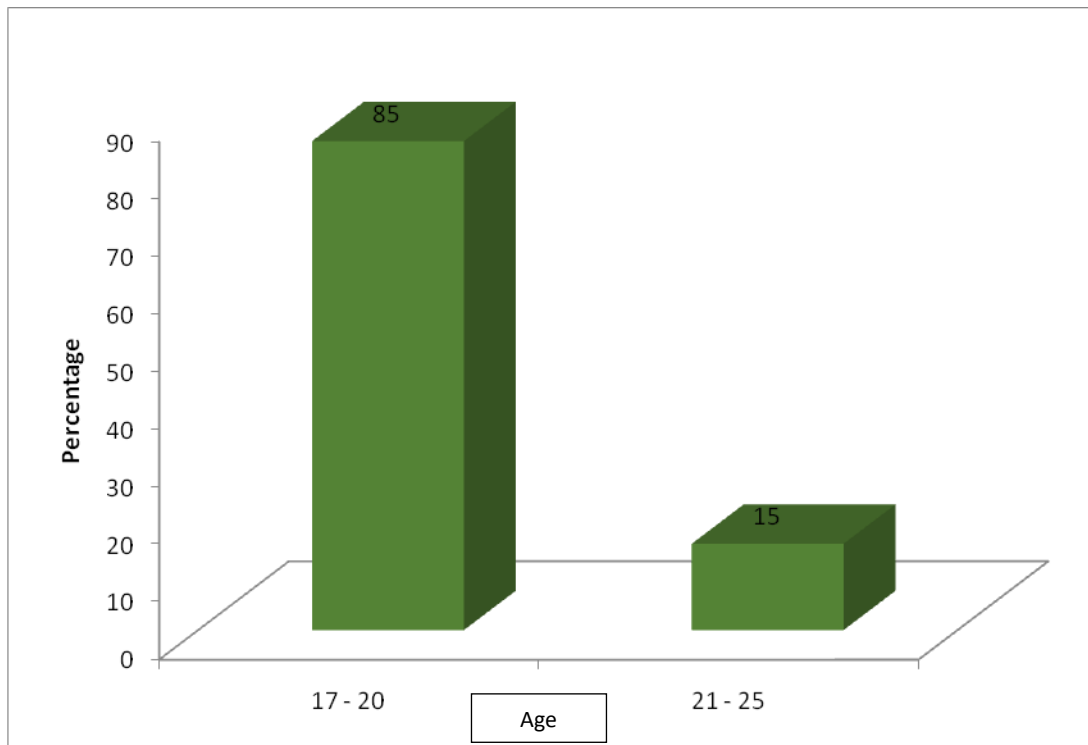


Fig 6.1.1b Age Classification of the Respondents

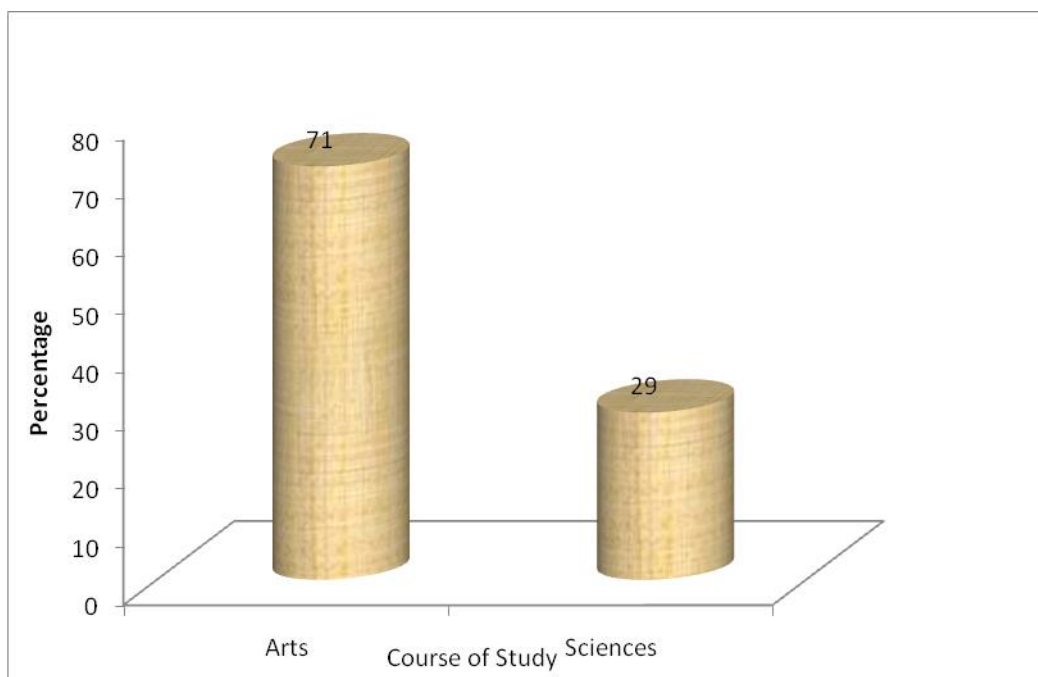


Fig 6.1.1c Course in Study Classification of the Respondents

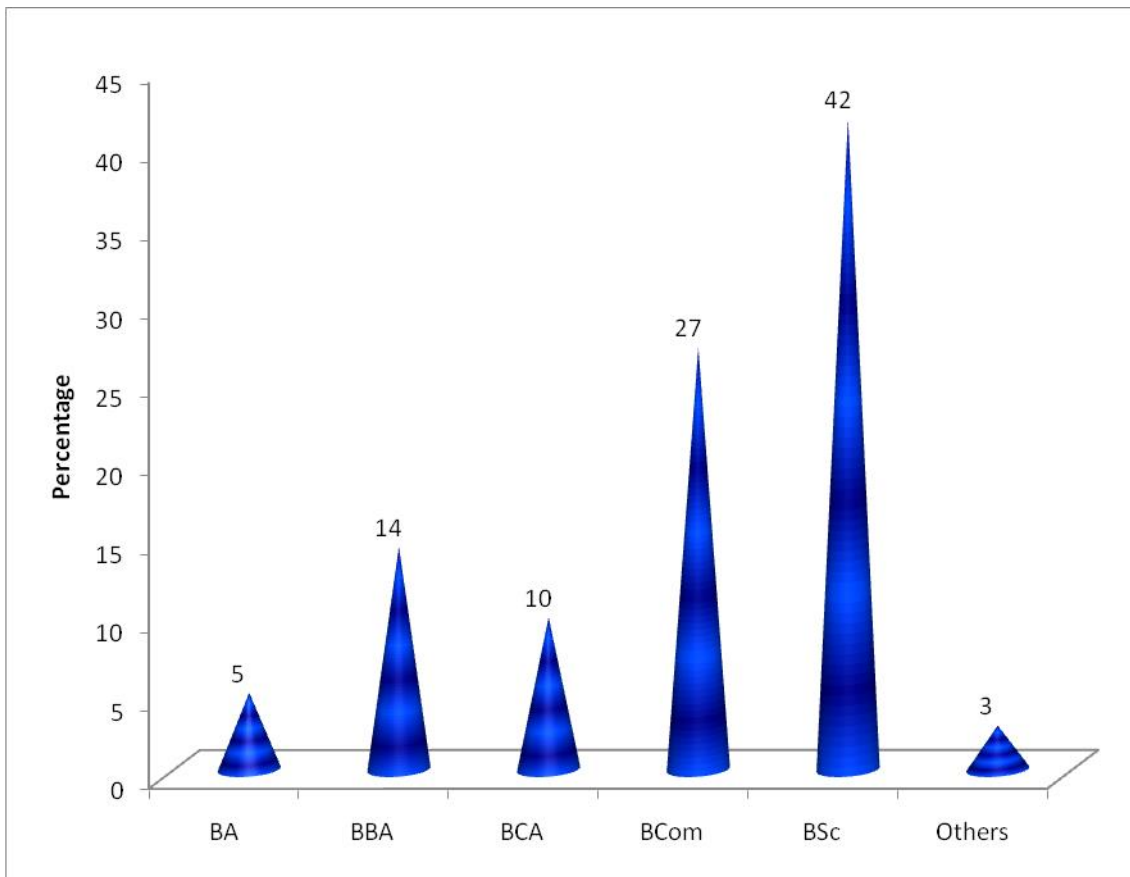


Fig 6.1.1d Course of Study of the Respondents

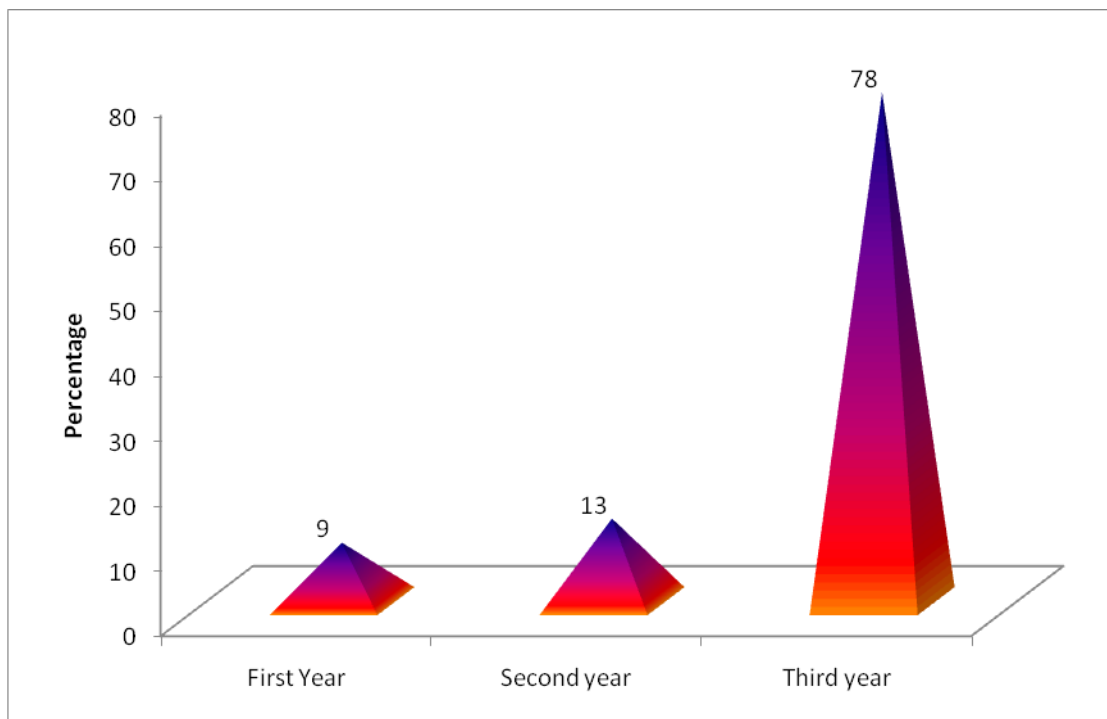


Fig 6.1.1e Year of Study of the Respondents

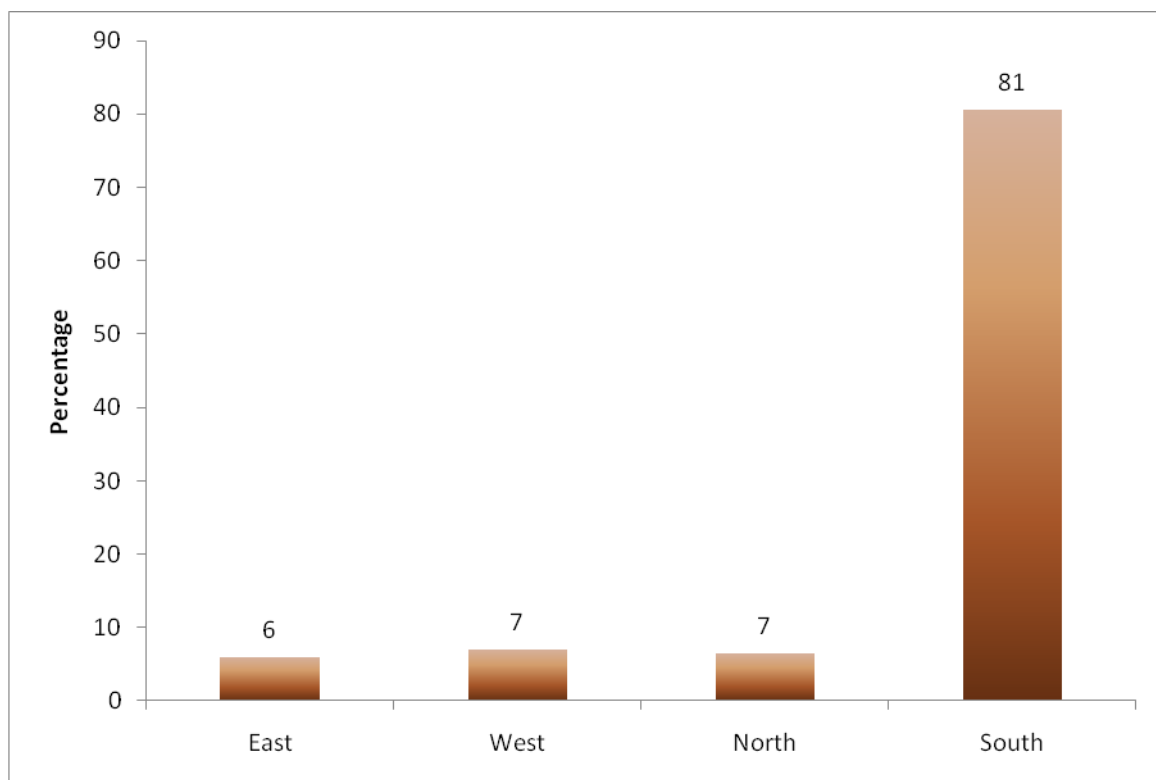


Fig 6.1.1f Respondents Institutions – Regional Classification

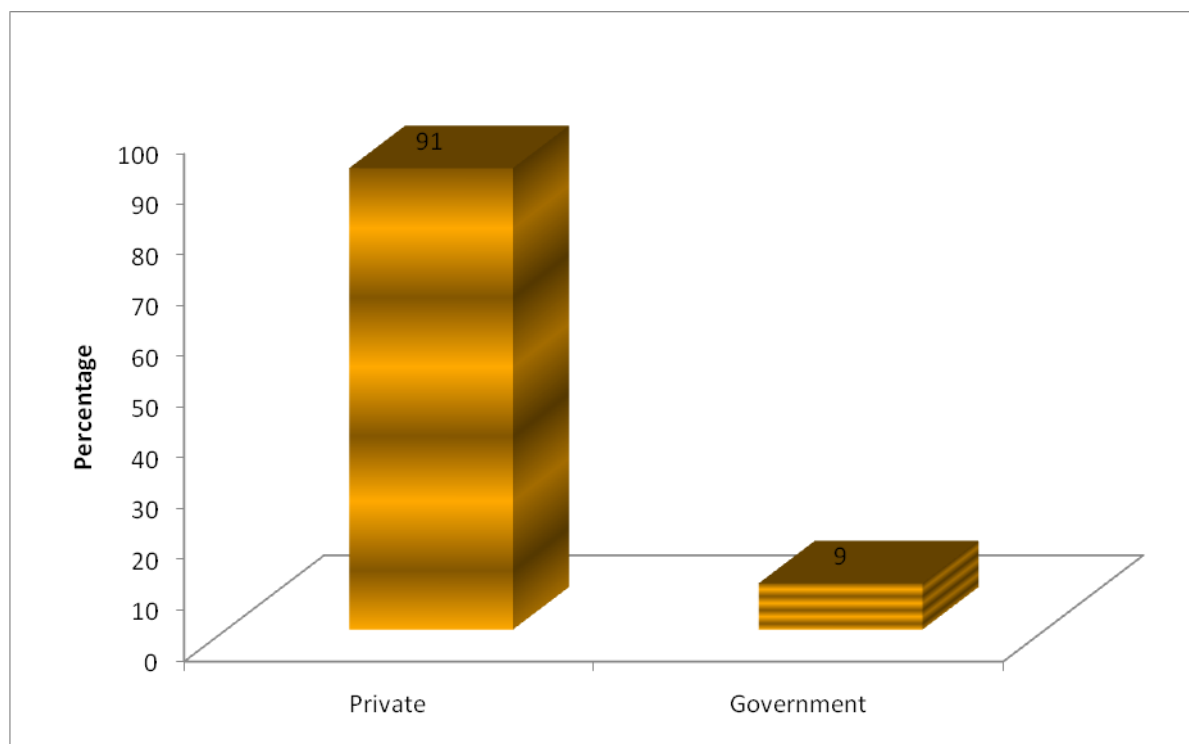


Fig 6.1.1g Nature of Institution of the Respondents

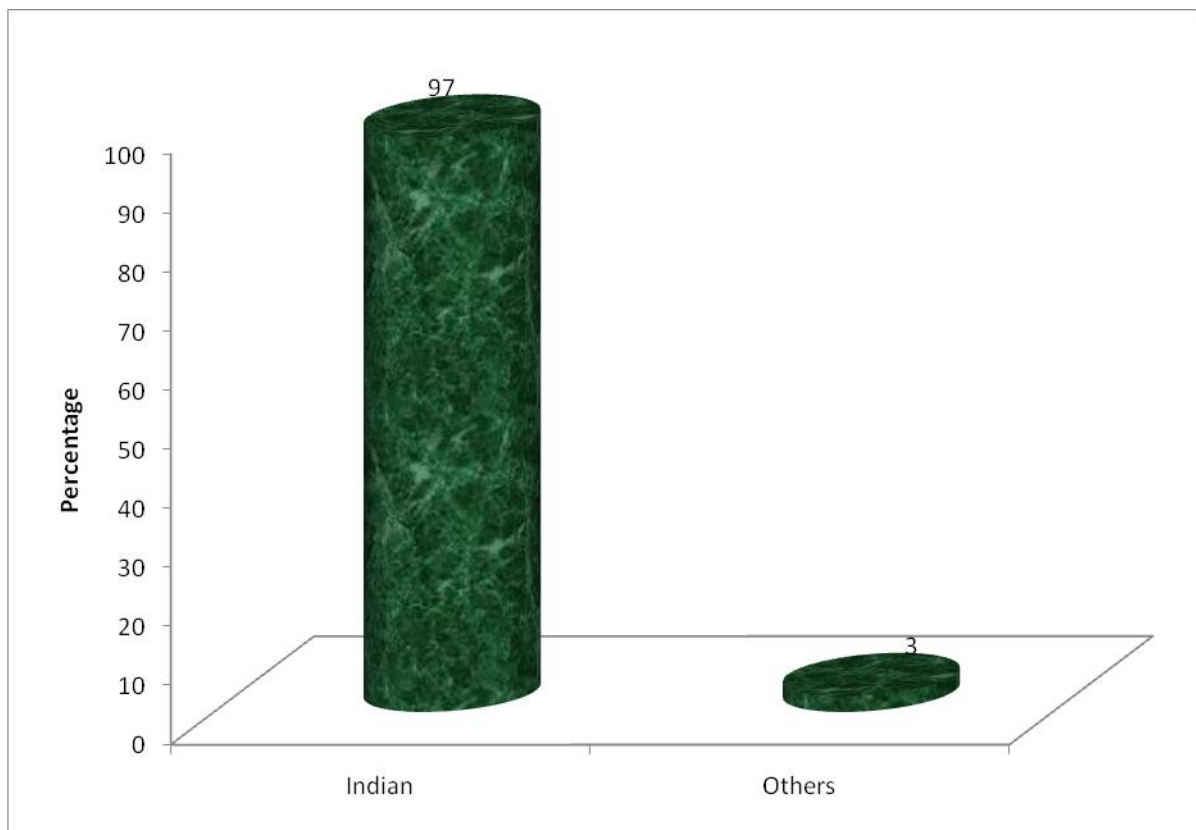


Fig 6.1.1h Nationality of the Respondents

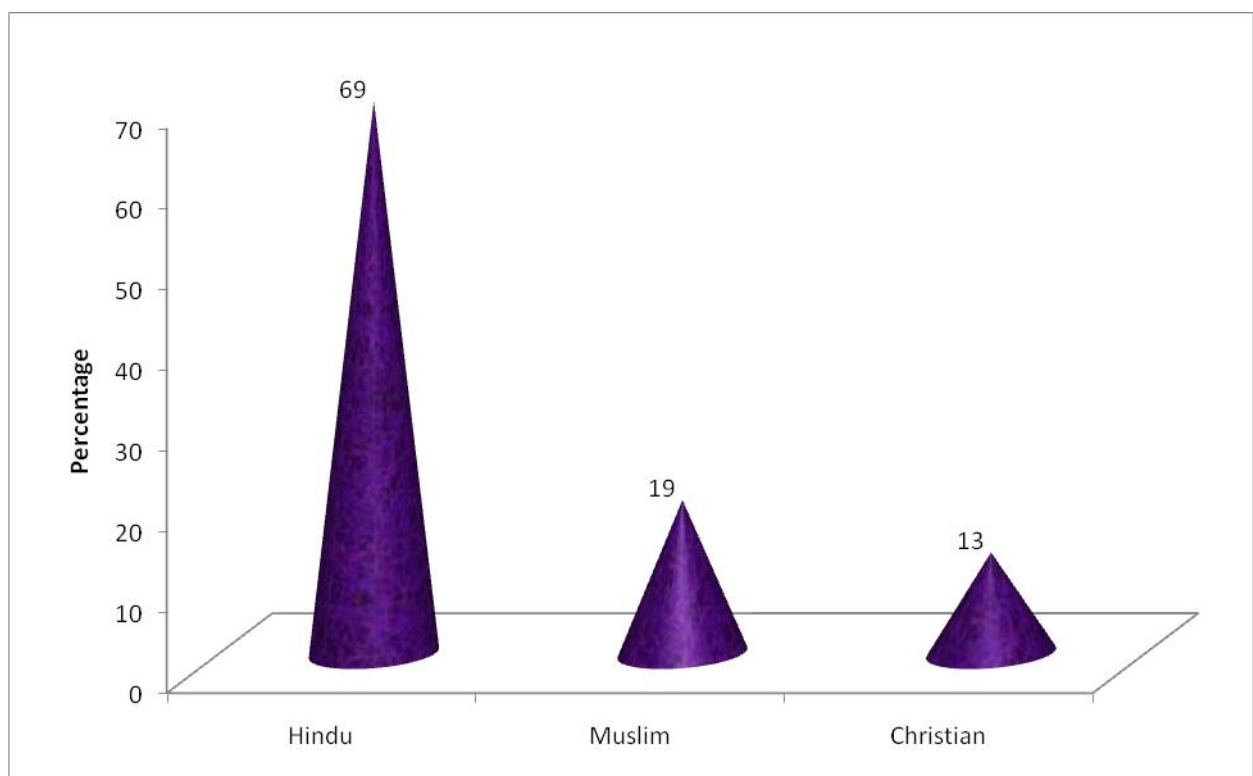


Fig 6.1.1i Religion wise classification of the Respondents

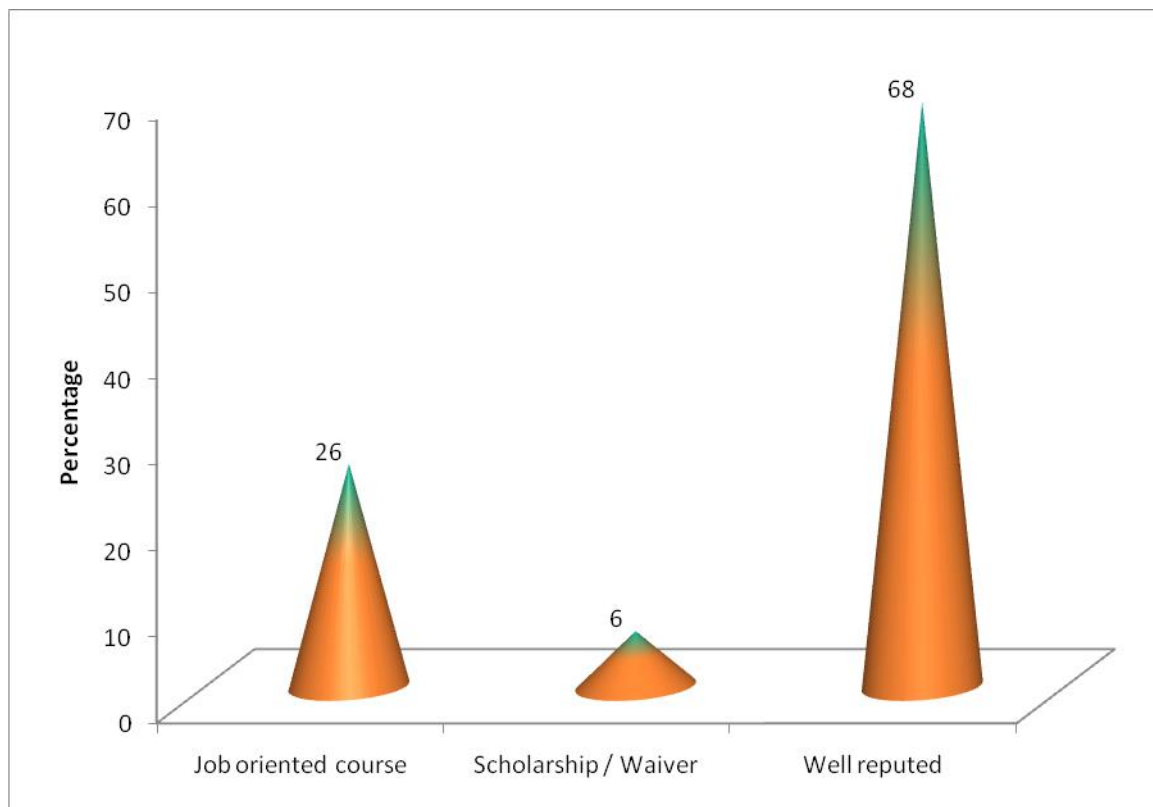


Fig 6.1.1j Reasons for Choosing this Institution

6.2.1 Opinion about Basic Literacy with Numeracy Skills

The opinion about Basic Literacy with Numeracy Skills observed over the resources of “*I can perform basic computations and approach practical problems, I can organize basic ideas; communicate orally, I can organize basic thoughts, ideas, and messages in writing /create documents, I can receive, attend to, interpret, and respond to basic verbal messages/cues, I have the ability to locate, understand, interpret graphs, and schedules*” are analyzed. It is clear from the table 6.2.1 that 2% of the respondents strongly disagreed, 4% of the respondents disagreed, 22% of the respondents have a Neutral opinion, 53% of the respondents agreed and 19% of the respondents strongly agreed regarding the ‘***I can perform basic computations and approach practical problems.***

Regarding the factor “***I can organize basic ideas; communicate orally***” 2% of the respondents strongly disagreed, 6% of the respondents disagreed, 16% of the respondents have a Neutral opinion, 53% of the respondents agreed and 24% of the respondents strongly agreed.

Regarding the factor “***I can organize basic thoughts, ideas, and messages in writing /create documents***” 2% of the respondents strongly disagreed, 4% of the respondents disagreed, 17% of the respondents have a Neutral opinion, 52% of the respondents agreed and 25% of the respondents strongly agreed.

Regarding the factor “***I can receive, attend to, interpret, and respond to basic verbal messages/cues***” 1% of the respondents strongly disagreed, 5% of the respondents disagreed, 18% of the respondents have a Neutral opinion, 55% of the respondents agreed and 21% of the respondents strongly agreed.

Regarding the factor “***I have the ability to locate, understand, interpret graphs, and schedules***” 2% of the respondents strongly disagreed, 5% of the respondents disagreed, 21% of the respondents have a Neutral opinion, 52% of the respondents agreed and 20% of the respondents strongly agreed.

Table 6.2.1 Opinion about the Basic Literacy with Numeracy Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I can perform basic computations and approach practical problems	18	2	38	4	223	22	532	53	189	19	1000
I can organize basic ideas; communicate orally	16	2	55	6	157	16	534	53	238	24	1000
I can organize basic thoughts, ideas, and messages in writing /create documents	18	2	43	4	174	17	518	52	247	25	1000
I can receive, attend to, interpret, and respond to basic verbal messages/cues	14	1	47	5	181	18	548	55	210	21	1000
I have the ability to locate, understand, interpret graphs, and schedules	17	2	52	5	211	21	523	52	197	20	1000

It is clear from the table 6.2.1 that majority of the respondents agreed with the factor of “*I can perform basic computations and approach practical problems, I can organize basic ideas; communicate orally, I can organize basic thoughts, ideas, and messages in writing /create documents, I can receive, attend to, interpret, and respond to basic verbal messages/cues, I have the ability to locate, understand, interpret graphs, and schedules*”.

In order to identify the factor which is more influencing the respondent towards Basic Literacy with Numeracy Skills the Friedman’s test analysis was used and the results were given in Table 6.2.1 a.

