AN INQUIRY INTO EMPLOYABILITY SKILL: A STUDY OF CENTRAL UNIVERSITY OF ODISHA

Dissertation

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DECLERATION

I, Jnyanranjan Sahoo, solemnly declare that this dissertation entitled **"An Inquiry into Employability Skill: A Study of Central University of Odisha"** being submitted to the National Institute of Educational Planning and Administration, New Delhi for the award of Master of Philosophy is based on my original research work under the supervision of Prof. P. Geetha Rani. I further declare that to the best of my knowledge; this research work has not been submitted to any other university/institution for award of any diploma or degree whatsoever.

(**Jnyanranjan Sahoo)**

Certificate

This is to certify that this dissertation entitled "**An Inquiry into Employability Skill: A Study of Central University of Odisha**", submitted by Mr. Jnyanranjan Sahoo in partial fulfilment of the requirements of the Degree of Master of Philosophy at Department of Educational Planning in National Institute of Educational Planning and Administration, New Delhi, is based on the results of the research work carried out under my guidance and supervision. This dissertation or any part thereof has not been submitted to any other university/institution for the award of any diploma or degree whatsoever.

(Prof. P. Geetha Rani)

Abstract:

Quality assurance in higher education (HE) became a policy concern today. Graduate with employability skills (ESs) as the major determinant of the quality outcome of HE institution recognised in the recent past. On the other side, the labour market is becoming so dynamic with the principle of modernisation, digitalisation, automation, and adoption of new technology backed by structural changes in the economy. Some of the approaches from the review of literature available nationally and internationally have been compared in the paper for determining quality graduates in terms of ESs. Therefore, the study interrogates the ESs which is widely used in the previous literature for making generic employability skills set, and subject-specific Employability Skills set for constructing employability skill index. Thereafter, the index is employed for determining the variation in both the ESs among selected disciplines in the Central University of Odisha and secondly, its attempt to explore the responsible causes behind skill variation. The study is based on both secondary and primary data. Secondary data is collected from India Skill Report 2019, results of different Departments of the Central University of Odisha. In addition to that, primary data have collected through a questionnaire survey of students and teachers. Notwithstanding, 6 Focused Group Discussion with students and 6 Direct personal Interviews with HODs/teachers have conducted for collecting qualitative data and information. Collected data and information have analysed through qualitative and quantitative techniques. The study finds as a new and young university, Departments in CUO is grappling with human and physical resource paucity, the performance of students in ESs is different from discipline to discipline due to variability in course curriculum, quality and quantity of teachers, physical and human resources, academic activities and activities related to work-integrated learning. The study concluded that different approaches to ESs development have a different level of outcomes. Therefore, the study recommended some models for curriculum design, practicing academic activities for a better outcome. The study also recommended a model persuading responsible agencies and stakeholders for better ESs related activities and their role.

Key Words: Employability Skill, Higher Education, Work Integrated Learning, Curricular Framework, Academic Activities

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Sl. No	Full Form	Short Form
1	Internal Quality Assurance Cell	IQAC
2	Biodiversity and Conservation of Natural Resources	BCNR
3	Capability Approach	CA
4	Career Counseling Cell	CCC
5	Council of Analytical Tribal Studies	COATS
6	Centre for Policy Research in Higher Education	CPRHE
7	Central University Act	CUA
8	Central University of Bihar	CUB
9	Central University Jharkhand	CUJ
10	Central University of Odisha	CUO
11	Employability Skills	ES
12	Generic Employability Skills	GES
13	Hindustan Aeronautics