Table 6.2.1 a Friedman Test- Basic Literacy with Numeracy Skills

	Mean	SD	Mean Rank	Rank	Reliability
I can perform basic computations and approach practical problems	3.84	0.84	2.88	5	0.798
I can organize basic ideas; communicate orally	3.92	0.87	3.10	2	
I can organize basic thoughts, ideas, and messages in writing /create documents	3.93	0.88	3.11	1	
I can receive, attend to, interpret, and respond to basic verbal messages/cues	3.89	0.83	3.01	3	
I have the ability to locate, understand, interpret graphs, and schedules	3.83	0.86	2.91	4	

It could be noted from the above table that among the five factors of “I can organize basic thoughts, ideas, and messages in writing /create documents” was ranked first. It is followed by the “I can organize basic ideas; communicate orally”, “I can receive, attend to, interpret, and respond to basic verbal messages/cues” was ranked third.

6.2.2 Opinion about Critical Thinking Skills

The opinion about Critical Thinking Skills observed over the resources of “*I can generate new ideas, I can clearly set my goals and handle constraints by generating alternatives, I can recognize problems and devise and implement a plan of action, I can organize and process symbols, pictures, graphs, objects and other information, I can acquire and apply new knowledge and digital sources, I can resolve relationship between two or more objects /solving a problem*” are analysed. It is clear from the table 6.2.2 that 2% of the respondents strongly disagreed, 3% of the respondents disagreed, 16% of the respondents have a Neutral opinion, 52% of the respondents agreed and 27% of the respondents strongly agreed regarding the ‘*I can generate new ideas*.

Regarding the factor “*I can clearly set my goals and handle constraints by generating alternatives*” 1% of the respondents strongly disagreed, 5% of the respondents disagreed, 19% of the respondents have a Neutral opinion, 57% of the respondents agreed and 17% of the respondents strongly agreed.

Regarding the factor “*I can recognize problems and devise and implement a plan of action*” 1% of the respondents strongly disagreed, 4% of the respondents disagreed, 20% of the respondents have a Neutral opinion, 55% of the respondents agreed and 19% of the respondents strongly agreed.

Regarding the factor “*I can organize and process symbols, pictures, graphs, objects and other information*” 2% of the respondents strongly disagreed, 8% of the respondents

disagreed, 20% of the respondents have a Neutral opinion, 50% of the respondents agreed and 21% of the respondents strongly agreed.

Table 6.2.2 Opinion about the Critical Thinking Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I can generate new ideas	15	2	31	3	159	16	524	52	271	27	1000
I can clearly set my goals and handle constraints by generating alternatives	11	1	50	5	194	19	572	57	173	17	1000
I can recognize problems and devise and implement a plan of action	14	1	43	4	201	20	548	55	194	19	1000
I can organize and process symbols, pictures, graphs, objects and other information	15	2	79	8	198	20	500	50	208	21	1000
I can acquire and apply new knowledge and digital sources	36	4	42	4	212	21	512	51	198	20	1000
I can resolve relationship between two or more objects /solving a problem	13	1	41	4	199	20	533	53	214	21	1000

Regarding the factor “*I can acquire and apply new knowledge and digital sources*” 4% of the respondents strongly disagreed, 4% of the respondents disagreed, 21% of the respondents have a Neutral opinion, 51% of the respondents agreed and 20% of the respondents strongly agreed. Regarding the factor “*I can resolve relationship between two or more objects /solving a problem*” 1% of the respondents strongly disagreed, 4% of the respondents disagreed, 20% of the respondents have a Neutral opinion, 53% of the respondents agreed and 21% of the respondents strongly agreed.

Table 6.2.2 a Friedman Test- Critical Thinking Skills

	Mean	SD	Mean Rank	Rank	Reliability
I can generate new ideas	4.01	0.83	3.83	1	0.803
I can clearly set my goals and handle constraints by generating alternatives	3.85	0.80	3.43	4	
I can recognize problems and devise and implement a plan of action	3.87	0.82	3.44	3	
I can organize and process symbols, pictures, graphs, objects and other information	3.81	0.91	3.38	5	

I can acquire and apply new knowledge and digital sources	3.79	0.93	3.37	6	
I can resolve relationship between two or more objects /solving a problem	3.89	0.83	3.53	2	

It is clear from the table 6.2.2 that majority of the respondents agreed with the factor of “*I can generate new ideas, I can clearly set my goals and handle constraints by generating alternatives, I can recognize problems and devise and implement a plan of action, I can organize and process symbols, pictures, graphs, objects and other information, I can acquire and apply new knowledge and digital sources, I can resolve relationship between two or more objects /solving a problem, Acceptance criticism and be human*”. In order to identify the factor which is more influencing the respondent towards Critical Thinking Skills the Friedman’s test analysis was used and the results were given in Table 6.2.2 a.

It could be noted from the above table that among the 6 factors of “I can generate new ideas” was ranked first. It is followed by the “I can resolve relationship between two or more objects /solving a problem”, “I can recognize problems and devise and implement a plan of action” was ranked third.

6.2.3 Opinion about Leadership Skills

The opinion about Leadership Skills observed over the resources of “*I can exert a high level of effort and persevere toward goal attainment, I believe in my own self-worth and maintain a positive view of myself, I can set personal goals, monitor progress and take responsibility for my actions, I can choose ethical courses of action, I can communicate ideas to justify positions, procedures and policies*” are analyzed. It is clear from the table 6.2.3 that 1% of the respondents strongly disagreed, 4% of the respondents disagreed, 17% of the respondents have a Neutral opinion, 50% of the respondents agreed and 28% of the respondents strongly agreed regarding the ‘***I can exert a high level of effort and persevere toward goal attainment.***

Regarding the factor “*I believe in my own self-worth and maintain a positive view of myself*” 1% of the respondents strongly disagreed, 4% of the respondents disagreed, 11% of the respondents have a Neutral opinion, 40% of the respondents agreed and 44% of the respondents strongly agreed.

Regarding the factor “*I can set personal goals, monitor progress and take responsibility for my actions*” 2% of the respondents strongly disagreed, 4% of the respondents disagreed, 11% of the respondents have a Neutral opinion, 46% of the respondents agreed and 37% of the respondents strongly agreed.

Regarding the factor “*I can choose ethical courses of action*” 1% of the respondents strongly disagreed, 6% of the respondents disagreed, 17% of the respondents have a Neutral opinion, 54% of the respondents agreed and 22% of the respondents strongly agreed.

Regarding the factor “*I can communicate ideas to justify positions, procedures and policies*” 2% of the respondents strongly disagreed, 5% of the respondents disagreed, 16% of the respondents have a Neutral opinion, 56% of the respondents agreed and 23% of the respondents strongly agreed.

Table 6.2.3 Opinion about the Leadership Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I can exert a high level of effort and persevere toward goal attainment	7	1	43	4	171	17	497	50	282	28	1000
I believe in my own self-worth and maintain a positive view of myself	10	1	40	4	111	11	399	40	440	44	1000
I can set personal goals, monitor progress and take responsibility for my actions	18	2	37	4	114	11	461	46	370	37	1000
I can choose ethical courses of action	5	1	61	6	169	17	543	54	222	22	1000
I can communicate ideas to justify positions, procedures and policies	15	2	45	5	155	16	555	56	230	23	1000

It is clear from the table 6.2.3 that majority of the respondents agreed with the factor of “*I can exert a high level of effort and persevere toward goal attainment, I can set personal goals, monitor progress and take responsibility for my actions, I can choose ethical courses of action, I can communicate ideas to justify positions, procedures and policies*” and about Strongly Agreed with the factor of “*I believe in my own self-worth and maintain a positive view of myself*”.

In order to identify the factor which is more influencing the respondent towards Leadership Skills the Friedman’s test analysis was used and the results were given in Table 6.2.3 a.

Table 6.2.3 a Friedman Test- Leadership Skills

	Mean	SD	Mean Rank	Rank	Reliability
I can exert a high level of effort and persevere toward goal attainment	4.00	0.83	2.91	3	0.775
I believe in my own self-worth and maintain a positive view of myself	4.22	0.87	3.39	1	
I can set personal goals, monitor progress and take responsibility for my actions	4.13	0.88	3.20	2	
I can choose ethical courses of action	3.92	0.82	2.72	5	
I can communicate ideas to justify positions, procedures and policies	3.94	0.83	2.78	4	

It could be noted from the above table that among the 5 factors of “I believe in my own self-worth and maintain a positive view of myself” was ranked first. It is followed by the “I can set personal goals, monitor progress and take responsibility for my actions”, “I can exert a high level of effort and persevere toward goal attainment” was ranked third.

6.2.4 Opinion about Management Skills

The opinion about Management Skills observed over the resources of “*I can select goal-relevant activities, allocate time, prepare and follow schedules, I can prepare budgets, make forecasts and make adjustments to meet objectives, I can acquire, store, allocate, and use materials or space efficiently, I can assess skills and distribute work accordingly and*

evaluate performance” are analysed. It is clear from the table 6.2.4 that 2% of the respondents strongly disagreed, 5% of the respondents disagreed, 15% of the respondents have a Neutral opinion, 53% of the respondents agreed and 26% of the respondents strongly agreed regarding the ‘***I can select goal-relevant activities, allocate time, prepare and follow schedules.***

Regarding the factor “***I can prepare budgets, make forecasts and make adjustments to meet objectives***” 1% of the respondents strongly disagreed, 6% of the respondents disagreed, 23% of the respondents have a Neutral opinion, 49% of the respondents agreed and 21% of the respondents strongly agreed.

Regarding the factor “***I can acquire, store, allocate, and use materials or space efficiently***” 1% of the respondents strongly disagreed, 5% of the respondents disagreed, 19% of the respondents have a Neutral opinion, 55% of the respondents agreed and 20% of the respondents strongly agreed.

Regarding the factor “***I can assess skills and distribute work accordingly and evaluate performance***” 1% of the respondents strongly disagreed, 6% of the respondents disagreed, 16% of the respondents have a Neutral opinion, 55% of the respondents agreed and 23% of the respondents strongly agreed.

Table 6.2.4 Opinion about the Management Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I can select goal-relevant activities, allocate time, prepare and follow schedules	23	2	49	5	145	15	528	53	255	26	1000
I can prepare budgets, make forecasts and make adjustments to meet objectives	7	1	62	6	230	23	487	49	214	21	1000
I can acquire, store, allocate, and use materials or space efficiently	6	1	53	5	193	19	548	55	200	20	1000
I can assess skills and distribute work accordingly and evaluate performance	6	1	60	6	156	16	550	55	228	23	1000

It is clear from the table 6.2.4 that majority of the respondents agreed with the factor of “*I can select goal-relevant activities, allocate time, prepare and follow schedules, I can prepare budgets, make forecasts and make adjustments to meet objectives, I can acquire, store, allocate, and use materials or space efficiently, I can assess skills and distribute work accordingly and evaluate performance*”.

In order to identify the factor which is more influencing the respondent towards Management Skills the Friedman’s test analysis was used and the results were given in Table 6.2.4 a.

Table 6.2.4 a Friedman Test- Management Skills

	Mean	SD	Mean Rank	Rank	Reliability
I can select goal-relevant activities, allocate time, prepare and follow schedules	3.94	0.89	2.59	1	0.736
I can prepare budgets, make forecasts and make adjustments to meet objectives	3.84	0.85	2.40	4	
I can acquire, store, allocate, and use materials or space efficiently	3.88	0.80	2.47	3	
I can assess skills and distribute work accordingly and evaluate performance	3.93	0.82	2.55	2	

It could be noted from the above table that among the four factors of “I can select goal-relevant activities, allocate time, prepare and follow schedules” was ranked first. It is followed by the “I can assess skills and distribute work accordingly and evaluate performance”, “I can acquire, store, allocate, and use materials or space efficiently” was ranked third.

6.2.5 Opinion about Interpersonal Skills

The opinion about Interpersonal Skills observed over the resources of “*I contribute to group efforts and I help others to learn, I work in the direction of resolve divergent interests, I work well with different gender from diverse backgrounds, I can demonstrate understanding, friendliness, adaptability and empathy*” are analyzed. It is clear from the table 6.2.5 that 1% of the respondents strongly disagreed, 2% of the respondents disagreed, 12% of

the respondents have a Neutral opinion, 44% of the respondents agreed and 42% of the respondents strongly agreed regarding the ‘*I contribute to group efforts and I help others to learn.*

Regarding the factor “*I work in the direction of resolve divergent interests*” 1% of the respondents strongly disagreed, 3% of the respondents disagreed, 25% of the respondents have a Neutral opinion, 54% of the respondents agreed and 18% of the respondents strongly agreed.

Regarding the factor “*I work well with different gender from diverse backgrounds*” 1% of the respondents strongly disagreed, 4% of the respondents disagreed, 17% of the respondents have a Neutral opinion, 44% of the respondents agreed and 34% of the respondents strongly agreed.

Table 6.2.5 Opinion about the Interpersonal Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I contribute to group efforts and I help others to learn	7	1	18	2	115	12	439	44	421	42	1000
I work in the direction of resolve divergent interests	7	1	26	3	247	25	539	54	181	18	1000
I work well with different gender from diverse backgrounds	8	1	35	4	170	17	443	44	344	34	1000
I can demonstrate understanding, friendliness, adaptability and empathy	12	1	43	4	137	14	450	45	358	36	1000

Regarding the factor “*I can demonstrate understanding, friendliness, adaptability and empathy*” 1% of the respondents strongly disagreed, 4% of the respondents disagreed, 14% of the respondents have a Neutral opinion, 45% of the respondents agreed and 36% of the respondents strongly agreed.

It is clear from the table 6.2.5 that majority of the respondents agreed with the factor of “*I contribute to group efforts and I help others to learn, I work in the direction of resolve*

divergent interests, I work well with different gender from diverse backgrounds, I can demonstrate understanding, friendliness, adaptability and empathy”.

In order to identify the factor which is more influencing the respondent towards Interpersonal Skills the Friedman’s test analysis was used and the results were given in Table 6.2.5 a.

Table 6.2.5 a Friedman Test- Interpersonal Skills

	Mean	SD	Mean Rank	Rank	Reliability
I contribute to group efforts and I help others to learn	4.25	0.78	2.78	1	0.678
I work in the direction of resolve divergent interests	3.86	0.76	2.16	4	
I work well with different gender from diverse backgrounds	4.08	0.85	2.52	3	
I can demonstrate understanding, friendliness, adaptability and empathy	4.10	0.88	2.55	2	

It could be noted from the above table that among the 4 factors of “I contribute to group efforts and I help others to learn” was ranked first. It is followed by the “I can demonstrate understanding, friendliness, adaptability and empathy”, “I work well with different gender from diverse backgrounds” was ranked third.

6.2.6 Opinion about Information Technology Skills

The opinion about Information Technology Skills observed over the resources of “*I understand overall procedures for the setup and operation of equipment, I can solve problems any information communication and other technology, I can organize computerized records and other forms of information, I can demonstrate some proficiency with standard software*” are analyzed. It is clear from the table 6.2.6 that 1% of the respondents strongly disagreed, 5% of the respondents disagreed, 24% of the respondents have a Neutral opinion, 55% of the respondents agreed and 15% of the respondents strongly agreed regarding the ‘*I understand overall procedures for the setup and operation of equipment.*

Regarding the factor “*I can solve problems any information communication and other technology*” 2% of the respondents strongly disagreed, 8% of the respondents disagreed, 28% of the respondents have a Neutral opinion, 47% of the respondents agreed and 14% of the respondents strongly agreed.

Regarding the factor “*I can organize computerized records and other forms of information*” 2% of the respondents strongly disagreed, 8% of the respondents disagreed, 24% of the respondents have a Neutral opinion, 51% of the respondents agreed and 16% of the respondents strongly agreed.

Table 6.2.6 Opinion about the Information Technology Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I understand overall procedures for the setup and operation of equipment	10	1	49	5	237	24	551	55	153	15	1000
I can solve problems any information communication and other technology	20	2	82	8	284	28	474	47	140	14	1000
I can organize computerized records and other forms of information	23	2	75	8	241	24	505	51	156	16	1000
I can demonstrate some proficiency with standard software	21	2	116	12	315	32	407	41	141	14	1000

Regarding the factor “*I can demonstrate some proficiency with standard software*” 2% of the respondents strongly disagreed, 12% of the respondents disagreed, 32% of the respondents have a Neutral opinion, 41% of the respondents agreed and 14% of the respondents strongly agreed.

It is clear from the table 6.2.6 that majority of the respondents agreed with the factor of “*I understand overall procedures for the setup and operation of equipment, I can solve problems any information communication and other technology, I can organize computerized*

records and other forms of information, I can demonstrate some proficiency with standard software”.

In order to identify the factor which is more influencing the respondent towards Information Technology Skills the Friedman’s test analysis was used and the results were given in Table 6.2.6 a.

Table 6.2.6 a Friedman Test- Information Technology Skills

	Mean	SD	Mean Rank	Rank	Reliability
I understand overall procedures for the setup and operation of equipment	3.79	0.79	2.67	1	0.767
I can solve problems any information communication and other technology	3.63	0.89	2.48	3	
I can organize computerized records and other forms of information	3.70	0.90	2.56	2	
I can demonstrate some proficiency with standard software	3.53	0.94	2.30	4	

It could be noted from the above table that among the 4 factors of “I understand overall procedures for the setup and operation of equipment” was ranked first. It is followed by the “I can organize computerized records and other forms of information”, “I can solve problems any information communication and other technology” was ranked third.

6.2.7 Opinion about Systems Thinking Skills

The opinion about Systems Thinking Skills observed over the resources of “*I can understand how social, organizational, and technological systems work, I can distinguish trends, and predict the impacts of actions on system operations, I feel I am capable to assess the efficient operation of social and technological systems, I can understand the interaction and interrelationship of systems within an organization*” are analysed. It is clear from the table 6.2.7 that 1% of the respondents strongly disagreed, 6% of the respondents disagreed, 30% of the respondents have a Neutral opinion, 48% of the respondents agreed and 14% of the respondents strongly agreed regarding the ‘*I can understand how social, organizational, and technological systems work.*

With regards to the factor “*I can distinguish trends, and predict the impacts of actions on system operations*” 1% of the respondents strongly disagreed, 8% of the respondents disagreed, 33% of the respondents have a Neutral opinion, 49% of the respondents agreed and 10% of the respondents strongly agreed.

With regards to the factor “*I feel I am capable to assess the efficient operation of social and technological systems*” 1% of the respondents strongly disagreed, 9% of the respondents disagreed, 30% of the respondents have a Neutral opinion, 49% of the respondents agreed and 12% of the respondents strongly agreed.

With regards to the factor “*I can understand the interaction and interrelationship of systems within an organization*” 1% of the respondents strongly disagreed, 7% of the respondents disagreed, 30% of the respondents have a Neutral opinion, 49% of the respondents agreed and 13% of the respondents strongly agreed.

Table 6.2.7 Opinion about the Systems Thinking Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I can understand how social, organizational, and technological systems work	13	1	63	6	303	30	477	48	144	14	1000
I can distinguish trends, and predict the impacts of actions on system operations	7	1	78	8	329	33	486	49	100	10	1000
I feel I am capable to assess the efficient operation of social and technological systems	13	1	88	9	299	30	485	49	115	12	1000
I can understand the interaction and interrelationship of systems within an organization	6	1	74	7	300	30	487	49	133	13	1000

It is clear from the table 6.2.7 that majority of the respondents agreed with the factor of “*I can understand how social, organizational, and technological systems work, I can distinguish trends, and predict the impacts of actions on system operations, I feel I am*

capable to assess the efficient operation of social and technological systems, I can understand the interaction and interrelationship of systems within an organization”.

In order to identify the factor which is more influencing the respondent towards Systems Thinking Skills the Friedman’s test analysis was used and the results were given in Table 6.2.7 a.

Table 6.2.7 a Friedman Test- Systems Thinking Skills

	Mean	SD	Mean Rank	Rank	Reliability
I can understand how social, organizational, and technological systems work	3.68	0.84	2.56	1	0.765
I can distinguish trends, and predict the impacts of actions on system operations	3.59	0.80	2.43	4	
I feel I am capable to assess the efficient operation of social and technological systems	3.60	0.85	2.44	3	
I can understand the interaction and interrelationship of systems within an organization	3.67	0.82	2.56	2	

It could be noted from the above table that among the four factors of “I can understand how social, organizational, and technological systems work” was ranked first. It is followed by the “I can understand the interaction and interrelationship of systems within an organization”, “I feel I am capable to assess the efficient operation of social and technological systems” was ranked third.

6.2.8 Opinion about Work Ethic

The opinion about Work Ethic observed over the resources of “*I will maintain punctuality in attending meetings and events, I am able to achieve organizational goals and personal goals independently, I will respect organizational protocols and procedures, I can achieve my results with formal support from co-workers*” are analysed. It is clear from the table 6.2.8 that 4% of the respondents disagreed, 11% of the respondents have a Neutral opinion, 43% of the respondents agreed and 42% of the respondents strongly agreed regarding the ‘*I will maintain punctuality in attending meetings and events.*

Table 6.2.8 Opinion about the Work Ethic

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I will maintain punctuality in attending meetings and events	3	0	43	4	113	11	425	43	416	42	1000
I am able to achieve organizational goals and personal goals independently	3	0	59	6	151	15	448	45	339	34	1000
I will respect organizational protocols and procedures	11	1	53	5	179	18	500	50	257	26	1000

I can achieve my results with formal support from co-workers	26	3	90	9	238	24	415	42	231	23	1000
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Regarding the factor “***I am able to achieve organizational goals and personal goals independently***” 6% of the respondents disagreed, 15% of the respondents have a Neutral opinion, 45% of the respondents agreed and 34% of the respondents strongly agreed.

Regarding the factor “***I will respect organizational protocols and procedures***” 1% of the respondents strongly disagreed, 5% of the respondents disagreed, 18% of the respondents have a Neutral opinion, 50% of the respondents agreed and 26% of the respondents strongly agreed.

Regarding the factor “***I can achieve my results with formal support from co-workers***” 3% of the respondents strongly disagreed, 9% of the respondents disagreed, 24% of the respondents have a Neutral opinion, 42% of the respondents agreed and 23% of the respondents strongly agreed.

It is clear from the table 6.2.8 that majority of the respondents agreed with the factor of “*I will maintain punctuality in attending meetings and events, I am able to achieve organizational goals and personal goals independently, I will respect organizational protocols and procedures, I can achieve my results with formal support from co-workers*”.

In order to identify the factor which is more influencing the respondent towards Work Ethic the Friedman’s test analysis was used and the results were given in Table 6.2.8 a.

It could be noted from the table that among the 4 factors of “I will maintain punctuality in attending meetings and events” was ranked first. It is followed by the “I am able to achieve organizational goals and personal goals independently”, “I will respect organizational protocols and procedures” was ranked third.

Table 6.2.8 a Friedman Test- Work Ethic

	Mean	SD	Mean Rank	Rank	Reliability
I will maintain punctuality in attending meetings and events	4.21	0.83	2.79	1	0.649
I am able to achieve organizational goals and personal goals independently	4.06	0.87	2.56	2	
I will respect organizational protocols and procedures	3.94	0.86	2.39	3	
I can achieve my results with formal support from co-workers	3.74	1.00	2.26	4	

6.2.9 Opinion about Communication Skills

The opinion about Communication Skills observed over the resources of “*I am able to say in front what I am intended to communicate, My listening abilities are good, I am good at presentation assignments given to me, I can express my views in debates and group discussions*” are analyzed. It is clear from the table 6.2.9 that 1% of the respondents strongly disagreed, 4% of the respondents disagreed, 24% of the respondents have a Neutral opinion, 31% of the respondents agreed and 40% of the respondents strongly agreed regarding the ‘*I am able to say in front what I am intended to communicate.*

Regarding the factor “*My listening abilities are good*” 1% of the respondents strongly disagreed, 4% of the respondents disagreed, 25% of the respondents have a Neutral opinion, 32% of the respondents agreed and 38% of the respondents strongly agreed.

Regarding the factor “*I am good at presentation assignments given to me*” 2% of the respondents strongly disagreed, 8% of the respondents disagreed, 24% of the respondents have a Neutral opinion, 31% of the respondents agreed and 36% of the respondents strongly agreed.

Table 6.2.9 Opinion about the Communication Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I am able to say in front what I am intended to communicate	13	1	41	4	236	24	309	31	401	40	1000
My listening abilities are good	14	1	43	4	245	25	322	32	376	38	1000
I am good at presentation assignments given to me	15	2	79	8	237	24	309	31	360	36	1000
I can express my views in debates and group discussions	11	1	50	5	231	23	334	33	374	37	1000

Regarding the factor “*I can express my views in debates and group discussions*” 1% of the respondents strongly disagreed, 5% of the respondents disagreed, 23% of the respondents have a Neutral opinion, 33% of the respondents agreed and 37% of the respondents strongly agreed.

It is clear from the table 6.2.9 that majority of the respondents strongly agreed with the factor of “*I am able to say in front what I am intended to communicate, My listening abilities are good, I am good at presentation assignments given to me, I can express my views in debates and group discussions*”.

In order to identify the factor which is more influencing the respondent towards Communication Skills the Friedman’s test analysis was used and the results were given in Table 6.2.9 a. It could be noted from the table that among the four factors of “I am able to say in front what I am intended to communicate” was ranked first. It is followed by the “I can express my views in debates and group discussions”, “My listening abilities are good” was ranked third.

Table 6.2.9 a Friedman Test- Communication Skills

	Mean	SD	Mean Rank	Rank	Reliability
I am able to say in front what I am intended to communicate	4.04	0.96	2.55	1	0.753
My listening abilities are good	4.00	0.96	2.50	3	
I am good at presentation assignments given to me	3.92	1.02	2.43	4	
I can express my views in debates and group discussions	4.01	0.95	2.52	2	

6.2.10 Opinion about Career Management Skills

The opinion about Career Management Skills observed over the resources of “*I always work hard to hone my job oriented skills, I am improving my aptitude along with studies, I am able to communicate my knowledge easily, I actively involve in internships & projects*” are analysed. It is clear from the table 6.2.10 that 2% of the respondents strongly disagreed, 8% of the respondents disagreed, 24% of the respondents have a Neutral opinion, 31% of the respondents agreed and 36% of the respondents strongly agreed regarding the ‘*I always work hard to hone my job oriented skills*’.

Table 6.2.10 Opinion about the Career Management Skills

	SDA		DA		N		A		SA		Total
	N	%	N	%	N	%	N	%	N	%	
I always work hard to hone my job oriented skills	15	2	79	8	237	24	309	31	360	36	1000
I am improving my aptitude along with studies	11	1	50	5	231	23	334	33	374	37	1000
I am able to communicate my knowledge easily	36	4	42	4	248	25	306	31	368	37	1000
I actively involve in internships & projects	15	2	31	3	193	19	314	31	447	45	1000

Regarding the factor “*I am improving my aptitude along with studies*” 1% of the respondents strongly disagreed, 5% of the respondents disagreed, 23% of the respondents have a Neutral opinion, 33% of the respondents agreed and 37% of the respondents strongly agreed. Regarding the factor “*I am able to communicate my knowledge easily*” 4% of the

respondents strongly disagreed, 4% of the respondents disagreed, 25% of the respondents have a Neutral opinion, 31% of the respondents agreed and 37% of the respondents strongly agreed.

Regarding the factor “*I actively involve in internships & projects*” 2% of the respondents strongly disagreed, 3% of the respondents disagreed, 19% of the respondents have a Neutral opinion, 31% of the respondents agreed and 45% of the respondents strongly agreed.

It is clear from the table 6.2.10 that majority of the respondents strongly agreed with the factor of “*I always work hard to hone my job oriented skills, I am improving my aptitude along with studies, I am able to communicate my knowledge easily, I actively involve in internships & projects*”.

In order to identify the factor which is more influencing the respondent towards Career Management Skills the Friedman’s test analysis was used and the results were given in Table 6.2.10 a.

Table 6.2.10 a Friedman Test- Career Management Skills

	Mean	SD	Mean Rank	Rank	Reliability
I always work hard to hone my job oriented skills	3.92	1.02	2.40	4	0.751
I am improving my aptitude along with studies	4.01	0.95	2.50	2	
I am able to communicate my knowledge easily	3.93	1.05	2.43	3	
I actively involve in internships & projects	4.15	0.94	2.67	1	

It could be noted from the above table that among the 4 factors of “I actively involve in internships & projects” was ranked first. It is followed by the “I am improving my aptitude along with studies”, “I am able to communicate my knowledge easily” was ranked third.

6.3.1 Opinion about Course Content

The opinion about Course Content observed over the resources of “*Leadership Qualities, Ability to work in a team, Verbal/written communication skills, “Problem-solving*

skills, Strong work centric ethic, Analytical/Quantitative skills, Technical skills in various feature, New business initiative, Computer skills, Flexibility/Adaptability, Interpersonal skills, Organizational ability, Strategic planning skills, Friendly/Outgoing personality, Entrepreneurial skills/Risk-taker, Tactfulness, Creativity and Innovation, Communication skills, Conceptual knowledge” are analyzed. It is clear from the table 6.3.1 that 1% of the respondents stated as nothing, 5% of the respondents stated as Very little, 23% of the respondents stated as little, 46% of the respondents stated as much and 25% of the respondents stated as very much regarding the ‘**Leadership Qualities**’.

Regarding the factor “**Ability to work in a team**” 1% of the respondents stated as nothing, 5% of the respondents stated as Very little, 11% of the respondents stated as little, 37% of the respondents stated as much and 46% of the respondents stated as very much. Regarding the factor “**Verbal/written communication skills**” 2% of the respondents stated as nothing, 8% of the respondents stated as Very little, 17% of the respondents stated as little, 47% of the respondents stated as much and 27% of the respondents stated as very much.

Regarding the factor “**Problem-solving skills**” 1% of the respondents stated as nothing, 8% of the respondents stated as Very little, 19% of the respondents stated as little, 46% of the respondents stated as much and 27% of the respondents stated as very much.

Regarding the factor “**Strong work centric ethic**” 3% of the respondents stated as nothing, 6% of the respondents stated as Very little, 24% of the respondents stated as little, 42% of the respondents stated as much and 26% of the respondents stated as very much. Regarding the factor “**Analytical/Quantitative skills**” 3% of the respondents stated as nothing, 8% of the respondents stated as Very little, 26% of the respondents stated as little, 44% of the respondents stated as much and 19% of the respondents stated as very much.

Regarding the factor “**Technical skills in various feature**” 1% of the respondents stated as nothing, 11% of the respondents stated as Very little, 32% of the respondents stated

as little, 39% of the respondents stated as much and 16% of the respondents stated as very much. Regarding the factor “**New business initiative**” 4% of the respondents stated as nothing, 9% of the respondents stated as Very little, 30% of the respondents stated as little, 38% of the respondents stated as much and 20% of the respondents stated as very much.

Regarding the factor “**Computer skills**” 1% of the respondents stated as nothing, 9% of the respondents stated as Very little, 25% of the respondents stated as little, 43% of the respondents stated as much and 21% of the respondents stated as very much. Regarding the factor “**Flexibility/Adaptability**” 3% of the respondents stated as nothing, 4% of the respondents stated as Very little, 14% of the respondents stated as little, 39% of the respondents stated as much and 40% of the respondents stated as very much. Regarding the factor “**Interpersonal skills**” 1% of the respondents stated as nothing, 6% of the respondents stated as Very little, 15% of the respondents stated as little, 50% of the respondents stated as much and 29% of the respondents stated as very much.

Table 6.3 Survey about the Course Content

	Option		Very Little		Little		Much		Very Much		Total
	N	%	N	%	N	%	N	%	N	%	
Leadership Qualities	14	1	50	5	229	23	458	46	249	25	1000
Ability to work in a team	11	1	54	5	108	11	372	37	455	46	1000
Verbal/written communication skills	16	2	75	8	174	17	467	47	268	27	1000
Problem-solving skills	9	1	79	8	187	19	460	46	265	27	1000
Strong work centric ethic	25	3	57	6	235	24	419	42	264	26	1000
Analytical/Quantitative skills	27	3	80	8	263	26	444	44	186	19	1000
Technical skills in various feature	12	1	107	11	323	32	394	39	164	16	1000
New business initiative	38	4	87	9	302	30	378	38	195	20	1000
Computer skills	14	1	93	9	250	25	432	43	211	21	1000
Flexibility/Adaptability	27	3	44	4	135	14	393	39	401	40	1000
Interpersonal skills	7	1	55	6	151	15	498	50	289	29	1000
Organizational ability	9	1	61	6	200	20	462	46	268	27	1000
Strategic planning skills	10	1	73	7	226	23	450	45	241	24	1000
Friendly/Outgoing personality	7	1	67	7	99	10	337	34	490	49	1000
Entrepreneurial skills/Risk-taker	19	2	80	8	215	22	427	43	259	26	1000
Tactfulness	22	2	75	8	243	24	439	44	221	22	1000
Creativity and Innovation	9	1	53	5	183	18	471	47	284	28	1000
Communication skills	9	1	102	10	203	20	461	46	225	23	1000
Conceptual knowledge	14	1	84	8	430	43	340	34	132	13	1000

Regarding the factor “**Organizational ability**” 1% of the respondents stated as nothing, 6% of the respondents stated as Very little, 20% of the respondents stated as little, 46% of the respondents stated as much and 27% of the respondents stated as very much. Regarding the factor “**Strategic planning skills**” 1% of the respondents stated as nothing, 7%

of the respondents stated as Very little, 23% of the respondents stated as little, 45% of the respondents stated as much and 24% of the respondents stated as very much.

Regarding the factor “**Friendly/Outgoing personality**” 1% of the respondents stated as nothing, 7% of the respondents stated as Very little, 10% of the respondents stated as little, 34% of the respondents stated as much and 49% of the respondents stated as very much. Regarding the factor “**Entrepreneurial skills/Risk-taker**” 2% of the respondents stated as nothing, 8% of the respondents stated as Very little, 22% of the respondents stated as little, 43% of the respondents stated as much and 26% of the respondents stated as very much.

Regarding the factor “**Tactfulness**” 2% of the respondents stated as nothing, 8% of the respondents stated as Very little, 24% of the respondents stated as little, 44% of the respondents stated as much and 22% of the respondents stated as very much. Regarding the factor “**Creativity and Innovation**” 1% of the respondents stated as nothing, 5% of the respondents stated as Very little, 18% of the respondents stated as little, 47% of the respondents stated as much and 28% of the respondents stated as very much.

Regarding the factor “**Communication skills**” 1% of the respondents stated as nothing, 10% of the respondents stated as Very little, 20% of the respondents stated as little, 46% of the respondents stated as much and 23% of the respondents stated as very much.

Regarding the factor “**Conceptual knowledge**” 1% of the respondents stated as nothing, 8% of the respondents stated as Very little, 43% of the respondents stated as little, 34% of the respondents stated as much and 13% of the respondents stated as very much.

It is clear from the table 6.3.1 that majority of the respondents stated as little with the factor of “*Conceptual knowledge*”, about Much with the factor of “*Leadership Qualities, Verbal/written communication skills, Problem-solving skills, Strong work centric ethic, Analytical/Quantitative skills, Technical skills in various feature, New business initiative, Computer skills, Interpersonal skills, Organizational ability, Strategic planning skills,*

Entrepreneurial skills/Risk-taker, Tactfulness, Creativity and Innovation, Communication skills” and about Very Much with the factor of “*Ability to work in a team, Flexibility/Adaptability, Friendly/Outgoing personality*”.

In order to identify the factor which is more influencing the respondent towards Course Content the Friedman’s test analysis was used and the results were given in Table 6.3.1 a. It could be noted from the table that among the 19 factors of “Friendly/Outgoing personality” was ranked first. It is followed by the “Ability to work in a team”, “Flexibility/Adaptability” was ranked third.

6.4 Distribution of Skills

An attempt has been made to study the Distribution of skills. After converting the qualitative information of the opinion into a quantitative one the average score were obtained from the respondents on various factors like ‘*Basic Literacy with Numeracy Skills, Critical Thinking Skills, Leadership Skills, Management Skills, Interpersonal Skills, Information Technology Skills, Systems Thinking Skills, Work Ethic, Communication Skills, Career Management Skills*’ and obtained results are and presented in Table 6.4.

Table 6.4 Distribution of Skills

Factors	N	Min	Max	Mean	SD	Mean %
Basic Literacy with Numeracy Skills	1000	5	25	19.42	3.17	77.66
Critical Thinking Skills	1000	6	30	23.21	3.64	77.37
Leadership Skills	1000	6	25	20.21	3.08	80.83
Management Skills	1000	7	20	15.60	2.52	78.00
Interpersonal Skills	1000	6	20	16.29	2.33	81.45
Information Technology Skills	1000	4	20	14.65	2.72	73.24
Systems Thinking Skills	1000	5	20	14.54	2.54	72.69
Work Ethic	1000	6	20	15.94	2.49	79.72
Communication Skills	1000	4	20	15.98	2.95	79.89
Career Management Skills	1000	4	20	16.01	3.00	80.03

Factor wise distribution of mean, Standard Deviation and mean percentage of Distribution of skills shows that among 8 factors, the highest mean % score (16.29 ± 2.33) which is 81.45% is obtained for the factor “Interpersonal Skills” whereas, the lowest mean % score (14.54 ± 2.54) which is 72.69% was obtained for ‘Systems Thinking Skills’. The mean score on ‘Basic Literacy with Numeracy Skills’ was (19.42 ± 3.17) which is 77.66%. The mean score on ‘Critical Thinking Skills’ was (23.21 ± 3.64) which is 77.37%. The mean score on ‘Leadership Skills’ was (20.21 ± 3.08) which is 80.83%. The mean score on ‘Management Skills’ was (15.60 ± 2.52) which is 78.00%. The mean score on ‘Information Technology Skills’ was (14.65 ± 2.72) which is 73.24%. The mean score on ‘Work Ethic’ was (15.94 ± 2.49) which is 79.72%. The mean score on ‘Communication Skills’ was (15.98 ± 2.95) which is 79.89%. The mean score on ‘Career Management Skills’ was (16.01 ± 3.00) which is 80.03%.

Distribution of skills with respect to demographic variables - Average score analysis

In this section the Distribution of skills is analysed with respect to the demographic variables *Age, Gender, Level of Education, Occupation, Marital status, Family Type, Place of residence, Monthly Income, Family Size* was analysed in this section.

Null Hypothesis: There is no significant difference between the mean scores regarding Distribution of skills with respect to the selected demographic variables

6.4.1 Gender of the Respondents and Employability Skills

To study the effect of Gender, the distribution of skills according to Gender is shown in the following table 6.4.1. It could be noted from the table 6.4.1 that regarding the factor ‘*Basic Literacy with Numeracy Skills*’ among male respondents the mean score was (18.73 ± 3.93) and among Female respondents the mean score was (19.63 ± 2.87). Regarding the factor ‘*Critical Thinking Skills*’ among male respondents the mean score was (22.95 ± 4.63) and among Female respondents the mean score was (23.29 ± 3.27).

Regarding the factor '**Leadership Skills**' among male respondents the mean score was (20.06 ± 3.20) and among Female respondents the mean score was (20.25 ± 3.04) . Regarding the factor '**Management Skills**' among male respondents the mean score was (15.46 ± 2.76) and among Female respondents the mean score was (15.64 ± 2.45) . Regarding the factor '**Interpersonal Skills**' among male respondents the mean score was (16.26 ± 2.52) and among Female respondents the mean score was (16.30 ± 2.27) . Regarding the factor '**Information Technology Skills**' among male respondents the mean score was (14.43 ± 3.34) and among Female respondents the mean score was (14.71 ± 2.49) .

Regarding the factor '**Systems Thinking Skills**' among male respondents the mean score was (14.71 ± 2.47) and among Female respondents the mean score was (14.48 ± 2.56) . Regarding the factor '**Work Ethic**' among male respondents the mean score was (15.95 ± 2.55) and among Female respondents the mean score was (15.94 ± 2.47) . Regarding the factor '**Communication Skills**' among male respondents the mean score was (16.39 ± 3.44) and among Female respondents the mean score was (15.85 ± 2.77) . Regarding the factor '**Career Management Skills**' among male respondents the mean score was (16.13 ± 3.64) and among Female respondents the mean score was (15.96 ± 2.77) .

Thus, it is inferred from the above analysis that the awareness about *Basic Literacy with Numeracy Skills* was found maximum among Female respondents, about *Critical Thinking Skills* it was found among Female, about *Leadership Skills* it was found among Female, about *Management Skills* it was found among Female, about *Interpersonal Skills* it was found among Female respondents, about *Information Technology Skills* it was found among Female and about *Systems Thinking Skills* it was found among Female respondents, about *Work Ethic* it was found among male respondents, about *Communication Skills* it was found among male respondents and about *Career Management Skills* it was found among male respondents.

Table 6.4.1 Gender of the Respondents and Employability Skills

Factors	Gender	N	Mean	SD	t	p
Basic Literacy with Numeracy Skills	Male	238	18.73	3.93	3.84	<0.001**
	Female	762	19.63	2.87		
Critical Thinking Skills	Male	238	22.95	4.63	1.25	0.211
	Female	762	23.29	3.27		
Leadership Skills	Male	238	20.06	3.20	0.85	0.395
	Female	762	20.25	3.04		
Management Skills	Male	238	15.46	2.76	0.99	0.324
	Female	762	15.64	2.45		
Interpersonal Skills	Male	238	16.26	2.52	0.25	0.804
	Female	762	16.30	2.27		
Information Technology Skills	Male	238	14.43	3.34	1.39	0.163
	Female	762	14.71	2.49		
Systems Thinking Skills	Male	238	14.71	2.47	1.23	0.220
	Female	762	14.48	2.56		
Work Ethic	Male	238	15.95	2.55	0.05	0.963
	Female	762	15.94	2.47		
Communication Skills	Male	238	16.39	3.44	2.49	0.013*
	Female	762	15.85	2.77		
Career Management Skills	Male	238	16.13	3.64	0.76	0.446
	Female	762	15.96	2.77		

* Significant at 5 %; ** Significant at 1 %

Further to test the significant difference between the mean score among the respondents with respect Gender the t test is used and the result is also shown in table 6.4.1. Since the P value is less than 0.05 regarding *Basic Literacy with Numeracy Skills*, *Communication skills* and hence there is a significant difference in the mean scores was found with respect to Gender regarding these Factors.

6.4.2 Age of the Respondents and Employability Skills

To study the effect of Age, the distribution of opinion regarding Distribution of skills according to Age is shown in the following table 6.4.2. It could be noted from the table 6.4.2 that Regarding the factor '*Basic Literacy with Numeracy Skills*' shows with respect to the Age group of 17-20 years the mean score was (19.42 ± 3.01) and the mean score among the age group of 21-25 years was (19.42 ± 3.97).

Table 6.4.2 Age of the Respondents and Employability Skills

Factors	Age	N	Mean	SD	t	p
Basic Literacy with Numeracy Skills	17 - 20	850	19.42	3.01	-0.02	0.987
	21 - 25	150	19.42	3.97		
Critical Thinking Skills	17 - 20	850	23.29	3.45	1.55	0.121
	21 - 25	150	22.79	4.55		
Leadership Skills	17 - 20	850	20.26	2.95	1.41	0.158
	21 - 25	150	19.88	3.71		
Management Skills	17 - 20	850	15.70	2.43	3.02	0.003**
	21 - 25	150	15.03	2.97		
Interpersonal Skills	17 - 20	850	16.35	2.27	2.03	0.043*
	21 - 25	150	15.93	2.63		
Information Technology Skills	17 - 20	850	14.77	2.57	3.41	0.001**
	21 - 25	150	13.95	3.34		
Systems Thinking Skills	17 - 20	850	14.62	2.46	2.37	0.018**
	21 - 25	150	14.09	2.94		
Work Ethic	17 - 20	850	15.96	2.38	0.59	0.558
	21 - 25	150	15.83	3.02		
Communication Skills	17 - 20	850	15.79	2.81	4.81	<0.001**
	21 - 25	150	17.03	3.48		
Career Management Skills	17 - 20	850	15.90	2.87	2.73	0.006**
	21 - 25	150	16.62	3.58		

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '**Critical Thinking Skills**' shows with respect to the Age group of 17-20 years the mean score was (23.29 ± 3.45) and the mean score among the age group of 21-25 years was (22.79 ± 4.55). Regarding the factor '**Leadership Skills**' shows with respect to the Age group of 17-20 years the mean score was (20.26 ± 2.95) and the mean score among the age group of 21-25 years was (19.88 ± 3.71).

Regarding the factor '**Management Skills**' shows with respect to the Age group of 17-20 years the mean score was (15.70 ± 2.43) and the mean score among the age group of 21-25 years was (15.03 ± 2.97).

Regarding the factor '**Interpersonal Skills**' shows with respect to the Age group of 17-20 years the mean score was (16.35 ± 2.27) and the mean score among the age group of 21-25 years was (15.93 ± 2.63).

Regarding the factor '**Information Technology Skills**' shows with respect to the Age group of 17-20 years the mean score was (14.77 ± 2.57) and the mean score among the age group of 21-25 years was (13.95 ± 3.34).

Regarding the factor '**Systems Thinking Skills**' shows with respect to the Age group of 17-20 years the mean score was (14.62 ± 2.46) and the mean score among the age group of 21-25 years was (14.09 ± 2.94).

Regarding the factor '**Work Ethic**' shows with respect to the Age group of 17-20 years the mean score was (15.96 ± 2.38) and the mean score among the age group of 21-25 years was (15.83 ± 3.02).

Regarding the factor '**Communication Skills**' shows with respect to the Age group of 17-20 years the mean score was (15.79 ± 2.81) and the mean score among the age group of 21-25 years was (17.03 ± 3.48).

Regarding the factor '**Career Management Skills**' shows with respect to the Age group of 17-20 years the mean score was (15.90 ± 2.87) and the mean score among the age group of 21-25 years was (16.62 ± 3.58).

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Basic Literacy with Numeracy Skills* was found maximum among 17-20 years, about *Critical Thinking Skills* it was found among 17-20 years, about *Leadership Skills* it was found among 17-20 years, about *Management Skills* it was found among 17-20 years, about *Interpersonal Skills* it was found among 17-20 years, about *Information Technology Skills* it was found among 17-20 years and about *Systems Thinking Skills* it was found among 17-20 years, about

Work Ethic it was found among 17-20 years, about *Communication Skills* it was found among 21-25 years and about *Career Management Skills* it was found among 21-25 years.

Further to test the significant difference between the mean score among the respondents with respect Age the ANOVA test is used and the result is also shown in table 6.4.2. Since the P value is less than 0.05 regarding *Management Skills*, *Interpersonal Skills*, *Information Technology Skills*, *Systems Thinking Skills*, *Communication Skills*, *Career Management Skills* and hence there is significant difference in the mean scores was found with respect to Age regarding these Factors.

6.4.3 Course of study and Employability Skills

To study the effect of course of study, the distribution of skills according to Course of study is shown in the following table 6.4.3. It could be noted from the table 6.4.3 that regarding the factor '*Basic Literacy with Numeracy Skills*' among Arts the mean score was (19.06 ± 3.16) and among Sciences respondents the mean score was (20.29 ± 3.03) . Regarding the factor '*Critical Thinking Skills*' among Arts the mean score was (22.97 ± 3.61) and among Sciences respondents the mean score was (23.80 ± 3.63) .

Regarding the factor '*Leadership Skills*' among Arts the mean score was (19.93 ± 3.04) and among Sciences respondents the mean score was (20.89 ± 3.07) . Regarding the factor '*Management Skills*' among Arts the mean score was (15.44 ± 2.48) and among Sciences respondents the mean score was (15.99 ± 2.59) .

Regarding the factor '*Interpersonal Skills*' among Arts the mean score was (16.04 ± 2.34) and among Sciences respondents the mean score was (16.90 ± 2.21) . Regarding the factor '*Information Technology Skills*' among Arts the mean score was (14.63 ± 2.66) and among Sciences respondents the mean score was (14.70 ± 2.85) . Regarding the factor '*Systems Thinking Skills*' among Arts the mean score was (14.58 ± 2.51) and among Sciences respondents the mean score was (14.44 ± 2.62) . Regarding the factor '*Work Ethic*'

among Arts the mean score was (15.82 ± 2.45) and among Sciences respondents the mean score was (16.24 ± 2.55).

Regarding the factor '*Communication Skills*' among Arts the mean score was (15.44 ± 2.69) and among Sciences respondents the mean score was (17.31 ± 3.14). Regarding the factor '*Career Management Skills*' among Arts the mean score was (15.44 ± 2.72) and among Sciences respondents the mean score was (17.41 ± 3.20).

Table 6.4.3
Course of study and Employability Skills

Factors	Course of study	N	Mean	SD	t	p
Basic Literacy with Numeracy Skills	Arts	712	19.06	3.16	5.64	<0.001**
	Sciences	288	20.29	3.03		
Critical Thinking Skills	Arts	712	22.97	3.61	3.29	0.001**
	Sciences	288	23.80	3.63		
Leadership Skills	Arts	712	19.93	3.04	4.48	<0.001**
	Sciences	288	20.89	3.07		
Management Skills	Arts	712	15.44	2.48	3.13	0.002**
	Sciences	288	15.99	2.59		
Interpersonal Skills	Arts	712	16.04	2.34	5.30	<0.001**
	Sciences	288	16.90	2.21		
Information Technology Skills	Arts	712	14.63	2.66	0.38	0.706
	Sciences	288	14.70	2.85		
Systems Thinking Skills	Arts	712	14.58	2.51	0.77	0.443
	Sciences	288	14.44	2.62		
Work Ethic	Arts	712	15.82	2.45	2.41	0.016**
	Sciences	288	16.24	2.55		
Communication Skills	Arts	712	15.44	2.69	9.50	<0.001**
	Sciences	288	17.31	3.14		
Career Management Skills	Arts	712	15.44	2.72	9.86	<0.001**
	Sciences	288	17.41	3.20		

* Significant at 5 %; ** Significant at 1 %

Thus, it is inferred from the above analysis that The awareness about *Basic Literacy with Numeracy Skills* was found maximum among Sciences, about *Critical Thinking Skills* it was found among Sciences, about *Leadership Skills* it was found among Sciences, about *Management Skills* it was found among Sciences, about *Interpersonal Skills* it was found among Sciences, about *Information Technology Skills* it was found among Sciences and about *Systems Thinking Skills* it was found among Arts, about *Work Ethic* it was found among Sciences, about *Communication Skills* it was found among Sciences and about *Career Management Skills* it was found among Sciences. Further to test the significant difference between the mean score among the respondents with respect Course of study the t test is used and the result is also shown in table 6.4.3. Since the P value is less than 0.05 regarding *Basic Literacy with Numeracy Skills*, *Critical Thinking Skills*, *Leadership Skills*, *Management Skills*, *Interpersonal Skills*, *Work Ethic*, *Communication Skills*, *Career Management Skills* and hence there is significant difference in the mean scores was found with respect to Course of study regarding these Factors.

6.4.4 Course of Study and Employability Skills

To study the effect of Course of Study, the distribution of opinion regarding Distribution of skills according to Course of Study is shown in the following table 6.4.4. It could be noted from the table 6.4.4 that Regarding the factor '**Basic Literacy with Numeracy Skills**' shows among the respondents with BA the mean score was (18.78 ± 5.03) , among the BBA the mean score was (18.37 ± 4.03) , with respect to BCA the mean score was (19.63 ± 2.98) , with respect to B.Com the mean score was (19.43 ± 3.01) , with respect to B.Sc. the mean score was (19.67 ± 2.59) and among Others the mean score was (21.29 ± 2.65) . Regarding the factor '**Critical Thinking Skills**' shows among the respondents with BA the mean score was (22.53 ± 6.04) , among the BBA the mean score was (22.37 ± 4.49) , with respect to BCA the mean score was (23.16 ± 2.97) , with respect to

B.Com the mean score was (23.16 ± 3.43) , with respect to B.Sc. the mean score was (23.49 ± 3.14) and among Others the mean score was (25.11 ± 3.14) .

Regarding the factor '**Leadership Skills**' shows among the respondents with BA the mean score was (19.49 ± 4.84) , among the BBA the mean score was (19.79 ± 3.08) , with respect to BCA the mean score was (20.11 ± 3.30) , with respect to B.Com the mean score was (20.70 ± 3.11) , with respect to B.Sc. the mean score was (20.05 ± 2.72) and among Others the mean score was (21.54 ± 2.06) .

Table 6.4.4 Course of Study and Employability Skills

	Course of Study												ANOVA	p
	BA		BBA		BCA		B.Com		BSc		Others			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Basic Literacy with Numeracy Skills	18.78 ^a	5.03	18.37 ^a	4.03	19.63 ^a	2.98	19.43 ^a	3.01	19.67 ^a	2.59	21.29^b	2.65	6.22	<0.001**
Critical Thinking Skills	22.53 ^a	6.04	22.37 ^a	4.49	23.16 ^a	2.97	23.16 ^a	3.43	23.49 ^a	3.14	25.11^b	3.14	3.97	0.001**
Leadership Skills	19.49 ^a	4.84	19.79 ^a	3.08	20.11 ^a	3.30	20.70 ^{a,b}	3.11	20.05 ^a	2.72	21.54^b	2.06	3.80	0.002**
Management Skills	14.24 ^a	3.61	15.26 ^b	2.56	15.62 ^b	2.06	15.72 ^{b,c}	2.68	15.72 ^{b,c}	2.31	16.75^c	2.22	4.88	<0.001**
Interpersonal Skills	16.27 ^a	2.78	15.63 ^a	2.40	16.25 ^a	2.42	16.59 ^a	2.24	16.24 ^a	2.27	17.61^b	1.59	5.08	<0.001**
Information Technology Skills	13.63 ^a	4.01	13.65 ^a	3.06	14.76 ^{a,b}	2.02	14.60 ^{a,b}	2.73	15.06 ^b	2.40	15.36^b	2.82	7.85	<0.001**
Systems Thinking Skills	13.78	2.42	14.34	2.38	14.25	2.23	14.51	2.77	14.78	2.41	14.57	3.63	2.11	0.062
Work Ethic	14.55 ^a	3.06	15.99 ^b	2.33	16.42 ^b	2.29	16.09 ^b	2.68	15.79 ^b	2.26	17.43^c	2.87	6.49	<0.001**
Communication Skills	15.08 ^a	4.29	16.03 ^{a,b}	3.26	16.67 ^{b,c}	2.87	15.43 ^{a,b}	2.58	16.16 ^{a,b}	2.85	17.46^c	2.19	5.69	<0.001**
Career Management Skills	15.10 ^a	4.13	15.61 ^a	3.53	16.91 ^{b,c}	2.89	15.45 ^a	2.54	16.29 ^{a,b}	2.87	17.64^c	2.30	7.64	<0.001**

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '**Management Skills**' shows among the respondents with BA the mean score was (14.24 ± 3.61) , among the BBA the mean score was (15.26 ± 2.56) , with respect to BCA the mean score was (15.62 ± 2.06) , with respect to B.Com the mean score was (15.72 ± 2.68) , with respect to B.Sc. the mean score was (15.72 ± 2.31) and among Others the mean score was (16.75 ± 2.22) .

Regarding the factor '**Interpersonal Skills**' shows among the respondents with BA the mean score was (16.27 ± 2.78) , among the BBA the mean score was (15.63 ± 2.40) , with respect to BCA the mean score was (16.25 ± 2.42) , with respect to B.Com the mean score was (16.59 ± 2.24) , with respect to B.Sc. the mean score was (16.24 ± 2.27) and among Others the mean score was (17.61 ± 1.59) .

Regarding the factor '**Information Technology Skills**' shows among the respondents with BA the mean score was (13.63 ± 4.01) , among the BBA the mean score was (13.65 ± 3.06) , with respect to BCA the mean score was (14.76 ± 2.02) , with respect to B.Com the mean score was (14.60 ± 2.73) , with respect to B.Sc. the mean score was (15.06 ± 2.40) and among Others the mean score was (15.36 ± 2.82) .

Regarding the factor '**Systems Thinking Skills**' shows among the respondents with BA the mean score was (13.78 ± 2.42) , among the BBA the mean score was (14.34 ± 2.38) , with respect to BCA the mean score was (14.25 ± 2.23) , with respect to B.Com the mean score was (14.51 ± 2.77) , with respect to B.Sc. the mean score was (14.78 ± 2.41) and among Others the mean score was (14.57 ± 3.63) .

Regarding the factor '**Work Ethic**' shows among the respondents with BA the mean score was (14.55 ± 3.06) , among the BBA the mean score was (15.99 ± 2.33) , with respect to BCA the mean score was (16.42 ± 2.29) , with respect to B.Com the mean score was (16.09 ± 2.68) , with respect to B.Sc. the mean score was (15.79 ± 2.26) and among Others the mean score was (17.43 ± 2.87) .

Regarding the factor '**Communication Skills**' shows among the respondents with BA the mean score was (15.08 ± 4.29) , among the BBA the mean score was (16.03 ± 3.26) , with respect to BCA the mean score was (16.67 ± 2.87) , with respect to B.Com the mean score was (15.43 ± 2.58) , with respect to B.Sc. the mean score was (16.16 ± 2.85) and among Others the mean score was (17.46 ± 2.19) .

Regarding the factor '**Career Management Skills**' shows among the respondents with BA the mean score was (15.10 ± 4.13) , among the BBA the mean score was (15.61 ± 3.53) , with respect to BCA the mean score was (16.91 ± 2.89) , with respect to B.Com the mean score was (15.45 ± 2.54) , with respect to B.Sc. the mean score was (16.29 ± 2.87) and among Others the mean score was (17.64 ± 2.30) .

Further to test the significant difference between the mean score among the respondents with respect Course of Study the ANOVA test is used and the result is also shown in table 6.4.4. Since the P value is less than 0.05 regarding *Basic Literacy with Numeracy Skills*, *Critical Thinking Skills*, *Leadership Skills*, *Management Skills*, *Interpersonal Skills*, *Information Technology Skills*, *Work Ethic*, *Communication Skills*, *Career Management Skills* and hence there is significant difference in the mean scores found with respect to Course of Study.

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Basic Literacy with Numeracy Skills* was found maximum among Others, about *Critical Thinking Skills* it was found among Others, about *Leadership Skills* it was found among Others, about *Management Skills* it was found among Others, about *Interpersonal Skills* it was found among Others, about *Information Technology Skills* it was found among Others and about *Systems Thinking Skills* it was found among BCOM, about *Work Ethic* it was found among Others, about *Communication Skills* it was found among Others and about *Career Management Skills* it was found among Others.

6.4.5 Year of Study and Employability Skills

To study the effect of Year of Study, the distribution of opinion regarding Distribution of skills according to Year of Study is shown in the following table 6.4.5. It could be noted from the table 6.4.5 that regarding the factor '**Basic Literacy with Numeracy Skills**' shows with respect to First year the mean score was (18.88 ± 4.32), with respect to Second year the mean score was (19.57 ± 3.21) and with respect to Third year the mean score was (19.45 ± 3.01).

Regarding the factor '**Critical Thinking Skills**' shows with respect to First year the mean score was (22.26 ± 5.08), with respect to Second year the mean score was (23.12 ± 3.63) and with respect to Third year the mean score was (23.34 ± 3.42).

Regarding the factor '**Leadership Skills**' shows with respect to First year the mean score was (19.52 ± 4.54), with respect to Second year the mean score was (20.61 ± 3.06) and with respect to Third year the mean score was (20.22 ± 2.86).

Regarding the factor '**Management Skills**' shows with respect to First year the mean score was (14.76 ± 3.71), with respect to Second year the mean score was (15.50 ± 2.61) and with respect to Third year the mean score was (15.71 ± 2.32). Regarding the factor '**Interpersonal Skills**' shows with respect to First year the mean score was (16.02 ± 2.71), with respect to Second year the mean score was (16.21 ± 2.60) and with respect to Third year the mean score was (16.33 ± 2.24).

Regarding the factor '**Information Technology Skills**' shows with respect to First year the mean score was (13.87 ± 3.38), with respect to Second year the mean score was (14.39 ± 2.69) and with respect to Third year the mean score was (14.78 ± 2.62).

Table 6.4.5 Year of Study and Employability Skills

Factors	Year of Study						ANOVA	p
	First year		Second year		Third year			
	Mean	SD	Mean	SD	Mean	SD		
Basic Literacy with Numeracy Skills	18.88	4.32	19.57	3.21	19.45	3.01	1.49	0.225
Critical Thinking Skills	22.26 _a	5.08	23.12 ^{a,b}	3.63	23.34 ^b	3.42	3.63	0.027*
Leadership Skills	19.52 _a	4.54	20.61 ^b	3.06	20.22 ^{a,b}	2.86	3.37	0.035*
Management Skills	14.76 _a	3.71	15.50 ^b	2.61	15.71 ^b	2.32	5.95	0.003**
Interpersonal Skills	16.02	2.71	16.21	2.60	16.33	2.24	0.79	0.454
Information Technology Skills	13.87 _a	3.38	14.39 ^{a,b}	2.69	14.78 ^b	2.62	5.27	0.005**
Systems Thinking Skills	14.10	2.97	14.24	2.81	14.64	2.43	2.84	0.059
Work Ethic	14.77 _a	3.42	15.89 ^b	2.89	16.09 ^b	2.24	1.49	0.225
Communication Skills	14.82 _a	3.65	15.43 ^a	2.77	16.20 ^b	2.85	11.58	<0.001**
Career Management Skills	14.83 _a	3.69	15.48 ^a	2.69	16.22 ^b	2.92	11.13	<0.001**

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Systems Thinking Skills*' shows with respect to First year the mean score was (14.10 ± 2.97), with respect to Second year the mean score was (14.24 ± 2.8168) and with respect to Third year the mean score was (14.64 ± 2.43). Regarding the factor '*Work Ethic*' shows with respect to First year the mean score was (14.77 ± 3.42), with respect to Second year the mean score was (15.89 ± 2.89) and with respect to Third year the mean score was (16.09 ± 2.24).

Regarding the factor '*Communication Skills*' shows with respect to First year the mean score was (14.82 ± 3.65), with respect to Second year the mean score was (15.43 ± 2.77) and with respect to Third year the mean score was (16.20 ± 2.85).

Regarding the factor '*Career Management Skills*' shows with respect to First year the mean score was (14.83 ± 3.69), with respect to Second year the mean score was (15.48 ± 2.69) and with respect to Third year the mean score was (16.22 ± 2.92).

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Basic Literacy with Numeracy Skills* was found maximum among Second year, about *Critical Thinking Skills* it was found among third year, about *Leadership Skills* it was found among Second year, about *Management Skills* it was found among third year, about *Interpersonal Skills* it was found among third year, about *Information Technology Skills* it was found among third year and about *Systems Thinking Skills* it was found among third year, about *Work Ethic* it was found among third year, about *Communication Skills* it was found among third year and about *Career Management Skills* it was found among third year.

Further to test the significant difference between the mean score among the respondents with respect Year of Study the ANOVA is used and the result is also shown in table 6.4.5. Since the P value is less than 0.01 regarding *Critical Thinking Skills*, *Leadership Skills*, *Management Skills*, *Information Technology Skills*, *Communication Skills*, *Career Management Skills* and hence there is highly significant difference in the mean scores was found with respect to Year of Study regarding these Factors.

6.4.6 Institutions (Region) and Employability Skills

To study the effect of Institutions Region, the distribution of opinion regarding Distribution of skills according to Institutions Region is shown in the following table 6.4.6. It could be noted from the table 6.4.6 that regarding the factor '*Basic Literacy with Numeracy Skills*' shows with respect to East the mean score was (20.86 ± 2.73), with respect to West the mean score was (19.36 ± 3.90), with respect to North the mean score was (19.45 ± 2.96) and with respect to South the mean score was (19.31 ± 3.13). Regarding the factor '*Critical Thinking Skills*' shows with respect to East the mean score was (23.78 ± 2.90), with respect

to West the mean score was (23.21 ± 5.08), with respect to North the mean score was (23.49 ± 3.95) and with respect to South the mean score was (23.15 ± 3.51).

Regarding the factor '*Leadership Skills*' shows with respect to East the mean score was (21.24 ± 2.96), with respect to West the mean score was (20.16 ± 4.30), with respect to North the mean score was (20.49 ± 3.25) and with respect to South the mean score was (20.11 ± 2.93).

Regarding the factor '*Management Skills*' shows with respect to East the mean score was (15.90 ± 2.10), with respect to West the mean score was (15.44 ± 3.59), with respect to North the mean score was (15.78 ± 2.83) and with respect to South the mean score was (15.58 ± 2.42).

Regarding the factor '*Interpersonal Skills*' shows with respect to East the mean score was (16.90 ± 2.16), with respect to West the mean score was (16.60 ± 2.73), with respect to North the mean score was (16.34 ± 2.14) and with respect to South the mean score was (16.21 ± 2.32).

Table 6.4.6
Institutions (Region) and Employability Skills

	Institutions Region								ANOVA	p
	East		West		North		South			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Basic Literacy with Numeracy Skills	20.86 _b	2.73	19.36 _a	3.90	19.45 _a	2.96	19.31 _a	3.13	4.44	0.004**
Critical Thinking Skills	23.78	2.90	23.21	5.08	23.49	3.95	23.15	3.51	0.70	0.555
Leadership Skills	21.24	2.96	20.16	4.30	20.49	3.25	20.11	2.93	2.66	0.047**
Management Skills	15.90	2.10	15.44	3.59	15.78	2.83	15.58	2.42	0.51	0.679
Interpersonal Skills	16.90	2.16	16.60	2.73	16.34	2.14	16.21	2.32	2.06	0.104
Information Technology	14.46	2.79	14.07	3.50	14.71	2.54	14.71	2.64	1.28	0.279

Skills										
Systems Thinking Skills	14.76	2.39	14.66	2.82	14.12	2.86	14.54	2.50	0.78	0.503
Work Ethic	16.44	2.96	16.27	3.25	16.02	2.62	15.87	2.36	1.43	0.231
Communication Skills	16.46	2.81	16.20	3.56	15.82	3.27	15.94	2.87	0.77	0.509
Career Management Skills	16.36	2.71	15.80	3.88	16.14	3.37	15.99	2.90	0.43	0.731

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Information Technology Skills*' shows with respect to East the mean score was (14.46 ± 2.79), with respect to West the mean score was (14.07 ± 3.50), with respect to North the mean score was (14.71 ± 2.54) and with respect to South the mean score was (14.71 ± 2.64). Regarding the factor '*Systems Thinking Skills*' shows with respect to East the mean score was (14.76 ± 2.39), with respect to West the mean score was (14.66 ± 2.82), with respect to North the mean score was (14.12 ± 2.86) and with respect to South the mean score was (14.54 ± 2.50).

Regarding the factor '*Work Ethic*' shows with respect to East the mean score was (16.44 ± 2.96), with respect to West the mean score was (16.27 ± 3.25), with respect to North the mean score was (16.02 ± 2.62) and with respect to South the mean score was (15.87 ± 2.36).

Regarding the factor '*Communication Skills*' shows with respect to East the mean score was (16.46 ± 2.81), with respect to West the mean score was (16.20 ± 3.56), with respect to North the mean score was (15.82 ± 3.27) and with respect to South the mean score was (15.94 ± 2.87).

Regarding the factor '*Career Management Skills*' shows with respect to East the mean score was (16.36 ± 2.71), with respect to West the mean score was (15.80 ± 3.88), with respect to North the mean score was (16.14 ± 3.37) and with respect to South the mean score was (15.99 ± 2.90).

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Basic Literacy with Numeracy Skills* was found maximum among East, about *Critical Thinking Skills* it was found among East, about *Leadership Skills* it was found among East, about *Management Skills* it was found among East, about *Interpersonal Skills* it was found among East, about *Information Technology Skills* it was found among South and about *Systems Thinking Skills* it was found among East, about *Work Ethic* it was found among East, about *Communication Skills* it was found among East and about *Career Management Skills* it was found among East.

Further to test the significant difference between the mean score among the respondents with respect Institutions Region the ANOVA is used and the result is also shown in table 6.4.6. Since the P value is less than 0.01 regarding *Basic Literacy with Numeracy Skills*, *Leadership Skills* and hence there is highly significant difference in the mean scores was found with respect to Institutions Region regarding these Factors.

6.4.7 Nature of Institution and Employability Skills

To study the effect of Nature of Institution, the distribution of opinion regarding Distribution of skills according to Nature of Institution is shown in the following table 6.4.7. It could be noted from the table 6.4.7 that Regarding the factor ‘*Basic Literacy with Numeracy Skills*’ shows with respect to Private the mean score was (19.44 ± 3.04) and with respect to Government the mean score was (19.18 ± 4.27) . Regarding the factor ‘*Critical Thinking Skills*’ shows with respect to Private the mean score was (23.24 ± 3.54) and with respect to Government the mean score was (22.59 ± 4.49) .

Table 6.4.7 Nature of Institution and Employability Skills

Factors	Nature of Institution	N	Mean	SD	t	p
Basic Literacy with Numeracy Skills	Private	909	19.44	3.04	0.76	0.449
	Government	91	19.18	4.27		
Critical Thinking Skills	Private	909	23.24	3.54	0.73	0.465
	Government	91	22.95	4.49		
Leadership Skills	Private	909	20.22	2.92	0.57	0.572
	Government	91	20.03	4.36		
Management Skills	Private	909	15.64	2.42	1.50	0.133
	Government	91	15.22	3.38		
Interpersonal Skills	Private	909	16.28	2.32	-0.17	0.862
	Government	91	16.33	2.48		
Information Technology Skills	Private	909	14.69	2.65	-0.17	0.862
	Government	91	14.20	3.28		
Systems Thinking Skills	Private	909	14.53	2.53	-0.39	0.696
	Government	91	14.64	2.66		
Work Ethic	Private	909	15.98	2.39	1.41	0.160
	Government	91	15.59	3.30		
Communication Skills	Private	909	16.24	2.82	9.36	<0.001**
	Government	91	13.33	2.92		
Career Management Skills	Private	909	16.22	2.90	7.43	<0.001**
	Government	91	13.84	3.09		

* Significant at 5 %; ** Significant at 1 %

Regarding the factor '*Leadership Skills*' shows with respect to Private the mean score was (20.22 ± 2.92) and with respect to Government the mean score was (20.03 ± 4.36). Regarding the factor '*Management Skills*' shows with respect to Private the mean score was (15.64 ± 2.42) and with respect to Government the mean score was (15.22 ± 3.38). Regarding the factor '*Interpersonal Skills*' shows with respect to Private the mean score was (16.28 ± 2.32) and with respect to Government the mean score was (16.33 ± 2.48).

Regarding the factor '*Information Technology Skills*' shows with respect to Private the mean score was (14.69 ± 2.65) and with respect to Government the mean score was (14.20 ± 3.28) . Regarding the factor '*Systems Thinking Skills*' shows with respect to Private the mean score was (14.53 ± 2.53) and with respect to Government the mean score was (14.64 ± 2.66) .

Regarding the factor '*Work Ethic*' shows with respect to Private the mean score was (15.98 ± 2.39) and with respect to Government the mean score was (15.59 ± 3.30) . Regarding the factor '*Communication Skills*' shows with respect to Private the mean score was (16.24 ± 2.82) and with respect to Government the mean score was (13.33 ± 2.92) . Regarding the factor '*Career Management Skills*' shows with respect to Private the mean score was (16.22 ± 2.90) and with respect to Government the mean score was (13.84 ± 3.09) .

Thus, it is inferred from the above analysis that the maximum Opinion regarding *Basic Literacy with Numeracy Skills* was found maximum among Private, about *Critical Thinking Skills* it was found among Private, about *Leadership Skills* it was found among Private, about *Management Skills* it was found among Private, about *Interpersonal Skills* it was found among Government, about *Information Technology Skills* it was found among Private and about *Systems Thinking Skills* it was found among Government, about *Work Ethic* it was found among Private, about *Communication Skills* it was found among Private and about *Career Management Skills* it was found among Private.

Further to test the significant difference between the mean score among the respondents with respect Nature of Institution the ANOVA is used and the result is also shown in table 6.4.7. Since the P value is less than 0.01 regarding *Communication Skills*, *Career Management Skills* and hence there is no significant difference in the mean scores was found with respect to Nature of Institution regarding these Factors.

Regression Analysis - Competency Mapping to Enhance Employability Skills

The principal endeavour of this section is to explore the impact of Competency Mapping to Enhance Employability Skills. We have analysed the joint impact Course Content, Entrepreneurial course of action awareness and Annoying elements on Students Employability Skills.

Measurement of variables

Selection of variables which are the Course Content, Annoying elements, Entrepreneurial course of action awareness Students Employability Skills have been used to achieve the objectives of our study.

Empirical models

In order to test our proposition, regression analyses have been employed in the study. Under these circumstances, the following regression models are tested.

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3$$

Dependent variable Y = Students Employability Skills

Independent variables are X_1 = Course Content

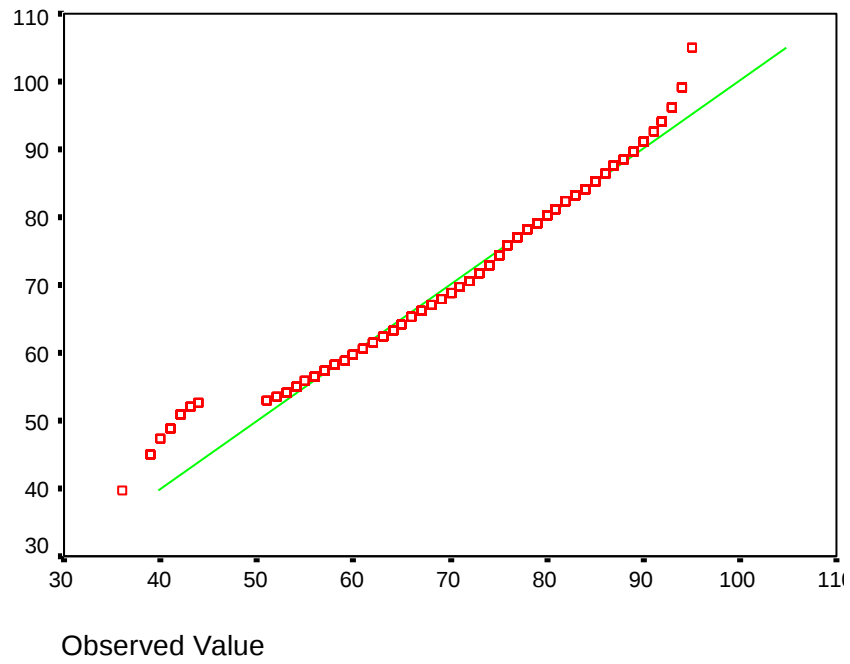
X_2 = Entrepreneurial course of action awareness

Empirical Analysis - Test of normality

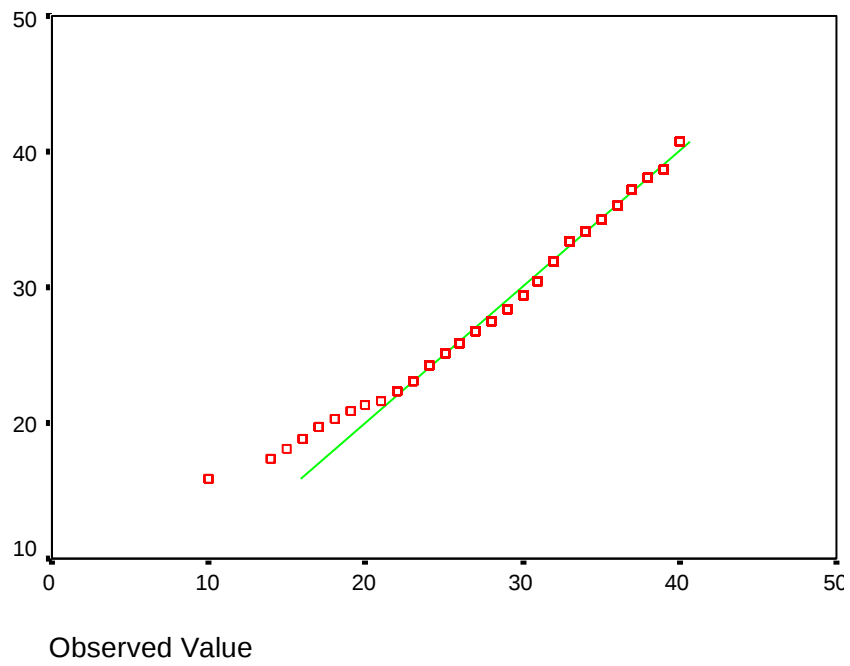
P-P Plots and Q-Q Plots are the two most common normality tests, which are being used for testing normality of a series of data. These Plots a variable's cumulative proportions against the cumulative proportions of normal distribution. Probability plots are generally used to determine whether the distribution of a variable matches a given (Normal) distribution. If the selected variable matches the test distribution, the points cluster around a straight line. Among these two, Q-Q Plots is used for testing normality and following figure shows the goodness of fit.

Null Hypothesis: The data fit normal distribution with respect to Students Employability Skills

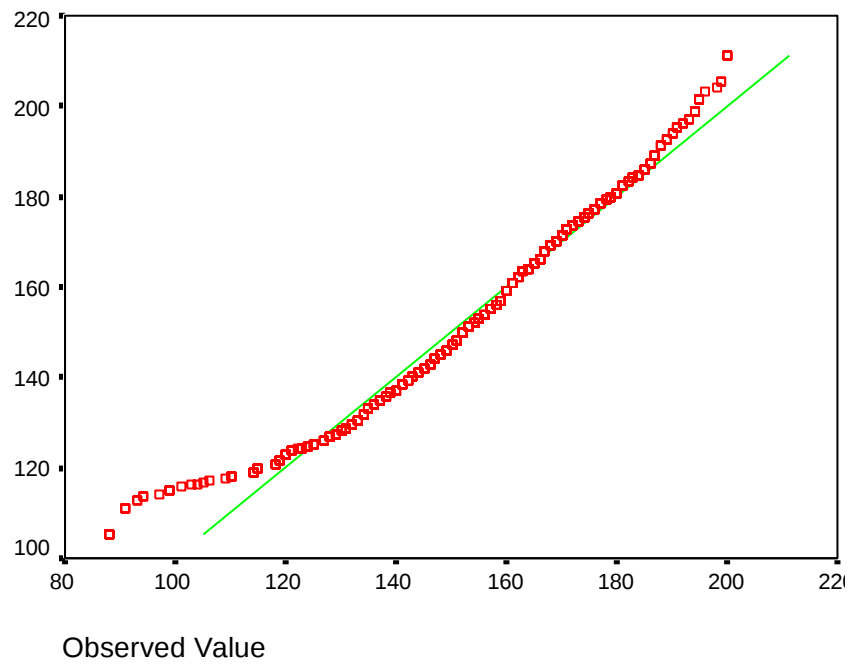
Normal Q-Q Plot of Course Content



Normal Q-Q Plot of Entrepreneurial course of



Normal Q-Q Plot of Student Employability sk



Correlation statistics

Correlation coefficient is computed from selected Course Content, Entrepreneurial course of action awareness and Annoying elements. In interpreting the results of Pearson's correlation, one should be careful, since the coefficients results are unable to present a dependable indicator of relationship in a way that organizes meant for supplementary independent variables. Moreover, analysis of easy and uncomplicated bi-variate correlation coefficients under a traditional matrix, do not consider the correlations between each selected variables and entire independent variables. It is for this reasons, our major investigation results will originates from suitable multivariate regression model.

Result in table 6.5.1 reveal Pearson's correlation analysis among all variables with respect to Students Employability Skills under investigation. It has been found that Competency Mapping to Enhance Employability Skills has a positive relationship with *Course Content, Entrepreneurial course of action awareness, and highly significant* (significant at 1%). The values below the diagonal representing the probability (p value) value showing the significance.

Table 6.5.1 Students Employability Skills – Pearson Correlation (r) for all variables

Pearson Correlation	Student Employability skills	Course Content	Entrepreneurial course of action awareness
Student Employability skills	1.000	0.637	0.385
Course Content		1.000	0.498
Entrepreneurial course of action awareness			1.000

** Correlation is significant at 1% level (Highly Significant).

Regression statistics

To examine the influence of Course Content, Entrepreneurial course of action awareness, Annoying elements on Students Employability Skills, the multivariate regressions analysis models are expressed in the general form as given in equation 1. Table 6.5.2 below gives the results of the regression analysis. In all regression models, standard errors are computed by means of White's general heteroscedasticity test. In cases where the White test statistic is statistically significant, heteroscedasticity may not necessarily be the cause, but specification errors. In other words, the White test can be a test of (pure) heteroscedasticity or specification error or both (Gujarati,et.al.,2012). As of our expectation, the Students Employability Skills increases with increase in Course Content, Entrepreneurial course of action awareness and decreasing Annoying elements.

Table 6.5.2 Regression of Students Employability Skills

Regression Model	Dependent Variable: STUDENTS EMPLOYABILITY SKILLS			
	Coefficients	SE	t	Sig.
(Constant)	59.718	3.834	15.576	0.000
Course Content	1.157	0.055	21.157	0.000
Entrepreneurial course of action awareness	0.369	0.114	3.225	0.001
R			0.642	
R ²			0.412	

Adjusted R ²			0.411	
SEE			15.520	
Durbin-Watson			1.809	

It is right away understandable from the R² values that the explanatory power of these models have been improved by using a firm specific intercept. In regression, the R² and adjusted R² explain 41.2 % and 41.1 % of the variation in Students Employability Skills. The Durbin-Watson value of 1.809 indicates the presence of positive serial correlation among the variables. This table shows the coefficients of the regression line. It states that the expected Acceptance level score is equal to

$$Y = 59.72 + 1.157X_1 + 0.369X_2$$

It is also examined the impact of all explanatory variables on Students Employability Skills the result of which are given in table 6.5.2. It has been observed that with one unit increase in *Course Content*, *Entrepreneurial course of action awareness* then *Students Employability Skills* increases by 1.157, 0.369 units respectively.

The multiple correlation coefficients between the dependent variable Students Employability Skills and the independent variables taken together is found be 0.642 which is higher. It signifies that the Students Employability Skills is highly responded by its environment measures indicators. It is also evident from the value of R² that 41.2 per cent of variation in Students Employability Skills is accounted by the joint variation of all explanatory variables taken together. These results certainly prove the better acceptance of model.

Structural Equation Model on Competency Mapping to Enhance Employability Skills of Arts and Science Students

Structural equation modeling is a statistical technique that combines elements of traditional multivariate models, such as regression analysis, factor analysis and simultaneous equation modeling. The Structural equation modeling approach is sometimes also called caused modeling because competing models can be postulated about the data and tested against each other many applications of Structural equation modeling can be found in the social sciences, where measurement error and uncertain casual conditions are commonly encountered. Structural equation modeling (SEM) is a statistical modeling technique that combines factor analysis and multivariate multiple regressions. Structural equation provides estimation of multiple and interrelated dependence relationship and the capacity to stand for unobserved concepts in these association and explanation for measurement error in the estimation process. The primary aim of SEM is to explain the model of a sequence of inter-related dependence associations simultaneously among a set of dormant (unobserved) constructs, each measured by one or more manifest (observed) variables. SEM is a multivariate technique which combines confirmatory factor analysis modeling from psychometric theory and structural equations modeling.

In order to recognize a right model for the sample data, fit indices have no single statistical test of significance. There are number of goodness of fit (GOF) indices with which to make comparisons, thus “fit should be evaluated from the standpoint of numerous fit statistics” (Campbell et al., 1995:6). The overall fit measures, the *goodness-of-fit statistic* (GFI), *adjusted goodness-of-fit statistic* (AGFI), *root mean squared residual* (RMR), and the *normed fit index* (NFI), are all useful measures in assessing the quality of the hypothesized measurement model. Absolute fit indices determine how well a priori model fits the sample data.

Structural equation modeling (SEM): Model fit assessment

Structural Equation Modelling was used to analyze the suitability of the model based upon the collected samples. As recommended by Anderson and Gerbing (1988), measurement model to test the reliability and validity of the survey instrument was analyzed first, and by using AMOS version 16 the structural model was analyzed. The structural equation model (SEM) is most useful when assessing the causal relationship between variables as well as verifying the compatibility of the model used. Structural equation modeling evaluates whether the data fit a theoretical model.

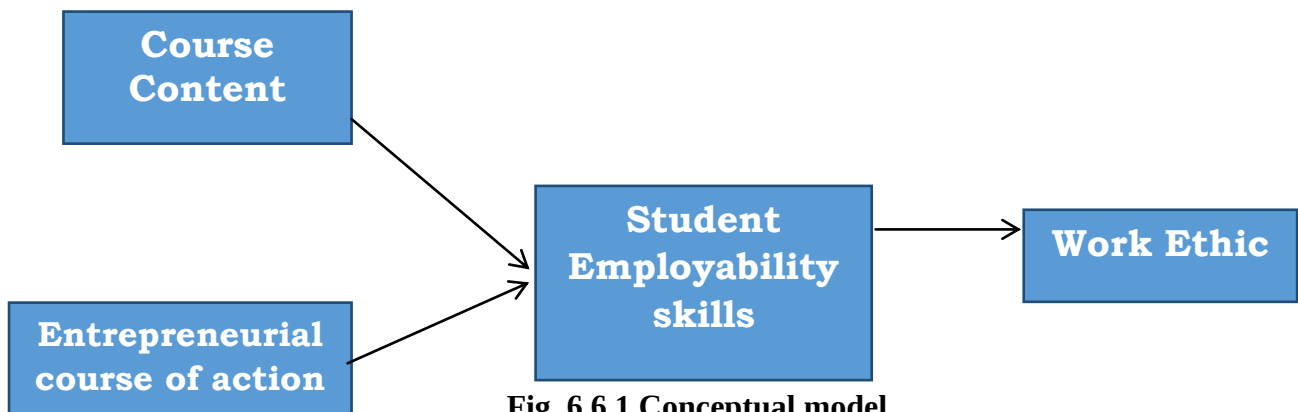


Fig. 6.6.1 Conceptual model

According to Bollen (1989a), the higher the probability associated with Chi-square, the closer the fit between the hypothesized model and the perfect fit. The test of our null hypothesis H_0 , that Occupational Stress is a four-factor structure as shown in Figure 1, yielded a chi-square value of 2.944 with 1 degrees of freedom and a probability of greater than 0.05. It is suggesting that the fit of the data to the hypothesized model is entirely adequate.

According to Barbara (2009), both the sensitivity of the Likelihood ratio test to sample size and its basis on the chi-square distribution, which assumes that the population (that is, H_0 is correct), have led to problems of fit are now widely known. According to Jöreskog and Sörbom (1993), chi-square statistic equals $(N-1) F_{min}$, (sample size-1, multiplied by the minimum fit function) this value tends to be substantial when the model

does not hold and when sample size is large. Barbara (2009) stated that, researchers have addressed the chi-square limitations by developing goodness-of-fit indices that take a more practical approach to the evaluation process. Hair et al. (1998) suggested the value for the fit statistic minimum discrepancy/degrees of freedom (CMIN/DF), otherwise chi-square/degrees of freedom as ≤ 5 . As per the Table 6, the value for the chi-square/degrees of freedom is 2.51 which is less than the accepted cut off value of ≤ 5 .

The variables used in the structural equation model are

Observed, exogenous variables

Student Employability skills

Work Ethic

Observed, exogenous variables

Course Content

Entrepreneurial course of action awareness

Unobserved, exogenous variables

e1 – Error variable relating to Student Employability skills

e2 – Error variable relating to Work Ethic

Hence number of variable in the SEM

Number of variables used in the model on Employability Skill	6
Observed variables:	4
Unobserved variables:	2
Exogenous variables:	4
Endogenous variables:	2

According to Garbing and Anderson (1992), the criteria for an acceptable model are as follows: The root mean square error of approximation enlightens us how the model, with unknown parameter estimates would fit the population covariance matrix (RMSEA) showing of 0.08 or lower; CFI of 0.90 or higher; and NFI of 0.90 or higher. The fit between the data and the proposed measurement model can be tested with a chi-square goodness-to-fit (GFI)

test where the probability is greater than or equal to 0.9 indicates a good fit. For the purpose of testing the model fit null hypothesis and alternative hypothesis are framed.

Hypothesis

Null hypothesis (H0): The hypothesized model has a good fit.

Alternate hypothesis (H1): The hypothesized model does not have a good fit

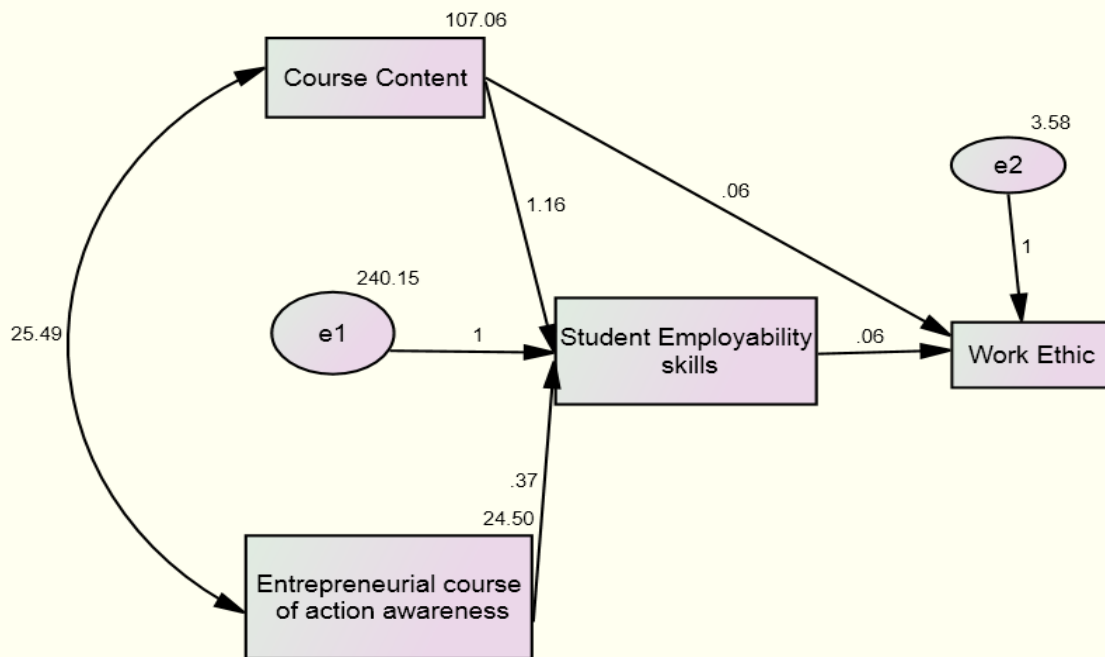


Fig. 6.6.2 Unstanderdised

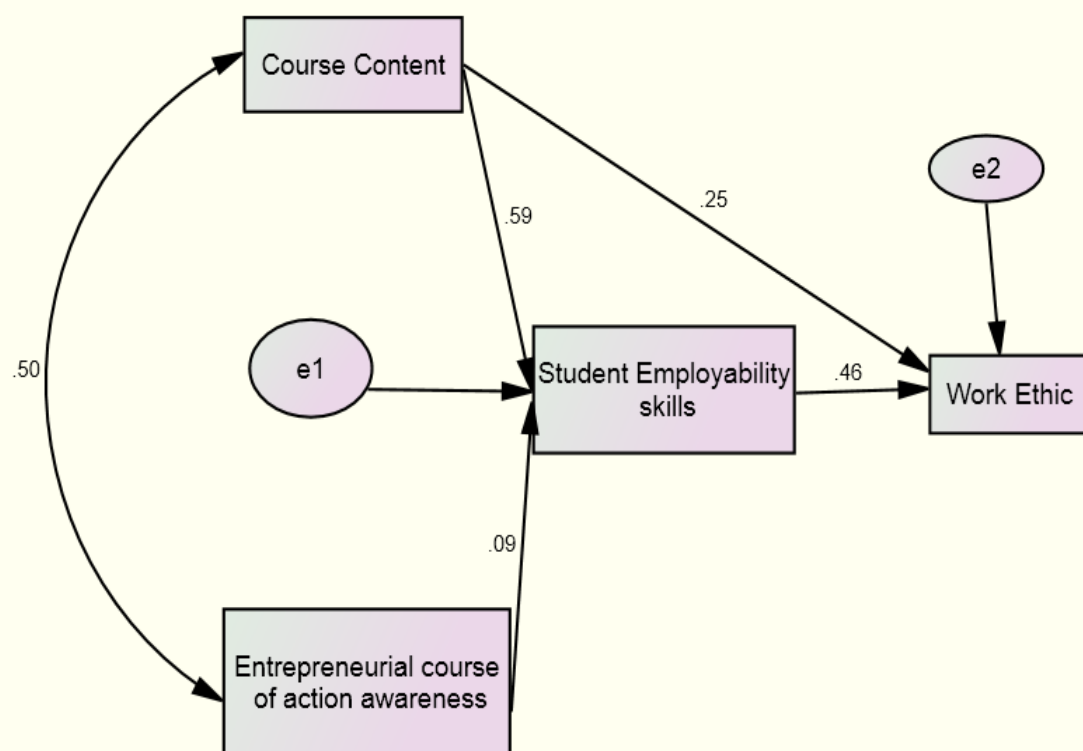


Fig. 6.6.2a-Standerdised

Significance tests of individual parameters

Table 6.6.1 shows the unstandardized and standardized coefficients and associated test statistics. The amount of change in the dependent or mediating variable for each one unit change in the variable predicting it is symbolized by the unstandardized regression coefficient. The Table 6.6.1 shows the unstandardized estimate, its standard error(abbreviated S.E.), and the estimate divided by the standard error (abbreviated C.R. for Critical Ratio). Under the column P, the probability value associated with the null hypothesis that the test is zero is exhibited. Table 6.6.1 also shows the standardized estimates for the fitted model. Relative contributions of each predictor variable to each outcome variable can be evaluated by standardized estimates.

Table 6.6.1-Regression Weights: (Group number 1 - Default model)

			Estimate				
			Un standardized	Standardized	S.E.	C.R.	P
Student Employability skills	<---	Course Content	1.157	0.592	0.055	21.178	***
Student Employability skills	<---	Entrepreneurial course of action awareness	0.369	0.09	0.114	3.228	0.001
Work Ethic	<---	Student Employability skills	0.056	0.459	0.004	14.676	***
Work Ethic	<---	Course Content	0.06	0.25	0.008	7.997	***

Level of significance for regression weight

The probability of getting a critical ratio as large as 21.178 in absolute value is less than 0.001. In other words, the regression weight Course Content in the prediction of Student Employability skills is significantly different from zero at the 0.001 level (two-tailed). The probability of getting a critical ratio as large as 3.228 in absolute value is less than 0.001. In other words, the regression weight for Entrepreneurial course of action awareness in the prediction of Student Employability skills is significantly different from zero at the 0.001 level. For large samples under suitable assumptions, these statements are approximately correct. Similarly the critical ratios for Student Employability skills is 14.676 respectively with probability of less than 0.001 (Highly Significant). Further the probability of getting a critical ratio are less than 0.001 (Highly Significant).

Here the co-efficient of **Course Content** is 1.157 represents the partial effect of Course Content on Student Employability skills holding Entrepreneurial course of action awareness as constant. The estimated positive sign implies that Student Employability skills would increase by 1.157 for every unit increase in Course Content and this co-efficient value is significant at 1% level.

The co-efficient of **Entrepreneurial course of action awareness** is 0.369 represents the partial effect of Entrepreneurial course of action awareness on Student Employability skills holding Course Content as constant. The estimated positive sign implies that Student Employability skills would increase by 0.369 for every unit increase in Entrepreneurial course of action awareness and this co-efficient value is significant at 1% level.

Further the co-efficient of **Student Employability skills** is 0.056 represents the partial effect of Student Employability skills on Work Ethic holding Course Content, Entrepreneurial course of action awareness as constant. The estimated negative sign implies that Work Ethic would increase by 0.056 for every unit decrease in Student Employability skills and this co-efficient value is significant at 1% level.

The co-efficient of **Course Content** is 0.06 represents the partial effect of Course Content on Work Ethic holding Entrepreneurial course of action awareness as constant. The estimated positive sign implies that Work Ethic would increase by 0.06 for every unit increase in Course Content and this co-efficient value is significant at 1% level.

To check the efficiency of the model fit certain efficiency criteria's are used and their results are given in the following Table 6.6.2. In order to evaluate the model, emphasis was given to Chi-square/degrees of freedom (χ^2/df), CFI, GFI, AGFI, TLI, IFI, The root mean square error of approximation (RMSEA) and PGFI (Table 6.6.2). Table 6.6.2 shows the estimates of the model fit indices from AMOS structural modeling. As per the result, Chi square statistics with $p = 0.086$ does show a good fit of the model developed above. From the above Table 6.6.2 it is found that the calculated p value is greater than 0.05 which indicates perfectly fit.

Common model-fit measures like chi-square/degree of freedom (χ^2/df), the comparative fit index (CFI), root mean square error of approximation (RMSEA), the normed fit index (NFI), incremental fit index (IFI), and the Tucker Lewis index (TLI) were used to estimate the measurement model fit. Here GFI (goodness of fit index) value and AGFI (Adjusted goodness of fit index) value is 0.985 which is greater than 0.9 which represent it is a good fit. The calculated CFI (Comparative fit index) value is 0.999 and that it is found that RMR (Root mean square residuals) is 0.139 and RMSEA (Root mean square error of approximation) value is 0.044 which is less than 0.10 which indicated it is perfectly fit.

Table 6.6.2 - Model fit summary

Variable	Value
CMIN	2.944
P value	0.086
GFI	0.999
AGFI	0.985
CFI	0.999
IFI	0.999
TLI	0.991
NFI	0.998
RMR	0.139
RMSEA	0.044
FMIN	0.003

The GFI of this study was 0.999 more than the recommended value of 0.90 the other measures fitted satisfactorily; TLI=0.991, IFI=0.999 and NFI=0.998 with $\chi^2/df = 2.944 < 5$ indicate a good absolute fit of the model. Goodness of fit indices support the model fit and these emphasized indices indicate the acceptability of this structural model.

CHAPTER V

SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION

This chapter summarizes the significant findings of the research, suggestions and conclusion. The chapter also presents the inferences for the data gathered, discussions made on the opinion of the respondents followed by verification of hypotheses. Based on the findings, recommendations are made to the practitioners to have better implementation strategy on competency mapping and improve the employability skills of the students.

Choice of the Topic chosen for the Research

Education is an essential competent in building a good society. Education system should be appropriate for a country, if it has to grow consistently. Proper education system enables the students to get good employment and contribute to the nation and the society. Competencies build by the students enhance their skills and get better employment and to perform their tasks in organisations through their knowledge. This study specifically focus on competency mapping and employability skills of the graduate students of arts and science colleges in Tamilnadu. The competency level of the students should be identified to train them for further improvement. As discussed in the previous section, most of the students are unemployable because of lack of placement skills. This study helps to identify the skill gap and the opinion of the placement trainers and employers on the employable skills of the students. The study has been identified to understand the skill set of the students that enhance the competencies and employability skills.

Focus

Graduates in colleges depends on institutions to enhance their knowledge and skills. This study understood the support rendered by the institution to get the employability skills in the perception of students, placement officers and placement trainers.

Problem Statement

The purpose of education is to impart knowledge which further leads to employment with the help of that knowledge. Favourable environment provided to the students enhance

their employability skills. There is need for understanding the perception of students on employability skills imparted to them in the educational institutions, employers' as well placement trainers' perception should also be considered to have better understanding on competencies and employability skills of the students. The technical and soft skills learnt by the students are measured and the opinion on students' competency is understood through the perception and opinion of the employers as well as placement trainers through this study. Opinion of the students on incorporating employability skills in the curriculum is understood and whether they are able to apply the knowledge is also studied through this research work. After a methodical inquiry of the existing literatures on competency mapping, employability skills expected by corporate and discussing the facts on students competency with academic experts the research questions are framed to this study.

Objectives of the Study

The objectives set for the study are as follows (i) to study the competency of the students of Arts & Science Colleges, (ii) to understand the relationship between the competence of the students and course content in arts and science colleges, (iii) to understand the perception of the managers on competencies of students of arts and college students, (iv) to understand the perception of the placement officers on students employability skills and (v) to study the relationship between the course content and employability skills.

Sources of Data

To understand the perception on competency mapping and employability skills, 1000 students, 50 managers of HR department who interview the students and 50 placement trainers were involved as respondents. The primary data collected were collected from these people.

Method of Data Collection

The emphasis of this research is to understand the perception of the students, HR managers and placement trainers towards the competency and employability skills. Data were collected

through primary and secondary sources. A structured questionnaire was framed and distributed to all the three category of people and data were collected. Secondary sources were used for verifying the previous research works conducted in the same area of studies and its significant outcome.

Instrument Validation

To test the validity of the questionnaire used, validity test was also performed. The statements / questions used in the questionnaire has fulfilled the requirement of content validity as well as item validity.

Instrument Reliability

Cronbach's alpha test was used to measure the reliability of the tool used. Cronbach's alpha value ($\alpha=0.798$.) calculated confirmed that the items used in the questionnaire is reliable. Therefore it is confirmed that the instrument used in the study. It indicated that the questionnaire used for the study is reliable.

Framework of Analysis

The data collected from Students, HR managers and Training managers were presented in a tabular form and suitable statistical tools like Percentage analysis, cross tabulation, chi-square, Mean, Standard Deviation, Friedman test, ANOVA, regression analysis, correlation and Structural Equation modelling were also used to interpret the data.

Findings

The major findings of the research is divided in to three sections. The study was conducted by gathering opinion from three perspectives. The HR Managers' perspectives on competency of the students, Training Managers perspectives and student's perspectives were recorded through the questionnaire. The major findings are as follows.

Section -1 HR Manager's Views on Competency of the Students

The distribution of sample of HR Managers participated in the study indicated that

- 80 percent of the Managers are from Medium / Large Companies and 20 percent of them are from Small companies.
- 32 percent of the managers participated in the survey are from manufacturing sector, 52 percent of the HR Managers are from service sector and 16 percent belong to other category.
- 14 percent of the managers belong to business level, 24 percent of them are working in corporate level and 62 percent belong to functional / operational level. The maximum percentage of the HR managers participated in the study are working in functional / operational level in the organisations.
- 48 percent of the HR Managers participated in the study are post graduates (48 percent) and 38 percent of them are graduates.
- 42 percent of the respondents (HR Managers) are having more than ten years of experience.
- The major percentage (88%) of respondents participated in the study are from the companies situated in urban area.

Findings on Students Employability Skills in HR Managers' Perspective

Students Employability Skills related to various skills viz. Communication, Team Work, Problem Solving, Initiative and enterprise, Self-Management, Technical Competency, Planning and Organizing in HR Managers' Perspective is analyzed and the major findings are discussed in this section.

Students Employability Skills on Communication skills

- 30 percent of the HR managers have agreed and 44 percent of them have strongly agreed that students have good Listening and understanding skills.
- 42 percent of the Managers have agreed and 40 percent of them have strongly agreed that students' ability on Speaking clearly and directly is good.

- 42 percent of the respondents have agreed and 20 percent of the respondents have strongly agreed that the skills of the students on writing to the needs of the audience are good.
- 48 percent of the HR managers have agreed and 16 percent of them have strongly agreed that students have good negotiation skills. 44 percent of the HR managers have agreed and 2 percent of them have strongly agreed that students have good language skills and 38 percent of the managers participated have a neutral opinion on the skills of the students.
- 52 percent of the managers have agreed and 22 percent of them have strongly agreed that students have the ability of Understanding of internal and external customers.
- 50 percent of the managers have agreed and 14 percent of them have strongly agreed that students have persuasive skills.
- 26 percent of the HR Managers participated in the study have agreed and 38 percent of them have strongly agreed that students possess the ability of Establishing and using networks.
- 44 percent of the managers have agreed and 14 percent of them have strongly agreed that students are assertive and have the skills of sharing skills effectively.
- 42% of the HR managers agreed that students possess the skills of speaking clearly and directly, writing to the needs of the audience, negotiating responsively, other than English language skills, understanding internal and external customers, persuading effectively, being assertive and sharing information and they have strongly agreed that they have the skills of Listening & understanding and establishing and using networks.

- Managers participated in the study have opined 44 percent of the students have listening & understanding, speaking clearly and directly and establishing & using networks are the top three communication skills students possess.
- Simulation exercises of bring the corporate environment to the classrooms will give corporate exposure to the students and also enhances their confidence.

Students Employability Skills on Team Work

- 36 percent of the HR managers participated in the study agreed, and 26 percentage of them strongly agreed that students have the ability of working across different culture and 26 percent of them have a neutral opinion on it.
- 44 percent of the managers have agreed and 30 percent of them have strongly agreed that students have the competency of working as individuals as well as in the team.
- 38 percent of the respondents have agreed and 20 percent of the respondents have strongly agreed students have the potential of knowing how to define their roles as part of the team.
- 46 percent of the respondents have agreed and 24 percent of them have strongly agreed that students can apply team work skills at various situations.
- 32 percent of the managers participated in the study have agreed and 28 percent of them have strongly agreed that students have the ability to identify the strengths of their team members.
- 36 percent of the managers have agreed, 24 percent of them have strongly agreed and 22 percent of them have neutral opinion that students have coaching and mentoring abilities.
- HR Managers participated in the study felt that most of the students have the skill of working as an individual as well as member of a team, Establishing and using networks and applying team work skills at various situations regarding the team work skills of the students.

Students Employability Skills on Problem Solving

- 40 percent of the HR managers participated in the study have agreed and 26 percent of them have strongly agreed that students have the ability of developing creative and innovative solutions for the problems they face in work place.
- 42 percent of the Managers have agreed and 16 percent of them respondents have strongly agreed that students have the ability of solving problems independently.
- 48 percent of the Managers have agreed and 18 percent of them have strongly agreed that students are able to apply a range of strategies to solve the problems they encounter.
- 36 percent of the Managers have agreed and 14 percent of them have strongly agreed that students have the ability to use numeracy in various industry aspects.
- 40 percent of the Managers have agreed and 18 percent of them have strongly agreed that students have the ability to apply the strategies to solve various types of problems.
- 50 percent of the Managers have agreed and 18 percent of them have strongly agreed that students have the competency of resolving customers' complex issues.
- HR managers participated in the study opined that developing creative & innovative solutions, Applying a range of strategies to problem solving and solving any kind of problems independently are the top three problem solving skills students possess.

Students Employability Skills on Initiative and enterprise

- 44 percent of the HR Managers have agreed and 26 percent of them have strongly agreed that students have the ability to adapt to new situations.
- 32 percent of the Managers have agreed and 20 percent of them have strongly agreed that students have the ability to develop a strategic, creative, long term vision.
- 50 percent of the Managers have agreed and 18 percent of them have strongly agreed that students have the competency of resolving customers' complex issues.

- 44 percent of the Managers have agreed and 20 percent of them have strongly agreed that students have the ability to be creative in workplace.
- 28 percent of the HR Managers have agreed and 20 percent of them have strongly agreed that students can identify the opportunities that are not obvious to others
- 34 percent of the Managers have agreed and 16 percent of them have strongly agreed that students have the ability of generating a range of options on their own.
- 50 percent of the Managers participated in the study have agreed and 28 percent of them have strongly agreed that students have the skills of taking initiatives to find innovative solutions for the problems they encounter.
- Most of the HR managers participated in the research study opined that students have the skills of taking initiatives to find innovative solutions, adapting themselves to new situations and being creative towards enterprise.

Students Employability Skills on Self-Management

- 56 percent of the HR Managers have agreed and 22 percent of them have strongly agreed that students are having a personal vision and goals towards their career.
- 48 percent of the HR Managers have agreed and 24 percent of them have strongly agreed that students have the ability of Evaluating & monitoring their own performance.
- 50 percent of the HR Managers have agreed and 26 percent of them have strongly agreed that students have knowledge & confidence to execute their own ideas and visions.
- 38 percent of the HR Managers have agreed and 32 percent of them have strongly agreed that students have the skills of articulating their own ideas and visions.
- 34 percent of the HR Managers have agreed and 36 percent of them have strongly agreed that students they interviewed have the ability of accepting and taking responsibilities.
- Most of the HR managers participated in the research study opined that students are having a personal vision and goals, taking responsibility and the skills of articulating own ideas and visions.

Students Employability Skills on Technical Competency

- 30 percent of the HR Managers have agreed and 22 percent of them have strongly agreed that students have a range of basic IT skills.
- 30 percent of the Managers participated in the survey have agreed and 20 percent of them have strongly agreed that students have the competency of applying IT as a management tool.
- 36 percent of the Managers have agreed and 12 percent of them have strongly agreed that students use Information Technology to organize data.

- 56 percent of the Managers have agreed and 26 percent of them have strongly agreed that students are willing to learn new skills that are related to information technology.
- Majority of the managers have agreed that students are having the capacity to apply their technical skills.
- Out of the six technical skills considered, Managers have agreed that students' willingness to learn new IT skills, possessing physical capacity to apply technology and having a range of basic IT skills are the top three competencies have.

Students Employability Skills on Planning and Organizing

- 48 percent of the HR Managers participated in the study have agreed and 28 percent of them have strongly agreed that students can managing time and priorities and they are capable of setting time lines to complete their tasks.
- 42 percent of the Managers participated in the survey have agreed and 30 percent of them have strongly agreed that students are capable of being resourceful.
- 46 percent of the Managers have agreed and 26 percent of them have strongly agreed that students have the ability of taking initiatives and making decisions.
- 42 percent of the respondents have agreed and 14 percent of them have strongly agreed that students can adapt resource allocations to cope with contingencies.
- 44 percent of the Managers have agreed and 16 percent of them have strongly agreed that students can establish clear project goals and deliverables.
- 42 percent of the Managers participated in the survey have agreed and 16 percent of them have strongly agreed that students have the ability to allocate people and other factors to tasks.
- 42 percent of the Managers have agreed and 12 percent of them have strongly agreed that students have the ability of planning the use of factors including time management.

- 44 percent of the respondents have agreed and 22 percent of them have strongly agreed that students have the ability of continuously improve and plan the process they encounter.
- 52 percent of the Managers participated in the survey have agreed and 18 percent of them have strongly agreed that students have the ability of developing a vision and a proactive plan to accompany it.
- 38 percent of the Managers participated in the survey have agreed and 16 percent of them have strongly agreed that students can predict risks and evaluate alternatives.
- 48 percent of the Managers have agreed and 22 percent of them have strongly agreed that students have the skills of collecting, analyzing and organizing information.
- Out of the eleven planning and organising skills considered, Managers have agreed that students' being resourceful, Time management skills and taking initiatives and ability to take decisions are the top three competencies have.

Results of the Hypothesis

In this section the results of the hypothesis on students Employability Skills and the demographic variables of Training Managers participated viz. size of the company, nature of the industry, company Location, designation, education and experience was tested.

Section - 2 Trainers and Placement officers' views on Competency of the Students

Students Employability Skills with respect to demographic variables of Trainers

- Training managers from Small scale companies opined that communication skills, problem solving skills, Initiative and enterprising skills, technical skills, planning and organizing skills are good in students. Managers from medium and large scale companies felt that Team work skills are better in students.
- There is no significant difference between the opinion of managers working in different size of company and the employability skills viz. communication, team

work, problem solving, initiative and enterprise, self-management, technical competency, planning and organizing skills.

- Training managers from manufacturing sector opined that communication skills, problem solving skills, Initiative and enterprising skills, planning and organizing skills are good in students. Managers from Service sector felt that Students' self-management skills and Technical competencies are good.
- There is no significant difference between the opinion of managers working in different sectors and the employability skills of the students.
- Training managers from Urban Localities opined that communication skills, self-management skills and Technical competencies, Initiative and enterprising skills, planning and organizing skills are good in students. Managers from Semi-Urban area felt that Students' problem solving skills are good.
- There is a significant difference between the opinion of managers working in different localities (Urban & Semi-Urban) and the employability skills of the students.
- Training managers working at business level opined that communication skills, Team work skills, problem solving skills, Initiative and enterprising skills, planning and organizing skills are good in students. Managers working at corporate level felt that Students' self-management skills and Technical competencies are good.
- There is a significant difference between the opinion of managers working at various levels and the employability skills of the students.
- Training managers having less than five years of experience opined that communication skills, Team work skills, problem solving skills, self-management skills Initiative and enterprising skills, planning and organizing skills Technical competencies of students are good.

- There is a significant difference between the number of years of experience managers have and the employability skills of the students.

Findings on Students Employability Skills in Placement officers' Perspective & Trainers Perspective

Students Employability Skills related to various skills viz. Cognitive skills, content skills, process skills and social skills in Placement officers and Trainers perspective is analyzed and the major findings are discussed in this section.

- *Exposure* - 74 percent of the trainers have exposure as national trainer and 26 percent of them have International exposure. Majority of the trainers participated as respondents in the study have national exposure.
- *Education* – 32 percent of the trainers participated in the study are undergraduates, 34 percent of them are postgraduates and 34 percent of them are above postgraduates. Majority of the respondents are postgraduates.
- *Income* – 20 percent of the trainers have an income upto 3 lakhs, 44 percent of the trainers' income is 3 to 6 lakhs and 36 percent earn above 6 lakhs per annum. Majority of them earn 3 to 6 lakhs per year.
- *Experience*– 30 percent of the trainers have work experience less than 5 years, 38 percent of them have 6 to 10 years of experience and 32 percent of them have above 10 years. Majority of the respondents have 6 to 10 years of experience.

Trainers' opinion on Students' Cognitive Skills

- 46 percent of the trainers participated in the study have opined that students' cognitive flexibility is above average and 22 percent of them stated that it is excellent.
- 58 percent of the trainers have opined that students' logical reasoning abilities are above average and 24 percent of them stated as excellent.
- 48 percent of the trainers have opined that students' sensitivity to problems are above average and 24 percent of them stated as excellent.

- 44 percent of the trainers have opined that students' capacity to visualize data are above average and 20 percent of them stated that the skills are excellent.
- 30 percent of the trainers have opined that students' positive attitude in every aspect is above average and 58 percent of them stated as excellent.
- In-Toto, majority of the respondents opined that students' Cognitive flexibility, Logical reasoning, Problem sensitivity, Data visualization skills are above average and their positive attitude is excellent.

Trainers' opinion on Students' Content Skills

- 26 percent of the trainers participated in the research have opined that students' have the skills of actively participating in learning attitude in every aspect is above average and 54 percent of them stated as excellent.
- 30 percent of the trainers stated that students are involvement in practical and assignment work are above average and 46 percent of them stated as excellent.
- 38 percent of the trainers participated in the research have opined that students' programming proficiency skills is above average and 28 percent of them stated that it is excellent.
- 50 percent of the trainers have opined that students' oral expression is above average and 48 percent of them stated as excellent.
- 40 percent of the trainers have agreed that students' comprehension skills is above average and 44 percent of them agreed that it is excellent.
- 48 percent of the trainers have opined that students' written expression is above average and 34 percent of them stated as excellent.
- 52 percent of the trainers have opined that students' self-confidence and thinking out of the box is above average and 34 percent of them agreed that it is excellent.
- 48 percent of the trainers have opined that students' self-motivation and hard work is above average and 44 percent of them stated as excellent.

- 60 percent of the trainers have opined that students' participation towards seminars and conference is above average and 10 percent of them stated as excellent.
- 56 percent of the trainers have opined that students' soft skills, technical skills and ICT skills are above average and 18 percent of them stated as excellent.
- Out of the ten content skills considered, trainers have agreed that students' Oral expression, Self-motivation skill & hard work and Active learning are the top three competencies students have.

Trainers' opinion on Students' Process Skills

Majority of the trainers have agreed that active listening, critical thinking, monitoring self and others, actively participating placement training workshops, aptitude and reasoning, contemporary design and application their domain, curiosity of industry interface, current affairs acquaintance, interview and ethics, managerial skills and emerging projects initiative skills are above average and teamwork skills are Excellent.

- Out of the eleven Process Skills considered, trainers have agreed that students' Teamwork competence, Active listening and Monitoring self & others are the top three competencies students have.

Trainers' opinion on Students' Social Skills

- Majority of the Trainers' opined that students' Emotional intelligence, Professional ethics and moral values, Accepting differences of opinion, following the directions of superiors, patience, Resolving conflicts, accepting criticisms are above average.
- Out of the seven Social Skills considered, trainers have agreed that students' Professional ethics & moral values, patience and Accepting differences of opinion are the top three competencies students have.
- Placement trainers participated in the study felt that students having good social skills and their process skills are low out of five skills considered.

Results of the Hypothesis

In this section the results of the hypothesis on students Employability Skills and the demographic variables of Trainers participated viz. Nature of trainer, Education, Income in lakh per year, Experience in year was tested.

Students Employability Skills and Trainers Profile

- Trainers having both national and international exposure were involved in the study. International trainers felt students are having cognitive skills, content skills, process skills, social skills are good.
- Results of the hypothesis indicated that there is a significant difference Nature of trainer and students' employability skills.
- Trainers with post-graduation as their qualification felt that students are having good cognitive skills, content skills and social skills and trainers with professional qualification felt that process skills are good among students.
- Results of the hypothesis indicated that there is significant difference educational qualification of the trainers and employability skills of the students.
- Trainers earning more than six lakhs felt that all the four skills viz. cognitive skills, content skills, process skills, social skills students possess are good.
- Results of the hypothesis indicated that there is no significant difference trainers' income and employability skills of the students.
- Trainers having above ten years of experience felt that students' cognitive skills are good and trainers having six to ten years of experience felt that students' content skills, process skills and social skills are good.
- Results of the hypothesis indicated that there is significant difference trainers' experience and employability skills of the students.

Section -3 Students perception on Competency Mapping in Arts and Science Colleges

Demographic details of Students Participated in the Study

- 24 percent of the students participated in the study as respondents are male and 76 percent of them are female. Majority of the participants are female students.
- Majority of the students participated belong to the age group between 17 and 20 years.
- 71 percent of the sample size are from arts Stream and 29 percent of them are from science stream. Majority of the participants belong to Arts background.
- 42 percent of the students participated in this survey were studying BSc.
- Majority of the students (78 percent) were studying in final year.
- 81 percent of the students belong to the southern part of the state.
- Majority of the institutions covered to collect the sample are private institutions (91 percent).
- Majority of the students (69 percent) are Hindus, 19 percent of them are Muslims and 13 percent of them are Christians.
- Majority (68 percent) of the students have chosen their institute based on reputation, 26 percent to get job oriented education and 6 percent to get the benefit of scholarship.

Students' Perception on their Basic Literacy with Numeracy Skills

This section discusses the significant findings on students' perception on their basic literacy with numeracy skills.

- 53 percent of the students participated in the study have agreed that they can perform basic computations and they can approach practical problems easily and 19 percent of them strongly agreed.
- 53 percent of the students have agreed that they can organize basic ideas and communicate properly and 24 percent of them have strongly agreed for the same.

- 52 percent of the students have agreed that they can organize basic thoughts, ideas, and messages in writing /create documents and 25 percent of them strongly agreed
- 55 percent of the students have agreed that they can receive, attend to, interpret, and respond to basic verbal messages/cues and 21 percent of them have strongly agreed.
- 52 percent of the students have agreed that they can organize basic thoughts, ideas & messages in writing /create documents, 20 percent of them strongly agreed and 21 percent of them are having a neutral opinion.
- Majority of the students have agreed that they can perform basic computations & approach practical problems, organize basic ideas, communicate properly, organize basic thoughts, ideas & messages in writing /create documents, receive, attend to, interpret, and respond to basic verbal messages/cues, ability to locate, understand, interpret graphs & schedules.
- Out of five factors considered, students perceived that organizing basic thoughts, ideas, and messages in writing /creating documents, organizing basic ideas; communicating properly, receiving, attending to, interpreting & responding to basic verbal messages/cues are the top three skills they have.

Students' Perception on their Critical Thinking Skills

This section discusses the significant findings on students' perception on their critical thinking skills.

- 52 percent of the students participated as respondents have agreed that they can generate new ideas and 27 percent of them strongly agreed.
- 57 percent of the students have agreed that they can clearly set goals & handle constraints by generating alternative new ideas and 17 percent of them strongly agreed.
- 55 percent of the students have agreed that they can recognize problems, devise & implement a plan of action and 19 percent of them strongly agreed.

- 50 percent of the students have agreed that they can organize & process symbols, pictures, graphs, objects and other information and 21 percent of them strongly agreed.
- 51 percent of the students have agreed that they can acquire & apply new knowledge & digital sources and 20 percent of them strongly agreed.
- 53 percent of the students have agreed that they can resolve relationship between two or more objects /solving a problem, 21 percent of them strongly agreed and 20 percent are having neutral opinion on the same.
- Majority of the students have agreed that they have critical thinking skills considered for the study.
- Out of six critical thinking factors considered, students perceived that generating new ideas, resolving relationship between two or more objects / solving a problem and recognizing problems, devising & implementing a plan of action are the top three skills they have.

Students' Perception on their Leadership Skills

This section discusses the significant findings on students' perception on their Leadership Skills.

- 50 percent of the students participated in this research have agreed that they can exert a high level of effort and persevere toward goal attainment and 28 percent of them strongly agreed.
- 40 percent of the students have agreed that they believe in their own self-worth and maintain a positive view of themselves and 44 percent of them strongly agreed.
- 46 percent of the students have agreed that they can set personal goals, monitor progress and take responsibility for their actions and 37 percent of them strongly agreed.

- 54 percent of the students have agreed that they can choose ethical courses of action and 22 percent of them strongly agreed for the same.
- 56 percent of the students have agreed that they can communicate ideas to justify positions, procedures and policies and 23 percent of them strongly agreed.
- Majority of the students have agreed that they can exert a high level of effort and persevere toward goal attainment, can set personal goals, monitor progress & take responsibility for their actions, choose ethical courses of action, communicate their ideas to justify positions, procedures & policies about majority of them have strongly agreed that they can believe in my their self-worth and maintain a positive view of themselves.
- Out of five leadership skills considered, students perceived that believing in their own self-worth and maintain a positive view of themselves, setting personal goals, monitoring progress and taking responsibility for their actions and exerting a high level of effort and persevering toward goal attainment are the top three leadership skills they have.

Students' Perception on their Management Skills

This section discusses the significant findings on students' perception on their Management Skills.

- 53 percent of the students participated as respondents have agreed that they can select goal-relevant activities, allocate time, prepare and follow schedules and 26 percent of them strongly agreed.
- 49 percent of the students have agreed that they can prepare budgets, make forecasts and make adjustments to meet objectives and 21 percent of them strongly agreed.
- 55 percent of the students have agreed that they can acquire, store, allocate & use materials or space efficiently and 20 percent of them strongly agreed for the same.

- 55 percent of the students have agreed that they can assess skills & distribute work accordingly and evaluate performance and 23 percent of them strongly agreed.
- Out of four management skills considered, students perceived that selecting goal-relevant activities, allocating time, preparing and following schedules, assessing skills and distributing work accordingly and evaluating performance and acquiring, storing, allocating & using materials or space efficiently are the top three management skills they have.

Students' Perception on their Interpersonal Skills

This section discusses the significant findings on students' perception on their Interpersonal Skills.

- 44 percent of the students participated as respondents have agreed that they can contribute to group efforts and help others to learn and 42 percent of them strongly agreed.
- 49 percent of the students have agreed that they can prepare budgets, make forecasts and make adjustments to meet objectives and 21 percent of them strongly agreed.
- 54 percent of the students have agreed that they can I work in the direction of resolve divergent interests, 18 percent of them strongly agreed and 25 percent of them are having neutral opinion on the same.
- 44 percent of the students have agreed that they can work well with different gender from diverse backgrounds and 34 percent of them strongly agreed.
- 45 percent of the students have agreed that they can demonstrate understanding, friendliness, adaptability and empathy and 36 percent of them strongly agreed.
- Out of four Interpersonal skills considered, students perceived that contributing to group efforts and helping others to learn, understanding, being friendly, adaptability

and empathy and working well with different gender from diverse backgrounds are the top three interpersonal skills they have.

Students' Perception on their Information Technology Skills

This section discusses the significant findings on students' perception on their Information Technology Skills.

- 55 percent of the students participated as respondents have agreed that they can understand overall procedures for the setup and operation of equipment and 15 percent of them strongly agreed.
- 47 percent of the students have agreed that they can solve problems any information communication and other technology and 14 percent of them strongly agreed.
- 51 percent of the students have agreed that they can organize computerized records and other forms of information and 16 percent of them strongly agreed.
- 41 percent of the students have agreed that they can demonstrate some proficiency with standard software and 14 percent of them strongly agreed.
- Out of four Information technology skills considered, students perceived that understanding overall procedures for the setup and operation of equipment, organizing computerized records and other forms of information and solving problems any information communication & other technology are the top three interpersonal skills they have.

Students' Perception on their Systems Thinking Skills

This section discusses the significant findings on students' perception on their Information Technology Skills.

- 48 percent of the students participated as respondents have agreed that they can understand how social, organizational, and technological systems work and 14 percent of them strongly agreed.

- 49 percent of the students have agreed that they can distinguish trends, and predict the impacts of actions on system operations and 10 percent of them strongly agreed.
- 49 percent of the students have agreed that they feel they are capable to assess the efficient operation of social and technological systems and 12 percent of them strongly agreed and 30 percent of them have a neutral opinion.
- 49 percent of the students have agreed that they can understand the interaction and interrelationship of systems within an organization and 13 percent of them strongly agreed.
- Out of four system thinking skills considered, students perceived that understanding how social, organizational, and technological systems work, understanding the interaction and interrelationship of systems within an organization and feeling that they are capable of assessing the efficient operation of social and technological systems are the top three system thinking skills they have.

Students' perception on other skills

- Majority of the students agreed that they will maintain punctuality in attending meetings and events, capable of achieving organizational goals and personal goals independently and will respect organizational protocols and procedures.
- Majority of the students strongly agreed that they are able to communicate their intention, having good listening abilities, presenting assignments given to them and express their views in debates and group discussions.
- Majority of the students participated in the study strongly agreed that they always work hard to hone their job oriented skills, improving their aptitude along with studies and capable of communicating knowledge and actively involved in internships & projects.

Students' perception on Course Content

Majority of the respondents stated that course content contribute to get very less conceptual knowledge. They get more Leadership Qualities, Verbal/written communication skills, “Problem-solving skills, Strong work centric ethic, Analytical/Quantitative skills, Technical skills in various feature, New business initiative, Computer skills, Interpersonal skills, Organizational ability, Strategic planning skills, Entrepreneurial skills/Risk-taker, Tactfulness, Creativity, Innovative thinking skills & Communication skills through the course content and knowledge on ability to work in a team, Flexibility/Adaptability and Friendly/Outgoing personality.

- Out of nineteen factors considered to understand the contribution of course content on students' employability skills, it is observed that Friendly/Outgoing personality, ability to work in a team and flexibility / adaptability are the top three skills students acquire.
- Majority of the students agreed that they get the benefits on entrepreneurial course of action through their institutes and hone their skills.
- Out of eight factors considered to understand the students' entrepreneurial skills, acquired, it is observed that enjoying the work, the challenges and the people, accepting responsibility and accountability and building relationships inside & outside the company are the top three skills students acquire.
- Majority of the students participated in the research have agreed that they acquire interpersonal skills and systems thinking skills.

Results of the Hypothesis

In this section the results of the hypothesis on students Employability Skills and the demographic variables of Students participated viz. Age, Gender, Level of Education,

Occupation, Marital status, Family Type, Place of residence, Monthly Income, Family Size was tested.

Students Employability Skills and Students Profile

- Female students felt the benefit of acquiring literacy with numeracy skills, critical thinking skills, leadership skills, management skills, interpersonal skills, information technology skills and systems thinking skills. Male students felt the benefit of acquiring work ethics, communication skills and career management skills through the institute.
- There is a significant difference between Gender and employability skills acquired through the institutions.
- Male and female students have different skillset.
- Female students are hesitant to relocate for employment and sometimes they miss good opportunities by denying the employment offer.
- Managers participated in the study felt female students from rural background give importance to family and hesitate to relocate for employment reasons.
- Students of the age group between 17 and 20 felt the benefit of acquiring basic literacy with numeracy skills, critical thinking skills, leadership skills, management skills, interpersonal skills, information technology skills systems thinking skills and work ethics. Students above 20 years of age felt the benefit of acquiring communication skills and career management skills through the institute.
- There is a significant difference between the age group of the students and employability skills acquired through the institutions.
- Students of the Science stream felt the benefit of acquiring all the skills considered for the study than the arts students through the institute.

- There is a significant difference between the Course of study (Science & Arts students) and employability skills acquired through the institutions.
- Second year students felt the benefit of acquiring basic literacy with numeracy skill and third year students felt the benefit of acquiring critical thinking skills, leadership skills, management skills, interpersonal skills, information technology skills, systems thinking skills, Work Ethics, Communication Skills and Career Management Skills.
- Graduate students from urban areas don't prefer to continue their studies when they get good employment opportunity and the reason for continuing the studies is they get the same salary when they do their post-graduation also.
- There is a high significant difference between the year of study and the employability skills acquired by the students through the institutions.
- Students from the east zone felt the benefit of acquiring basic literacy with numeracy skills, critical thinking skills, leadership skills, management skills, interpersonal skills, systems thinking skills, work ethics, communication skills and career management skills. Students from south zone felt the benefit of acquiring Information Technology Skills through the institute.
- There is a high significant difference between institutions region (zone) and the employability skills acquired by the students through the institutions.
- There is no significant difference between nature of the institution (private & government) and the employability skills of the students.
- It has been found that Competency Mapping to Enhance Employability Skills has a positive relationship with *Course Content and Entrepreneurial course of action i.e.* the Students Employability Skills increases with increase in Course Content and Entrepreneurial course of action awareness.

- Structural equation modelling used for the purpose of the study confirmed that course content and entrepreneurial course of action enhance the employability skills of the students and also their work ethics.

SUGGESTIONS

This section presents the suggestions to improve upon employability skills of the students based on the significant findings discussed in the previous section. The suggestions are presented are based on the opinion of HR managers, Trainers & Placement officers and the perception of the students. The suggestions are as follows.

- Listening and understanding skills are good in students according to the opinion of the managers participated in the study, these skills are to be honed to make themselves ready for the placements.
- According to the managers students various skills viz. speaking, writing, negotiation etc. are above average, but they lack exposure to implement their skills. Institutions should provide them the platforms to express their skills to get more exposure by creating opportunities frequently. Holistic development in individual student is important than placement of the students. Both the sides (students / parents as well as institutions) should give importance to this.
- According to HR managers students overall communication skills are good, they need to develop it to enhance the employability skills.
- Social status of the students and their economic status play a role in deciding the institutions and exposure to academic activities.
- Students need to improve their assertiveness and share information with others effectively.
- Students have the ability of working across different cultures, various opportunities to work in different cultures through internships and other projects enable to implement the skills.

- HR managers felt that students have the capability of working as individuals, their team work skills are to be improved by giving group assignments and presentations.
- Students from urban areas are slightly having more exposure than the students from the rural section.
- Focusing only on academic skills is not sufficient to build employability skills, Course members should involve them.
- Students should further develop their potential to understand their roles clearly to improve their competency.
- Students are expected to improve their confidence to apply their skills at various situations to prove their ability.
- A swot analysis on every student should be made by the Course members to understand their strengths and weakness at regular interval will help the students to improve their employability skills.
- Students should be encouraged to learn online to improve their employability skills and develop the skills that required but classroom is the best place to get sustainable employability skills where they spend more time.
- Students should develop networking with senior students and corporate people when they do their internships and projects. Networking is an important skill in the digital world.
- HR managers felt that students are creative and that skills should be honed to improve the problem solving skills.
- Students should be made aware of the problems they encounter in their career to apply their innovative skills.
- Course members should exercise simulation in the classes to bring practical exposure to the students.

- Learning centred teaching enable the students to learn more and improve their placements and employability skills.
- Bringing industrial environment to the classes and laboratories by continuous interaction with industry.
- Academic environment should be provided to students to take initiative on entrepreneurship and incubation centres.
- Students should also be trained to evaluate and monitor themselves on their academic performance and skill enhancements.
- Communication skills, Decision making skills, Independent working skills, Information repossession skills, Leadership skills, Numerical Skills, Personal Learning Skills, Problem solving skills, Strategic functioning skills and Team work skills are the general skills students should develop to get employed and to perform better as per the expectations of the managers.
- Course members should interact with the HR managers frequently who come for campus placement to know more about the competency and employability skill of the students.
- HR managers from urban areas still expect more from the students. They expect the skills to be on par with urban students. More exposure and excellent communication skills will fill the gap between urban and semi-urban students.
- Emphasis should be given on improving the skills of the students in every subject rather than only focusing on imparting course content.
- Senior managers have high expectations from students, hence they should be trained to meet the expectations of the senior managers.
- Students are having the skills expected by the managers and they should be made aware of the strengths they have to boost their confidence to relocate from their native

place. Lack of confidence should be removed by counselling them on their competencies.

- Placement officers felt students have good cognitive skills, content skills and social skills. Application of these skills should be known to the students through the Course members and the trainers.
- Students should be encouraged to participate in training and workshops since they are in first year. Institutions should give importance to meet the requirements of the company and support them to get confidence when students attend interviews.
- Trainers with more experience and international exposure felt that students need more exposure to build their competencies. Their expectations are to be known by the Course members and it should be incorporated in the curriculum.
- Students participated in the study felt colleges are giving sufficient importance to enhance their skills, but they lack confidence to face the interview. Confidence building exercises are to be introduced to the students in the classroom from the beginning.
- Every step in the learning process is successful in providing a suitable calls room environment to the learners as well as the teachers. Colleges should provide an ambience that encourages learning and helpful for the teachers through the resources.
- Female students are possessing a different set of skills and male students are possessing different set of skills. The skill-gap should be identified and they should be trained based on customised approach. Introducing some certificate courses based on industry requirements will improve the competency of the students.
- Students who are lacking experience are not having much exposure compared to students with experience. This gap should also be removed by simulation exercises.

- Institutions should also encourage students exchange programs, fests and curriculum development by involving corporate executives to improve the competency of the students.
- Both science and arts stream students are in need of placements. Their skills set differ to face the interviews. Skill based training, soft skills, practical exposures are the areas to be concentrated to improve the competencies of the students.
- Private college students are having skills compared to students studying in government colleges. Course in government colleges should take initiatives to improve the placement skills of the students.
- Many students are good at their skills, orientation provided to the students towards their new assignments will give clarity to them to understand their jobs better and meet the expectations of the supervisors.
- Students can work in groups to bring placement opportunities to them by having continuous interaction with the industry by doing internships and mini-projects. This will improve the networking and the relationship with the industry.
- Understanding the challenges faced by the industry should be discussed in the classroom and by bringing the practitioner from the industry and discussing case studies to solve the issues and challenges with boost the image of the students in the minds of the corporate. Classroom culture should connect learners and corporate to remove the gaps.
- Institutions should also allocate some funds to improve the placement skills of the students.
- Giving freedom to Course members, placement trainers and students by allocating a budget to build the competency required by the industry will bring better results.

CONCLUSION

The purpose of this research work on competency mapping was to study the skills set of the students of arts & science colleges and also to study the opinion of HR managers, training managers and placement officers. The study also found the relationship between the course content and employability skills of the students. The study revealed that HR managers and training officers felt that students possess competency to boost the employability skills. Students are also getting support from the course content to improve their employability skills. This research is a threefold study that recorded the opinion of the HR managers, placement trainers as well as the perception of the students. A thorough analysis on various skills of the students were understood by getting the opinion of the above mentioned respondents. Students, HR managers and trainers have positive opinion about the skills and the training what students receive. Structural equation modelling has also confirmed that the course content enhance the employability skills of the students.

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EMPIRICAL STUDY ON COMPETENCY MAPPING AND EMPLOYABILITY SKILLS– A STUDENTS' PERSPECTIVE

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ABSTRACT

Competency mapping is a process of identifying the requisite talents to perform a task or role successfully in an organisation. The process of competency mapping acts as a platform to compare the present competency level of employees with the desired competencies to do a task effectively. This research study focused on six set of skills students should possess for their employment. Both primary and secondary data were used for the purpose of the study. Students' expectation from the institutions were also studied and recorded.

Keywords: Competency Mapping, Employability Skills, Competency Level Of Employees

INTRODUCTION

Competency Mapping is crucial in identifying the key strengths, skills and knowledge base of the students. Knowledge, skills set and attitude of the students should be measured in frequent intervals using competency mapping tools (Ruth, 2009). This will improve the readiness of the students for their placement. A competency map is a list of competencies that signify the factors that are essential for success of students in given job assignments that are part of their career plan. The word 'mapping' refers to comparison. Many educational institutions are using competency based training to train the students to get placed in organisations. Many graduates are unemployed and on the other hand jobs remain unfilled. Competency mapping helps to identify the strengths and weaknesses of the candidates and also enable them to understand themselves better and where their career building efforts need to be channelized. Competency based approach when compared to traditional job analysis gives a clear idea on the potential candidates. Increased cost of recruitment, human resources, training and retention of employees, have influenced to introduce and implement competency mapping in organisations. Good aptitude, logical thinking, problem solving skills, team work, soft skills and leadership are some of the skills fall into the three major categories of skills (Knowledge, Skill & Attitude).

Employability Skills

Employability skills are the skills and traits that are helpful for the employees to perform in organisations (Brown & Hesketh, 2004). Employability skills encompass technical skills as well as soft skills (Anupama, 2016). Generic skills apart than conceptual skills from curriculum through text books and class room learning help students to build their employability skills and enhance their placement opportunities. Generic skills refer to the skills students learn to behave and interact effectively with others. Employability skills are not skills that not exactly job specific, but they are the skills that are necessary for all industries and for all types of jobs from

entry level to chief executive officer (Blom & Saeki, 2011). The skills that are required not only to get a job, but also to perform the tasks effectively and progress in an organisation and contribute for the effective functioning of the firm. Sherer & Eadie (1987) specified that employers are generally having the opinion that students passing out from the universities are not having sufficient skills. They need to get and improve required skills to meet the needs of the business and help the enterprise to manage the cut throat global competition.

Graduates should have the ability to express what they mean to say in a clear and also in a concise manner. Spoken and written skills are important in the tech era. Listening, comprehending, acting upon key instructions are also significant in polishing their employability skills (Weligamage, 2005). Problem solving skills is another significant skill that will fetch them a good job and take them to a good position. Students should have the ability to apprehend a problem, identify the key issues related to the problems, find the implications and identify the possible solutions. Application of knowledge from different areas and solving the problems is essential. Converting ideas into reality, involvement and showing a strong personal drive and being a self-motivated person to tasks on their own without instructions.

Graduates with good employability skills work efficiently in complex work environment, effectively interact with customers, flexible with work and co-workers, team players and need less supervision (Cappelli, 2008). John Griffith, Joint Chairman, KPMG stated that businesses organisations, colleges and universities should put their efforts together to train young people and prepare them for the workplace and provide them the information on career choices available to them. A portfolio of skills that enhances the employability of the candidates has to be imparted to them when they are graduating from colleges or universities (Vinitaa & Santanu, 2018).

Role of Stake Holders in Developing Employability Skills

Universities, Colleges and Placement Departments have a significant role to play in developing the employability skills of the graduates. They should act as a bridge between educational institution and employer. The needs and expectations of the corporate are to be informed to the graduates to create awareness among them before the skills are developed. The transition from education to employment should be taken care by the educational institutions and universities by incorporating skills development modules in the curriculum itself. Gaps in skills vary from industry to industry (Rajasekaran & Rajasingh, 2009). Skills based learning should be given importance by changing the curriculum, experiential learning through projects and internships, improving the communication skills of the students through class room presentations, case discussions, group discussions, and role plays. Learning environment provided to the students should be favourable to the students to build their skills. Graduates of the present generation need lot of encouragement to take part in the placement training programmes, because they are not understanding the importance of developing those skills. Every programme and course should have a component to enhance the employability skills of the students.

RESEARCH METHODOLOGY

This research is descriptive and conceptual in nature and based on both primary and secondary data. 1000 students from various arts & science colleges all over Tamilnadu were contacted and data were collected from them. A well-structured questionnaire was framed and the primary data were collected from students. The study covered set of skills expected by the employers, college education in India and students' perspective on employability skills.

Set of Skills Expected By the Employers

Various studies have been referred by the researcher to have a better understanding on the employability skills that are expected by the employers. They are as follows

Table 1 SKILLS BASED ON EMPLOYERS' EXPECTATION	
Communication skills (both oral & written)	Working with Teamwork
Problem solving skills	Listening
Being Self-motivated	Learning skills
Taking Initiative	Technical skills
Planning	Work Ethics
Self-management	Determination

These skills are required along with the conceptual knowledge they get through the lectures in the higher educational institutions. Curriculum embedded with these skills improves the student's competency and prepare them to face the interview. For example, giving group assignments and group projects improve their teamwork skills, giving oral presentations and asking them to blog improves their oral and written communication skills.

College Education in India

India's college going age group population will reach 140 million by the year 2030. This can be considered a boon or huge strength to boost the economy of the country. By channelizing the strength properly, youth of our nation can rule the world economy. All this is possible by imparting right and future knowledge to contribute better in the workplace. By imparting world-class inputs to them through curriculum and right education system, which is possible? Higher education system in Universities of India still far behind the standards when compared to best universities of the world. According to the data of QS World University Rankings of the year 2016, only two Indian universities were included in the top 200 and only ten came in top 700. Poor enrolment of students and Faculty shortage are the reasons for the low performance. According to the survey conducted in 28 states and Union Territories by Wheebox, an assessment firm on communications on their numerical ability and logical thinking, and domain knowledge revealed that only 34 percent of the graduates are employable. The study also found that employability skills of students from Punjab, Haryana, Tamil Nadu, Odisha, Uttar Pradesh, Andhra Pradesh, Karnataka, and West Bengal are good, whereas the employability skills of the students from Jammu & Kashmir, Nagaland, Manipur, Meghalaya, Bihar and Jharkhand are poor. As per UGC website, there are 789 universities, 37204 colleges and 11443 stand-alone institutions in India, up to the year 2017. Figure 1 depicts the growth of higher educational institutes in India.

The growth should also be proved in quality of education. Educational institutions, teachers, Universities and graduates have the shared responsibility for the growth of employability skills as well as the growth of the nation. The purpose of education is to impart knowledge which further leads to employment with the help of that knowledge. Favourable environment at college / classroom enhance the employability skills of the graduates.

Students perception on their skills set was also analysed and the results are indicated on Table 2.

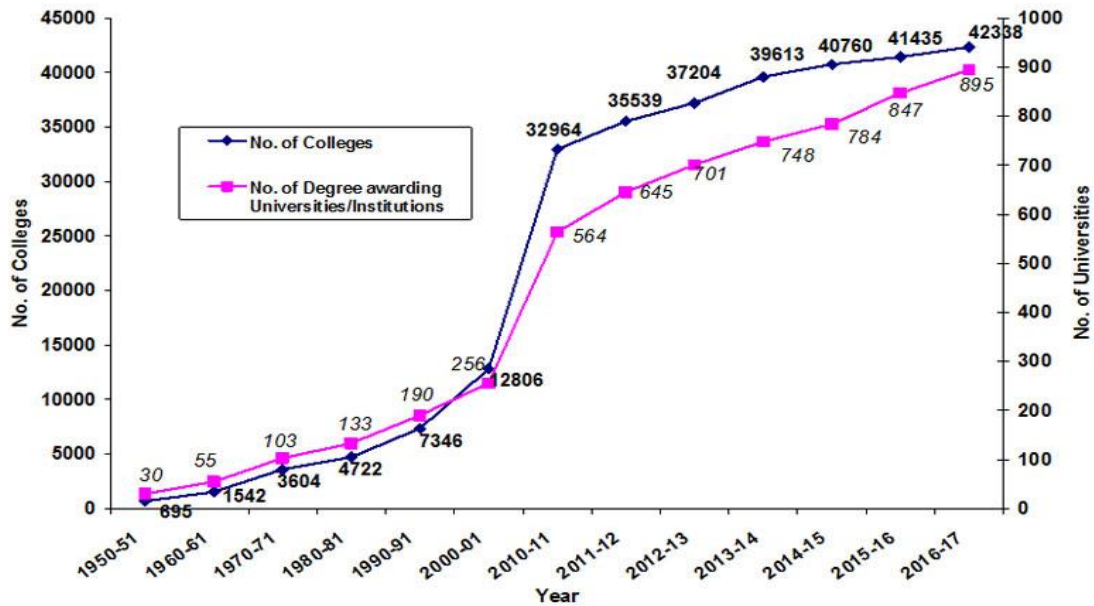


FIGURE 1
GROWTH OF EDUCATIONAL INSTITUTIONS IN INDIA

Table 2 indicates the competency mapping of skills based on students' perspective. Six major skills were considered and the top three traits in each skill were depicted in each category of skill based on the opinion of the students.

Table 2 COMPETENCY MAPPING OF SKILLS – STUDENTS' PERSPECTIVE			
STUDENTS SKILL SET	Mean	SD	Mean Rank
Management Skills			
Goal-relevant activities, time allotment, scheduling	3.93	0.88	2.5
Effective study resource management	3.87	0.81	2.48
Self-skill assessment & performance evaluation	3.93	0.83	2.56
Work Ethics			
Punctual to meetings and events	4.22	0.82	2.78
Ability to achieve goals independently	4.09	0.87	2.56
Respecting polices & procedures	3.95	0.85	2.38
Communication Skills			
Expressing needs clearly	4.03	0.95	2.45
Listening carefully	4.01	0.97	2.40
Activities participation in classroom discussions	4.02	0.96	2.56
Career Management Skills			
Aptitude skills	4.02	0.96	2.51
Expressing knowledge to the expectations	3.94	1.06	2.44

Active involvement in projects	4.16	0.95	2.68
Course Content			
Ability to work in a team	4.22	0.92	12.50
Flexibility/Adaptability	4.11	0.98	11.73
Friendly/Outgoing personality	4.25	0.94	12.60
Entrepreneurial course of action awareness			
Builds relationships inside and outside the company	3.99	0.95	4.85
Accepts full responsibility and accountability	4.01	0.94	4.87
Enjoys the work, the challenges and the people	4.30	0.80	5.67

Major findings on Students' Perception on their Skills

- Out of four management skills considered, students perceived that selecting goal-relevant activities, allocating time, preparing and following schedules, assessing skills and distributing work accordingly and evaluating performance and are acquiring, storing, allocating & using materials or space efficiently are the top three management skills they have.
- Out of nineteen factors considered to understand the contribution of course content on students' employability skills, it is observed that Friendly/Outgoing personality, ability to work in a team and flexibility / adaptability are the top three skills students acquire.
- 85 percent of the students agreed that they will maintain punctuality in attending meetings and events, capable of achieving organizational goals and personal goals independently and will respect organizational protocols and procedures.
- 70 percent of the students strongly agreed that they are able to communicate their intention, having good listening abilities, presenting assignments given to them and express their views in debates and group discussions.
- 67 percent of the students participated in the study strongly agreed that they always work hard to hone their job oriented skills, improving their aptitude along with studies and capable of communicating knowledge and actively involved in internships & projects.

Suggestions

This section presents the a few key suggestions to improve the employability skills of the students based on their perception on competency mapping.

- Students from urban areas are slightly having more exposure than the students from the rural section. Focusing only on academic skills is not sufficient to build employability skills, faculty members should involve them.
- Students should further develop their potential to understand their roles clearly to improve their competency. Students are expected to improve their confidence to apply their skills at various situations to prove their ability.
- A swot analysis on every student should be made by the faculty members to understand their strengths and weakness at regular interval will help the students to improve their employability skills.

- Students should be encouraged to learn online to improve their employability skills and develop the skills that required but classroom is the best place to get sustainable employability skills where they spend more time.
- Students should develop networking with senior students and corporate people when they do their internships and projects. Networking is an important skill in the digital world.

CONCLUSION

The purpose of this research study on competency mapping was to study the skills set of the students of arts & science colleges and also to study the opinion of the students on the skill set for employability. The study also found the relationship between the course content and employability skills of the students. Students participated in the study felt that they get enough support from the course content to improve their employability skills.

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IMPACT OF LEARNING OUTCOMES AND STUDENT EMPLOYABILITY SKILLS ON ATTITUDES OF HIRING ORGANIZATIONS

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ABSTRACT

Competency mapping is the procedure of recognizing the particular skills, awareness, talents, and behaviours necessary to drive successfully in a definite trade, occupation, or job designation. Competency maps are frequently discussed to as competency sketches or skill sketches. It is a scheme concentrated mainly on appraising the proficiencies of workforces in a controlled and duplicable technique. One such important objective is to increase cognizance of the contemporary talents record in the company, besides categorise prevailing proficiency gaps. This paper analyses the learning outcomes of various course contents and how it enhances the students' employability. The data was collected from 1000 students as sample for this study. With the help of various statistical techniques the data was analysed and interpreted. The pertinent findings and discussions were reflected, and the appropriate conclusions and recommendations were explained in detail.

Key words: Students, Employability-Skills, Employers, Superiors, Organisation

INTRODUCTION

Competency mapping recognizes an individual's strong points and flaws. The aim is to empower the individual to better understand oneself and to draw attention to where a professional development exertion needs to be absorbed.

The fact is, most companies link their employees with the talents itemized in the job description they employed them for. Doubtless, pursuing the skills of workforces' positions serious difficulties, even to minor organizations. There is, nevertheless, an up-front technique to preserve track of workforces' abilities and in what way they advance. The consciousness of what employees capable or not capable of doing which comes through competency mapping can be influenced to accomplish numerous objectives. Competencies are consequential from precise job families inside the organization and are frequently congregated around groupings like scheme, relationships, innovativeness, governance, daring, decision-making, expressive intellect, etc. To start with the technique to progress in competency mapping is concerned; the first stage would be to do job analysis, where the business requires to incline essential competency necessities for the work concerned. The succeeding stage ought to be improvement of a competency measurement for the work on the constraints earlier recognised. The authentic mapping of workforces can be a self-created execution or created by others like managers. It could even be done with the help of 360-degree method where peers, major reports and clienteles as well rank the employees.

Such feedbacks and rankings make the employees to have an introspection as to where they are lagging and where all they need to improve upon themselves in order to provide their best to the organisations. The required competencies could be acquired either through relevant training and other methods of understanding the job more appropriately where one learns and unlearns in order to give their best to the organisation.

LITERATURE REVIEW

Evrilyan, Saide, Zulrahmadi, Indrajit & Nurcahyo (2019) in their study on “Mapping Analysis of Student`s Core-Competencies in University” emphasised on the core-competencies among pupils of University to become innovative and adjustable in their abilities. The findings revealed that maximum students preferred to concentrate on two streams simultaneously in order to build their competency levels and few preferred to focus on a single stream of education. The study emphasises that core-competences objectives, department plan of actions, students and faculties do play a vital part in the procedure of enhancing competencies among the pupils.

Anitha & Reema (2014) in their study on “Competency Mapping model: Drive for Educational institution” stressed on the enlargement of fresh device for the performance assessment and the quality enhancement of the educational institutions. The role of a faculty in terms of shaping the future generation is important. This appeal for the requirement of an apt device for evaluating and selecting the perfect individuals for jobs. This study supports the idea of TAASK (Trait, Ability, Attitude, Skill, Knowledge) cantered competence model for evaluating of faculty members in academics. The advantage of establishing and authenticating a competency model is that an organization need not any longer had to make a refined estimation regarding selection, evaluation, development and promoting important individuals.

Madhavi-Lakshmi & Tulasi-Das (2018) in their study on “Competency Mapping And Employability Skills of Business Graduates” concentrated mainly on the multiple talents and competencies that are assimilated by the students. It was found that there existed a flawless comprehension between the vital elements in business education which oversees the link amongst skills, competencies and employability among business graduate pupils. It was also detected that mainstream of employability skills were based on industry exposure among business graduate pupils by way of activities like taking up projects, doing internships in companies, industrial visits and the like which enhances the competency mapping in the corporates.

Zuzana, S., Iveta, S., & Peter, S. (2018) in their research on “Managerial competencies of students of selected public university” considered vital competences of pupils and graduates of certain public university with a commercial angle. The universities / institutions should impart knowledge at the same time improve competencies and applied skills. The graduate students must have these competencies in order to get a greater probability of successful employment. Students also should be conversant with foreign languages. Other benchmarks mandatory from the employers’ side are correct personal individualities and self-presentation, excellent communication abilities, in addition to familiarity to practicalities in their area of learning. Hence, it is vital that higher education institutions acclimatise the educational procedures with the purpose to expand the students’ competences that the companies need. The requirement for significant competences and managerial proficiencies has a mounting propensity and are compulsory for affluence, efficacy and additional expansion of the organizations.

Fugate, et al., (2004) in their study delivers a theoretical definition of employability talent where it is an active modification of individuals in the direction of some professions till the time they could categorise and distinguish prevailing career prospects in the workplace. Employability talents might even contribute workforces to regulate themselves regarding several changes and to upsurge working capabilities which costume the working conditions requirements.

Ahmad-Rahman (2006) in his study opines that the human assets is likewise a determiner for persons’ or workforces’ earnings which might be linked to few facts like persons with higher education are stress-free to get employments. In addition, the workforces’ education and teaching has a vital association with their productivity levels. This is due to education and teaching which are enduring learning procedures and act as the key to create competent and experienced human assets. Education and teaching are approaches to make labor which could improve the socioeconomic conditions of the nation at large.

Lange & Topel (2004) in their study specify that an individual with abundant talents would be competent to upsurge workplace output. As a result, the solicitation of human assets towards every individual will almost certainly upsurge economic efficiency. This exploration sets prominence on the practice of human capital theory to establish soft skills mandatory by present-day employers and businesses. Human capital theory elucidates that the development and enactment of soft skills or employability skills nowadays would authorise an abundant impression on pupils who would be almost immediately enter the working situation.

Robinson (2000) in his research stated that employability talent is dissimilar to a job or technical expertise. This talent originates as expected equated to job descriptions and comprises to every kind of industries, corporate dimensions and stages of profession. In addition to that, the researcher even mentions that employability talent is the rudimentary skill desirable from an individual in order to acquire a job and permits him or her to accomplish responsibilities well. This talent is meticulously linked with attitudes and activities. For example, employees should collaborate with senior workforces' in addition to pronouncing out their thoughts, proposals and to determine resolutions.

RESEARCH METHODOLOGY

Research methodology is a noteworthy device to direct the researcher to do the research work methodically and find solutions to the research queries with proof. It is a systematic way to examine the problems and to arrive at authentic inferences. This study on competency mapping and employability skills utilises together primary and secondary data. The aim of this research study is to recognize whether the students of Arts and Science College are proficient on constructing their capability as per the necessities of the organizations. The primary data for the determination of the study was collected from placement officers, employers in addition to students of Arts and Science colleges. Data were gathered by means of a designed questionnaire. The following section discusses the research design, sample design and data collection methods.

Sampling Method

The study tangled companies, students and placement instructors as respondents. Three diverse set of queries were probed to them with three different designed questionnaires to collect the primary data. 1000 students from various colleges all over Tamilnadu had participated in the study. 50 employers who had visited the colleges for steering campus interviews had also offered their views on employability skill students hold. The trainers in the institutes also participated as respondents in this study.

Primary Data

The primary data were gathering from the students, HR Managers and placement trainers of more than fifty colleges in Tamilnadu. A set of three well-structured questionnaire with Likert 5 point scale was created to record the views of the three diverse categories of respondents cited. The questionnaire spread to the students gathered data on elementary literacy and arithmetical skills, critical thinking skills, managerial talents, leadership abilities, communication abilities, etc. The next part of the primary data were collected from placement trainers that shielded their attitude on cognitive abilities, content skills, process talents and the social abilities of the students. The third part of the questionnaire recorded the opinion of the employers who had visited the colleges regarding campus placement, this part of the questionnaire was used to understand the opinion of the employers on communication skills, team work abilities, problem solving skills of the students. Totally 1000 students participated as respondents to understand the practices of competency mapping and employability abilities in their colleges. 50 HR managers of various organisations who had a dialogue with the students

and 50 placement officers also offered their views on competency mapping and employability abilities of graduate pupils. The data gathered were tabulated and scrutinized according to the objectives of the study.

PROBLEM STATEMENT

The drive of education is to divulge knowledge which additionally clues to occupation through the support of that knowledge. Constructive environment offered to the pupils augment their employability abilities. There is necessity for comprehending the insight of pupils on employability abilities divulged to the pupils in the educational establishments, companies' in addition to placement trainers' insight ought to be taken into consideration to have improved comprehension on capabilities and employability abilities of the pupils. The methodical and soft skills educated to the students are educated and the judgement on students' proficiency is implicit through the insight and outlook of the employers in addition to placement coaches with the help of this study. Attitude of the pupils on integrating employability abilities in the program is agreed and whether they are talented to practically apply the awareness is even deliberated with the help of this research investigation.

OBJECTIVES OF THE STUDY

1. To study the attitudes of managers regarding students competencies
2. To understand the learning outcomes of students in line with course contents

DATA ANALYSIS

Objective 1: To Study the Attitudes of Managers Regarding Students Employability Skills

In order to understand the attitudes of managers regarding students' employability skills the correlation coefficient is calculated from designated Course Content, Entrepreneurial procedure consciousness and Frustrating elements. In interpreting the results of Pearson's correlation, one must be terribly careful, as the coefficients outcomes are not capable of presenting a trustworthy gauge of relationship in a method that systematizes additional independent variables. Furthermore, analysis of informal and simple bi-variate correlation coefficients under a conventional matrix, do not contemplate the correlations between each nominated variables and complete independent variables. Due to this reason, our main exploration results will devise from appropriate multivariate regression model.

Results in table 1 discloses Pearson's correlation analysis amongst every variable with regard to Students Employability Skills under exploration. It is detected that Competency Mapping to Enhance Employability Skills has an optimistic association with *Course Content*, *Entrepreneurial course of action awareness*, is *highly significant* (significant at 1%). The figures beneath the diagonal demonstrating the probability (p value) value shows the significance.

Table 1 STUDENTS EMPLOYABILITY SKILLS – PEARSON CORRELATION (R) FOR ALL VARIABLES			
Pearson Correlation	Student Employability skills	Course Content	Entrepreneurial course of action awareness
Student Employability skills	1.000	0.633	0.382
Course Content		1.000	0.495
Entrepreneurial course of action awareness			1.000
** Correlation is significant at 1% level (Highly Significant).			

Regression Statistics

To scrutinize the effect of Course Content, Entrepreneurial course of action awareness, Frustrating elements on Students Employability Skills, multivariate regressions analysis models are articulated in the broad form as specified in equation 1. Table 2 below gives the results of the regression analysis. In all regression models, standard errors are computed by means of White's general heteroscedasticity test. In cases where the White test statistic is statistically significant, heteroscedasticity may not necessarily be the cause, but specification errors. In other words, the White test can be a test of (pure) specification error (Gujarati, et.al., 2012). As of our expectation, the Students Employability Skills upsurges with upsurge in Course Content, Entrepreneurial course of action awareness and decreasing Frustrating elements.

Table 2 Regression of Students Employability Skills				
Regression Model	Dependent Variable: STUDENTS EMPLOYABILITY SKILLS			
	Coefficients	SE	t	Sig.
(Constant)	59.719	3.834	15.561	0.000
Course Content	1.156	0.055	21.157	0.000
Entrepreneurial course of action awareness	0.363	0.114	3.225	0.001
R			0.640	
R ²			0.416	
Adjusted R ²			0.412	
SEE			15.520	
Durbin-Watson			1.807	

It is right away comprehensible from the R² values that the descriptive influence of these models has been upgraded by using a firm explicit intercept. In regression, the R² and adjusted R² explain 41.6 % and 41.2 % of variation in Students Employability Skills. The Durbin-Watson value of 1.807 indicates the existence of affirmative serial correlation among the variables. This table shows the coefficients of the regression line. It states that the expected Acceptance level score is equal to Equation 1 $Y = 59.72 + 1.156X_1 + 0.363X_2$

It is also scrutinized the influence of all illustrative variables on Students Employability Skills the result of which are given in table 2. It has been observed that with one unit escalation in *Course Content*, *Entrepreneurial course of action awareness* then *Students Employability Skills* increases by 1.156, 0.363 units correspondingly. The multiple correlation coefficients amongst the dependent variable Students Employability Skills and the independent variables considered together is found be 0.640 which is greater. It signifies that the Students Employability Skills is highly responded by its environment measures indicators. It is also evident from the value of R² that 41.2 per cent of variation in Students Employability Skills is accounted by the joint variation of all explanatory variables taken together. These results certainly prove the better acceptance of model.

Objective 2: To understand the learning outcomes of students in line with course contents

To understand the opinion about Course Content it was observed over the resources of “*Leadership Qualities, Ability to work in a team, Verbal/written communication skills, Problem-solving skills, Strong work centric ethic, Analytical/Quantitative skills, Technical skills in various feature, New business initiative, Computer skills, Flexibility/Adaptability, Interpersonal skills, Organizational ability, Strategic planning skills, Friendly/Outgoing personality, Entrepreneurial skills/Risk-taker, Tactfulness, Creativity and Innovation, Communication skills, Conceptual knowledge*” were examined.

It is clear from the table 3 that 47% of the respondents stated as much and 24% of the respondents stated as very much regarding the ‘*Leadership Qualities*. As regards the factor “*Ability to work in a team*” 36% of the respondents stated as much and 47% of the respondents stated as very much. About the factor “*Verbal/written communication skills*” 2% of the respondents stated as nothing, 8% of the respondents stated as Very little, 17% of the respondents stated as little, 48% of the respondents stated as much and 26% of the respondents stated as very much. Concerning the factor ““*Problem-solving skills*” 1% of the respondents stated as nothing, 8% of the respondents stated as Very little, 19% of the respondents stated as little, 47% of the respondents stated as much and 26% of the respondents stated as very much.

As regards the factor “*Strong work centric ethic*” 3% of the respondents stated as nothing, 6% of the respondents stated as Very little, 24% of the respondents stated as little, 43% of the respondents stated as much and 25% of the respondents stated as very much. With regard to the factor “*Analytical/Quantitative skills*” 3% of the respondents stated as nothing, 8% of the respondents stated as Very little, 26% of the respondents stated as little, 43% of the respondents stated as much and 20% of the respondents stated as very much. As regards the factor “*Technical skills in various feature*” 1% of the respondents stated as nothing, 10% of the respondents stated as Very little, 33% of the respondents stated as little, 40% of the respondents stated as much and 15% of the respondents stated as very much. About the factor “*New business initiative*” 4% of the respondents stated as nothing, 9% of the respondents stated as Very little, 29% of the respondents stated as little, 39% of the respondents stated as much and 20% of the respondents stated as very much.

On the factor “*Computer skills*” 1% of the respondents stated as nothing, 9% of the respondents stated as Very little, 25% of the respondents stated as little, 42% of the respondents stated as much and 22% of the respondents stated as very much. Concerning the factor “*Flexibility/Adaptability*” 3% of the respondents stated as nothing, 4% of the respondents stated as Very little, 14% of the respondents stated as little, 38% of the respondents stated as much and 41% of the respondents stated as very much. Regarding the factor “*Interpersonal skills*” 1% of the respondents stated as nothing, 6% of the respondents stated as Very little, 15% of the respondents stated as little, 51% of the respondents stated as much and 28% of the respondents stated as very much.

Table 3 PERCEPTION ABOUT COURSE-CONTENT											
	Nothing		Very Little		Little		Much		Very Much		Total
	N	%	N	%	N	%	N	%	N	%	
Leadership Qualities	14	1	50	5	229	23	459	47	249	24	1000
Ability to work in a team	11	1	54	5	108	11	363	36	466	47	1000
Verbal/written communication skills	16	2	75	8	174	17	468	48	269	26	1000
Problem-solving skills	9	1	79	8	187	19	460	47	265	26	1000
Strong work centric ethic	25	3	57	6	235	24	429	43	264	25	1000
Analytical/Quantitative skills	27	3	80	8	263	26	444	43	186	20	1000
Technical skills in various feature	12	1	100	10	326	33	394	40	146	15	1000
New business initiative	38	4	87	9	294	29	388	39	195	20	1000
Computer skills	14	1	93	9	250	25	419	42	219	22	1000

Flexibility/Adaptability	27	3	44	4	135	14	379	38	406	41	1000
Interpersonal skills	7	1	55	6	151	15	508	51	279	28	1000
Organizational ability	9	1	61	6	200	20	476	48	248	25	1000
Strategic planning skills	10	1	73	7	216	22	463	46	241	24	1000
Friendly/Outgoing personality	7	1	67	7	99	10	324	32	497	50	1000
Entrepreneurial skills/Risk-taker	19	2	80	8	247	25	500	50	154	15	1000
Tactfulness	22	2	75	8	234	23	448	45	221	22	1000
Creativity and Innovation	9	1	53	5	223	22	479	48	236	24	1000
Communication skills	18	2	127	13	219	20	491	49	145	16	1000
Conceptual knowledge	14	1	84	8	450	45	320	33	132	13	1000

About the factor “*Organizational ability*” 1% of the respondents stated as nothing, 6% of the respondents stated as Very little, 20% of the respondents stated as little, 48% of the respondents stated as much and 25% of the respondents stated as very much. Regarding the factor “*Strategic planning skills*” 1% of the respondents stated as nothing, 7% of the respondents stated as Very little, 22% of the respondents stated as little, 46% of the respondents stated as much and 24% of the respondents stated as very much. Concerning the factor “*Friendly/Outgoing personality*” 1% of the respondents stated as nothing, 7% of the respondents stated as Very little, 10% of the respondents stated as little, 32% of the respondents stated as much and 50% of the respondents stated as very much. Regarding the factor “*Entrepreneurial skills/Risk-taker*” 2% of the respondents stated as nothing, 8% of the respondents stated as Very little, 25% of the respondents stated as little, 50% of the respondents stated as much and 15% of the respondents stated as very much.

Regarding the factor “*Tactfulness*” 2% of the respondents stated as nothing, 8% of the respondents stated as Very little, 23% of the respondents stated as little, 45% of the respondents stated as much and 22% of the respondents stated as very much. Regarding the factor “*Creativity and Innovation*” 1% of the respondents stated as nothing, 5% of the respondents stated as Very little, 22% of the respondents stated as little, 48% of the respondents stated as much and 24% of the respondents stated as very much. As regards the factor “*Communication skills*” 2% of the respondents stated as nothing, 13% of the respondents stated as Very little, 20% of the respondents stated as little, 49% of the respondents stated as much and 16% of the respondents stated as very much. As regards the factor “*Conceptual knowledge*” 1% of the respondents stated as nothing, 8% of the respondents stated as Very little, 45% of the respondents stated as little, 33% of the respondents stated as much and 13% of the respondents stated as very much.

It is clear from the table 3 that maximum of the respondents stated minute with the factor of “*Conceptual knowledge*”, about Much with the factor of “*Leadership Qualities, Verbal/written communication skills, Problem-solving skills, Strong work centric ethic, Analytical / Quantitative skills, Technical skills in various feature, New business initiative, Computer skills, Interpersonal skills, Organizational ability, Strategic planning skills, Entrepreneurial skills/Risk-taker, Tactfulness, Creativity and Innovation, Communication skills*” and about Very Much with the factor of “*Ability to work in a team, Flexibility/Adaptability, Friendly/Outgoing personality*”.

In order to recognize the factor which is most inducing the respondents towards Course Content the Friedman's test analysis was used and the results are given in Table 4. It could be distinguished from the table that among the 19 factors of "Friendly/Outgoing personality" was categorized first. It is followed by the "Ability to work in a team", "Flexibility/Adaptability" was categorized third.

Table 4				
FRIEDMAN TEST-COURSE CONTENT				
	Mean	SD	Mean Rank	Reliability
Leadership Qualities	3.88	0.89	10.06	
Ability to work in a team	4.21	0.91	12.48	
Verbal/written communication skills	3.90	0.94	10.28	
Problem-solving skills	3.89	0.92	10.24	
Strong work centric ethic	3.84	0.96	9.87	
Analytical/Quantitative skills	3.68	0.95	8.85	
Technical skills in various feature	3.59	0.93	8.09	
New business initiative	3.61	1.02	8.48	
Computer skills	3.73	0.94	9.14	
Flexibility/Adaptability	4.10	0.97	11.73	
Interpersonal skills	4.01	0.85	10.94	
Organizational ability	3.92	0.89	10.37	
Strategic planning skills	3.84	0.91	9.78	
Friendly/Outgoing personality	4.24	0.93	12.59	
Entrepreneurial skills/Risk-taker	3.83	0.97	9.78	
Tactfulness	3.76	0.95	9.29	
Creativity and Innovation	3.97	0.87	10.71	
Communication skills	3.79	0.93	9.73	
Conceptual knowledge	3.49	0.88	7.64	

LIMITATIONS OF THE STUDY

As this research is restricted merely to the government and private colleges of Tamil Nadu, therefore the results cannot be generalised to students of other states. Additionally, the survey technique was embraced to gather data from HR managers, placement officers and pupils, which have its individual restrictions. As the duration of the study was short, not much of data could be collected.

FINDINGS & DISCUSSION

This study found that maximum of the HR managers settled with the opinion that the students had acquired the talents of confident, straight and clear in their communication aspects. They were conversant with the requirements of the target onlookers, were responsive in negotiating skills, English language hold, and comprehending the in-house and outside patrons. The students were effectively persuading, being positive and sharing knowledge and had the talent of listening and comprehending multiple abilities to their credit (McClelland, 1973). It was also found that the students were highly establishing and utilising networks in a more skilled manner. The employers did feel that many of the students had the talent of taking care of various responsibilities individually and being part of a team as a team member. It was detected that students were good at establishing and utilising networks and applying team work talents at multiple conditions regarding the team work talents. The students had the skills like creativity and innovative solutions, strategic approaches with regard to problem solving freely and were excellent in taking initiatives to detect advanced solutions, adaptability to fresh

conditions and were enterprising. The students were having particular vision and aims, taking concern and the skills of coherent with particular ideas and visualizations.

It was also observed that out of the six technical talents the employers accepted that the students inclination to acquire innovative IT expertise, possessing physical abilities to practical application of technology (Jin, Lee & Song, 2007). And were having a type of simple IT talents. The students were given ample knowledge about oral expression, self-motivation talents & diligence and vigorous knowledge in addition to cognitive talents, content talents, process skills and societal abilities (Hadiyanto, 2010). Many students are of the opinion that through the course contents they got a small conceptual knowledge, but more of leadership qualities, verbal/written communication skills, problem solving talents, strong job centred ethic, quantitative talents, technical abilities in multiple features (Martzoukou, Fulton, Kostagiolas & Lavranos, 2020), fresh business inventiveness, computer knowledge, interpersonal abilities, managerial abilities, strategic planning talents, risk taking dareness, entrepreneurial talents, discreteness, creative mind, innovative thought process and communication abilities. The students also had professional knowledge which is a very important element in their occupational life ahead (Lim, Choi, & Park, 2008). They also learnt how to work in a team, flexibility/adaptability and sociable/outgoing behaviour.

CONCLUSION

The determination of this research study on competency mapping was to understand the skills sets of the pupils of arts & science colleges and as well as to study the views of HR managers, training managers and placement officers. The study likewise found the association between the course content and employability abilities of the pupils. The study uncovered that HR managers and training officers sensed that pupils possess capabilities to increase the employability talents. Students are furthermore receiving backing through the course contents to expand their employability abilities. This exploration is a threefold investigation which verified the outlook of the HR managers, placement trainers in addition to the perception of pupils. An exhaustive analysis on numerous skills of the pupils was agreed by receiving the views of the said respondents. Pupils, HR managers and trainers have optimistic outlook regarding the various talents and the training they obtain.

FUTURE SCOPE FOR RESEARCH

Similar study could be done on students belonging to other geographical locations with few more variables and their impact. Study could also be done with post graduate students in various streams to understand the concept in depth.

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AN EXAMINATION ON STUDENTS PERCEPTION OF EMPLOYABILITY SKILLS: VOICE FROM NON ENGINEERING GRADUATES IN COIMBATORE REGION, TAMIL NADU

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Abstract

The study examines the perceptions, attitudes and orientations of under graduate students to their future work, career and employability. The employability of graduates has dominated much educational and economic policy over the past decade. The development of mass higher education has intersected with the shift towards a so called knowledge-driven or post-industrial economy. The knowledge-driven economy is said to require individuals with the types of knowledge, skill and creative potential who can meet the challenges of a global economy characterized by rapid change. Increasingly, individuals can no longer expect a 'job for life', whereby their careers are anchored around single job and organization. Employees instead have to take a more flexible and proactive approach to their working lives, involving the management of their own employability. The major objectives of the study is to find the pre-requisites for the student employability in current market scenario, factors like personality traits and subject knowledge would be assessed to know which would be the area of focus and understanding the student perceptions on employability.

Keywords: Core Skills, Subject Knowledge and Perceived Skills .

Introduction

In recent years, a number of models of employability has been proposed. While these models go some way towards capturing the meaning of this elusive concept of employability, they are either too elaborate to be practically useable or too simple to do justice to this multifaceted issue. For many people, employability is just about getting a job and the term is increasingly used inaccurately and interchangeably with 'enterprise' which in turn is confused with 'entrepreneurship'. The aim of this study is to present a practical, coherent model that is firmly based on existing research findings in employability and on the various individual elements that make up the framework. Employability is an issue of concern in many areas of the economy, but in this context the focus is on students and graduates in Coimbatore.

Current interpretations of employability range from the use of simple measures, such as whether or not a graduate has secured a job, to in depth scholarly books on the subject. If employability is measured in the simplistic terms of whether or not a graduate has managed to secure a job within six months of graduating, it only provides a very vague and imprecise indication of what the student has gained. Questions need to be asked about whether or not the graduate is using the skills, knowledge and understanding gained in their degree studies in a 'graduate level job', which in turn opens up a whole new debate about what exactly a 'graduate level job' entails. There is so much more to employability than gaining employment and first destination statistics do not take into account the fact that some graduates may have taken lower level jobs in order to deal with financial pressures, particularly after incurring debts through their studies.

Review of Literature

In recent years a number of models of employability have been proposed. Whilst these models go some way towards capturing the meaning of this elusive concept of employability, they are either too elaborate to be practically useable or too simple to do justice to this multifaceted issue.

Antonios Panagiotakopoulos, (2012) It is revealed that HEIs in Greece have failed, so far, to integrate key skills into their curriculum and as a result graduates are not equipped with a range of skills designed to be of practical value in the world of work. The paper argues that there is an immediate need for policy makers to develop a national policy on key skills in HE, in order to help students secure employment, as well as help domestic firms meet their skill needs.

Beverley Jackling , Riccardo Natoli , (2015) The results indicate that from the internship providers' perspective the most highly developed skill of interns is team skills. However, over 40 percent of respondents indicated that interns had failed to demonstrate the capacity to be "work ready" with respect to business acculturation, capacity to handle unfamiliar problems and communication skills. One-third of respondents had ongoing concerns with the PYP as a means of preparing Australian educated international graduates for work in the accounting profession.

Lorraine Dacre Pool, Peter Sewell, (2007) The model can be used to explain the concept of employability to those new to the subject, and particularly to students and their parents. It will be a useful tool for lecturers, personal tutors, careers advisors

and any other practitioners involved in employability activities. It will also be used to develop a measurement tool for employability.

Naureen Durrani, Vicki N. Tariq, (2012) The results reveal the importance that employers attach to graduates' numeracy skills and the extent to which employers use numeracy tests in graduate recruitment. They thus highlight the potential for poor numeracy skills to limit any graduate's acquisition of employment, irrespective of their degree subject; especially since numeracy tests are used predominantly in recruitment to the types of jobs commensurate with graduates' career aspirations and within sectors that attract graduates from across the diversity of academic disciplines, including the arts and humanities.

Rao M.S. , (2014) The study found that there must be effective coordination among faculty, students, industry and directors of educational institutions for enhancing employability skills among students. It places emphasis on the role of Training and Placement Officer (TPO) in the educational institutions for better employability and calls for promotion of finishing schools to enhance employability.

Simon Cassidy, (2006) Results suggest that, whilst students would accept peer assessment as an element of their course, its introduction at least should focus on the development of evaluative skills (i.e. emphasising learning rather than assessment) and provide support to alleviate an onerous sense of responsibility. It is concluded that, if the value of peer assessment – in terms of employability skill development – is accepted, then it should be adopted as regular practice on undergraduate programmes wishing to equip students with a complete repertoire of employment-relevant skills.

Sue Spence , Denis Hyams-Ssekasi , (2015) Overall both mentors and mentees reported positive responses to the mentoring scheme. From the mentees point of view self-confidence, employability skills and networks were enhanced. Mentors reported satisfaction in contributing to the local community. Challenges were found in matching mentors with appropriate mentees. A perceived poor match negatively affected the relationship. Mentors reported that mentees lacked career direction and seemed to have limited understanding of what was expected in the mentoring process.

A practical Model on employability

The design of the model reflects an assertion that each component is absolutely essential and one missing element will considerably reduce a graduate's employability. A degree of overlap between some of the components is acknowledged and this is reflected in the visual presentation of the model. .

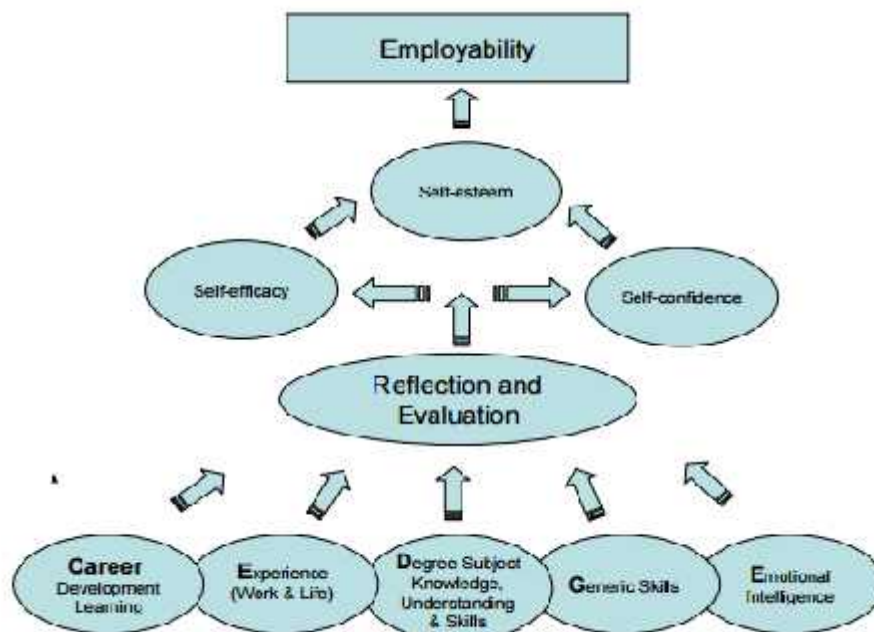


Figure 1. The essential components of employability

The model depicted in Figure 1 illustrates the essential components of employability and also suggests the direction of interaction between the various elements. The mnemonic **Career EDGE** is used as an aid to remember the five components on the lower tier of the model. It is suggested that providing students with opportunities to access and develop everything on

this lower tier, essentially for reflecting on and evaluating these experiences will result in development of higher levels of self-efficacy, self-confidence and self-esteem – the crucial links to employability.

The original model detailed in Figure 1 clearly shows all the components and suggests the direction of interaction. Figure 2 is evolved, from this with the metaphorical image of a ‘key’. This pictorial version of the model is a useful, practical way of explaining the concept of employability and indicates that it is the ‘key’ to choosing and securing occupations in which the graduate has the opportunity to achieve satisfaction and success.

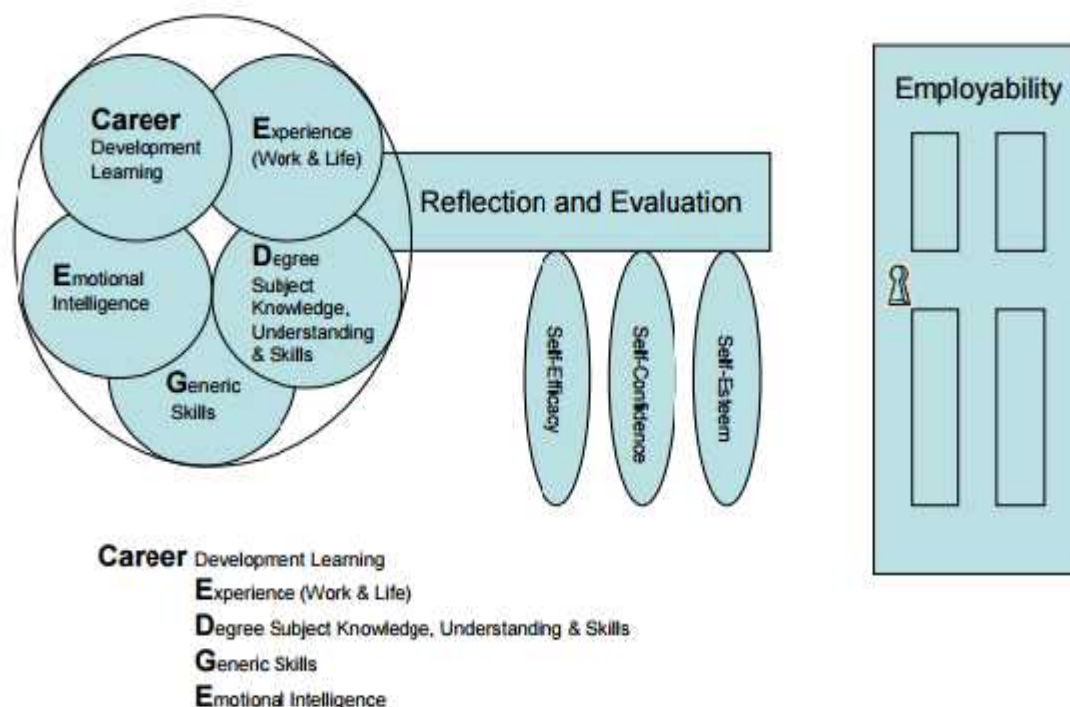


Figure 2.A metaphorical model of employability

SKILLS					
Personal Qualities	Adaptability	Core Skills	Oral communication	Subject Knowledge	Understanding concepts
	Attention to detail		Commercial awareness		Application of knowledge
	Commitment		Ethical issues		Breadth of knowledge
	Cooperation		Information retrieval		Up-to-date
	Creativity		Interpersonal	Soft Skills	
	Decisiveness		IT		
	Dependability		Leadership		
	Enthusiasm		Negotiation		
	Initiative		Networking		
	Integrity		Numeracy		
	Self-awareness		Planning/Organization		
	Timekeeping/Punctuality		Problem-solving		
	Tolerance to stress		Professional Development		
	Work ethics		Questioning/Listening		
			Self-management		
			Team-working		
			Technical		
			Written communication		

Data Analyses

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.586 ^a	.343	.343	.42092	.343	514.160	1	983	.000	1.016
a. Predictors: (Constant), core skills										
b. Dependent Variable: Perceived Skills										

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	91.095	1	91.095	514.160	.000 ^b
	Residual	174.160	983	.177		
	Total	265.255	984			
a. Dependent Variable: Perceived Skills						
b. Predictors: (Constant), core skills						

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.679	.089		18.915	.000	1.505	1.853
	Core Skills	.510	.022	.586	22.675	.000	.466	.554
a. Dependent Variable: Perceived Skills								

Findings

- The current study was conducted to increase our understanding of factors that influence the employability of university graduates. Through the use of both qualitative and quantitative approaches, the paper explores the relative importance of 15 factors that influence new graduate employability. Employability factor of prospective employees to the organization is assessed
- Gender analysis-employability parameters is assessed
- Perception of students in joining the corporate sector is thoroughly analyzed.
- Based on statistical analysis, female community has better interpersonal and desirable attributes in joining the corporate sector.
- Generally, higher level of education and longer tenure are expected to have positive impact on employability.
- Out of the candidates participated in the survey, there were no group which met 100% expected options. This gives focus areas to be the parameters which the students need to prioritize on.
- On the other hand side, the institutions also need to focus on how and what best could be done to improvise these qualities of the students to perform and showcase better in the labor market.
- Results from both the qualitative and quantitative phases of the current study demonstrated that 15 employability factors can be clustered into five higher-order composite categories. In addition, findings illustrate that, when hiring new graduates, employers place the highest importance on soft-skills and the lowest importance on academic reputation.
- Factors such as type of institution and subject of study act as intervening variables with a Differential effect upon the employment prospects of graduates from different types of background.

Conclusion

The analysis of student attitudes and orientations also highlights the differences amongst students in their approaches to future work and career. Students' orientations to the employability not only reflected the way they were beginning to understand and manage their employability, but also their attempts to manage their expectations and aspirations. For some, this also involved the management of disappointment. It highlights not only the differences in attitudes between these students, but also some of the tensions and pressures which many are experiencing in the pursuit of future employment. It appears that students now no longer anticipate a clear link between their merit in education and its reward in the labor market. Many students, particularly those whose future aspirations are strongly geared around their future employment, now perceive the need to develop more proactive and aggressive labor market strategies. This goes far beyond what they achieve in the formal education setting. In the closing of this study, it is very important to state that students are very serious about their employability and hence are investing time to get them accustomed and adopt to meet the current market demand.

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A STUDY ON COMPETENCY MAPPING TO ENHANCE EMPLOYABILITY SKILLS OF ARTS AND SCIENCE STUDENTS IN TAMIL NADU

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Abstract

The purpose of this study was to investigate Arts and Sciences students' employability skills as they are perceived. The study also examined if there were any differences in perceptions on employability skills among students on assigned variables. Data for this study were collected via validated and reliability tested questionnaire. Analysis of Variances (ANOVA) was used, and the results showed that there were significant differences among participants on Arts and Sciences: coping with Collaboration, understanding, and interpersonal relationship for the advantage of students from Science College.

Key Words: Collaboration, Time Management, Critical Thinking and Self-Confidence.

Introduction

Competence is a concept widely recognized in scientific literature since the early of 20th century, and particularly stressed in human resource management. Formally, competence is understood as the relation between humans and work tasks, specifically, which knowledge and skills are required to perform a specific task in an efficient way. The concept of competence is related to the concept of competency; in a competency is defined as "a specific, identifiable, definable, and measurable knowledge, skill, ability and/or other deployment-related characteristic (e.g. attitude, behavior, physical ability) which a human resource may possess and which is necessary for the performance of an activity". In, in the effort of univocally identify HR concepts, authors define a competency as "the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development", while a competence as "a competency (knowledge + skills + abilities) in a particular context (e.g. situation, domain)". An effective competences management within an organization, i.e. oriented to the continuous enhancement and development of individual and organizational competences, requires as first and necessary step the mapping of organization competences. A Competences map can be defined a representation of key competences of each member of an organization; it represents a valuable tool for identifying members of an organization who possess competences to perform a task.

Ai-Hwa Quek, (2005) graduate employees also expressed value improving skills, practical orientation abilities and cognitive skills as being important for successful work performance. These generic competencies are important for enabling Malaysian graduate employees to transfer learning from the classroom to the workplace for success in work performance. Anne Martensen and Lars Grønholdt (2009) the estimated importance score and performance score for each competency can be combined in a competency map, and it is shown how the four cells in the map can be interpreted in useful ways, when essential areas for quality improvement of the study programme are to be identified.

Besides being important in the business oriented organizations, competence mapping is recognized to be important in many contexts. One of the most interesting is the academic environment where competence mapping may provide a fruitful avenue for intellectual capital management. In such context, and in particular within the scientific community focused on collaborative production of new knowledge, a problem currently faced is the inability of an organizations to know the competences owned by their members which prejudices the multi-disciplinary research and community creation

Literature Review

Antonios Panagiotakopoulos, (2012) argues that there is an immediate need for policy makers to develop a national policy on key skills in HE, in order to help students secure employment, as well as help domestic firms meet their skill needs. Auli Toom et al (2015) use of the procedure in the practice of teacher education, it promisingly fulfills the aims to demonstrate the moral core of teaching and teacher's central role in it for student teachers. Beverley Jackling, Riccardo Natoli, (2015) The results indicate that from the internship providers' perspective the most highly developed skill of interns is team skills.

E. Carson et al (2004) understanding of human and structural capital as key components of intellectual capital by refining their definitions and outlining their relationships. Francis Osa Otopah and Perpetua Dadzie, (2013) shaping, improving, integrating and supporting students' PIM habits, skills, personal information collections and memories respectively. Georgina Andrews, Marilyn Russell, (2012) key emerging themes include issues surrounding the role of higher education; deficiencies in the classification of graduate destinations; the challenge of predicting the needs of employers of the future; and gaps between strategies, perceptions and realities.



Jenneth Parker, (2010) highlight potential elements of more widely informed knowledge literacy, including philosophical, sociological and cultural aspects, that is needed to support the development of these competencies. Joanne Raybould and Victoria Sheedy, (2005) there are transferable skills that employers like to see in a graduate and these can vary according to type of role; also, in general, graduates are keen to develop their skills further. There are organisations to help graduates improve these employability skills like Graduate Advantage and higher education institutions. Joseph Lee and Dieter Fink, (2013) Encouragement factors were found to be those that organisational management has direct control over such as communicating and promoting KMaps and appointing a management champion. Impeding factors were those under the control of software maintenance management and are more difficult to manage.

Lorraine Dacre Pool and Peter Sewell, (2007) it will be a useful tool for lecturers, personal tutors, careers advisors and any other practitioners involved in employability activities. It will also be used to develop a measurement tool for employability. Metso Sari, (2014) the students' development of professional skills was enhanced by three organizational factors: an innovative climate, guidance, and interactions with seniors. Furthermore, the results emphasized that other employees have a central role in enhancing the students' professional skills development.

Naureen Durrani, Vicki N. Tariq, (2012) The results reveal the importance that employers attach to graduates' numeracy skills and the extent to which employers use numeracy tests in graduate recruitment. Nicoline Frølich and Bjørn Stensaker, (2010) the study reveals that student recruitment strategies are often grounded in inherent institutional identities, while at the same time responding to external ideas about excellence and diversity. Noriko Milman (2011) Young students apply lessons to self and peer, regulating attentiveness and socializing one another to the norms of their classroom. They are also resourceful actors who skillfully use their understandings of attentiveness to maneuver around the strict order of the day. Schoolchildren multitask, conceal other focal concerns, and give the impression of attentiveness, all of which influence what behaviors get detected as "(in) attentive."

Nosheen Fatima Warraich and Kanwal Ameen, (2011) the employers complained of weak communication, practical and presentation skills. They expect graduates with more multidimensional and market oriented skills. However, the school takes a lead in introducing new curricula among the rest. Rao M.S., (2014) The study found that there must be effective coordination among faculty, students, industry and directors of educational institutions for enhancing employability skills among students. Feicheng Ma, (2013) Student average web searching competency level was found to be comparatively low overall, within preliminary stages of development. A lot of students are unable to search the web with efficiency. Competency levels for searching academic tasks were higher than those of daily-life tasks, especially when the degree of difficulty increased.

Simon Cassidy, (2006) Results suggest that, whilst students would accept peer assessment as an element of their course, its introduction at least should focus on the development of evaluative skills and provide support to alleviate an onerous sense of responsibility. It is concluded that, if the value of peer assessment in terms of employability skill development is accepted, then it should be adopted as regular practice on undergraduate programmes wishing to equip students with a complete repertoire of employment relevant skills. Sue Spence and Denis Hyams-Ssekasi, (2015) Overall both mentors and mentees reported positive responses to the mentoring scheme. From the mentees point of view self-confidence, employability skills and networks were enhanced. Mentors reported satisfaction in contributing to the local community. Challenges were found in matching mentors with appropriate mentees. Taran Thune and Liv Anne Støren, (2015) the study indicates that only certain forms of interactions between students and WOs have benefits for students; namely the ones that involve a certain degree of time and commitment. Programme officers in higher education should target more committed interaction forms, because the added value is significantly higher for the students.

Tomas Hellström and Kenneth Husted, (2004) this paper argues that knowledge mapping may provide a fruitful avenue for intellectual capital management in academic environments such as university departments. Vinod Kumar Khanna, Ruby Gupta, (2014) The paper reveals that competency-based training has a positive correlation on, 5 "S" and TQM, and is instrumental in improving the level of 5 "S" and TQM in both industries.

Methods

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. Thus it is the various steps that are generally adopted by a researcher in studying his research problem with the logic behind them. It has many dimensions and methods which constitute a part of the research and widens the scope of the research and a research objective follows;

1. To identify the competencies mapping and employability skills for the students.
2. To make students effective in his employment and paves way for their career development.



Literature and descriptive studies are undertaken in many circumstances. When the researcher is interested in knowing the characteristics of certain groups such as gender, year of study and faculty of study descriptive study is necessary. Descriptive research is used to collect information about the employees to whom the competency mapping is done.

Results Analysis

The analysis of the demographics in Table1 shows that 83.7 percentages of respondents are Male and 16.3 percentages are Female. The percentage of female in is showing a decline. According to the year of study, it shows that 15.3 percentage of respondents were in the first year and 83.7 percentage third year and reaming 1 percentage are second year students. According to the education shows that 32.2 percentage of respondents were from Arts and 67.8 percentages were from Science. Thus it can be interpreted that highest percentage was in the Science.

Table and Figure 1: Percentage Analysis of Demographic Variables

Demographic Variables		Frequency	Percent
Gender	Male	432	83.7
	Female	84	16.3
Year of Study	First year	79	15.3
	second year	5	1.0
	Third year	432	83.7
Faculty of Study	Arts	166	32.2
	Science	350	67.8
Total		516	100.0

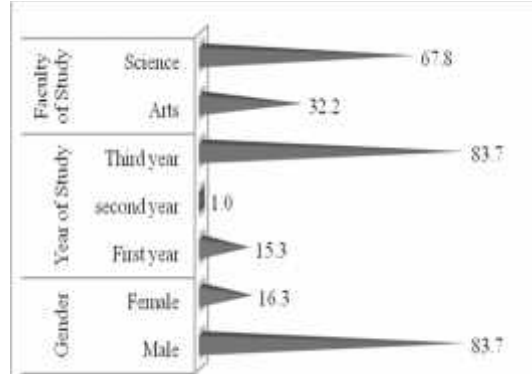
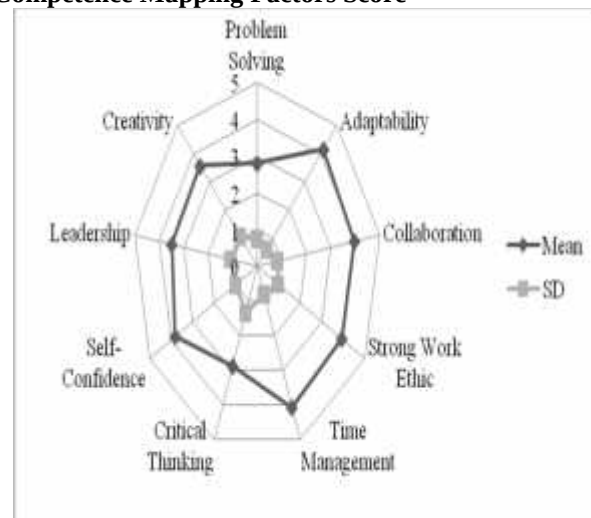


Table and Figure 2: Mean and SD of Competence Mapping Factors Score

Descriptive Statistics	Mean	SD
Problem Solving	2.81	0.75
Adaptability	4.17	0.61
Collaboration	3.99	0.82
Strong Work Ethic	3.94	0.98
Time Management	4.09	0.80
Critical Thinking	2.89	1.35
Self-Confidence	3.82	1.01
Leadership	3.50	1.10
Creativity	3.58	1.06



It could be noted that, table and figure 2 highest to lowest mean and SD as follows; adaptability (M = 4.17, SD = 0.61) and time management (M = 4.09, SD = 0.80), lowest problem solving (M = 2.81, SD = 0.75 and critical thinking (M = 2.89, SD = 1.35).

Null Hypothesis (H_0): There is no significant difference between Faculty of Study and Competence Mapping Factors scores.
Alternative Hypothesis (H_1): There is a significant difference between Faculty of Study and Competence Mapping Factors scores.

Table 3 is the independent t-test analyses of perception of respondents are faculty of study. In the table, we can see the Competence Mapping and faculty of study (Arts and Science) mean, SD and significance value.



In the problem solving mean value of arts is ($M = 2.79$, $SD = 0.75$), science is ($M = 2.82$, $SD = 0.76$), and there is significant relationship between faculty of study and problem solving because the sig. value is less than $0.000 > 0.05$.

In the adaptability mean value of arts is ($M = 4.17$, $SD = 0.59$), science is ($M = 4.17$, $SD = 0.62$), and there is significant relationship between faculty of study and adaptability because the sig. value is less than $0.002 > 0.05$.

In the Collaboration mean value of arts is ($M = 3.99$, $SD = 0.81$), science is ($M = 3.99$, $SD = 0.83$), and there is significant relationship between faculty of study and Collaboration because the sig. value is less than $0.004 > 0.05$.

In the Strong Work Ethic mean value of arts is ($M = 3.90$, $SD = 1.00$), science is ($M = 3.95$, $SD = 0.96$), and there is no significant relationship between faculty of study and Strong Work Ethic because the sig. value is greater than $0.078 > 0.05$.

In the Time Management mean value of arts is ($M = 4.15$, $SD = 0.73$), science is ($M = 4.07$, $SD = 0.83$), and there is a significant relationship between faculty of study and Time Management because the sig. value is less than $0.009 < 0.05$.

In the Critical Thinking mean value of arts is ($M = 2.89$, $SD = 1.35$), science is ($M = 2.89$, $SD = 1.35$), and there is a significant relationship between faculty of study and Critical Thinking because the sig. value is less than $0.001 < 0.05$.

In the Self-Confidence mean value of arts is ($M = 3.85$, $SD = 1.01$), science is ($M = 3.80$, $SD = 1.01$), and there is a significant relationship between faculty of study and Self-Confidence because the sig. value is less than $0.002 < 0.05$.

In the Leadership mean value of arts is ($M = 3.52$, $SD = 1.09$), science is ($M = 3.48$, $SD = 1.01$), and there is a significant relationship between faculty of study and Leadership because the sig. value is less than $0.003 < 0.05$.

Table 3: T test for Faculty of Study Vs Competence Mapping Factors

Competence Mapping		N	Mean	SD	t	Sig.
Problem Solving	Arts	166	2.79	0.75	.188	.000
	Science	350	2.82	0.76		
	Total	516	2.81	0.75		
Adaptability	Arts	166	4.17	0.59	1.030	.002
	Science	350	4.17	0.62		
	Total	516	4.17	0.61		
Collaboration	Arts	166	3.99	0.81	1.020	.004
	Science	350	3.99	0.83		
	Total	516	3.99	0.82		
Strong Work Ethic	Arts	166	3.90	1.00	.303	.078
	Science	350	3.95	0.96		
	Total	516	3.94	0.98		
Time Management	Arts	166	4.15	0.73	1.269	.009
	Science	350	4.07	0.83		
	Total	516	4.09	0.80		
Critical Thinking	Arts	166	2.89	1.35	.901	.001
	Science	350	2.89	1.35		
	Total	516	2.89	1.35		
Self-Confidence	Arts	166	3.85	1.01	.241	.002
	Science	350	3.80	1.01		
	Total	516	3.82	1.01		
Leadership	Arts	166	3.52	1.09	.158	.003
	Science	350	3.48	1.11		
	Total	516	3.50	1.10		
Creativity	Arts	166	3.57	1.10	.027	.002
	Science	350	3.59	1.04		
	Total	516	3.58	1.06		



In the Creativity mean value of arts is ($M = 3.57$, $SD = 1.10$), science is ($M = 3.59$, $SD = 1.04$), and there is a significant relationship between faculty of study and Creativity because the sig. value is less than $0.002 < 0.05$.

Independent t-test analyses conducted for Faculty of study categories like Arts and Science significance value of Competence Mapping Factors for respective categories do differ significantly (expect Strong Work Ethic). Therefore, null hypotheses (H_0) are rejected.

Based on the results analysis there is some relationship between Competence Mapping and Employability Skills of Arts and Science Students in Tamil Nadu.

Conclusion

A graduate student is about creating individuals who have a capacity to ask interesting, demanding, and difficult questions. It is also about skill development that takes the student beyond cultivating a strong analytical mind. Suggestions to lead graduate students in a direction that will leave them well prepared for the challenges they face in a global environment include a strong focus on professional development, mentorship by faculty, establishing milestones to mark achievement, integrating practice into research, and creating a connection to the community. In this results analysis we found that, arts college students are had less competence compare to Science graduates. Recognize that while skills are essential in an academic pursuit, there are many skills that graduate students can sharpen during this time. During any graduate students need to be aware that employers will evaluate candidates on the basis of how their diverse skill set can enhance their workplace, and how their personality will complement their new community.

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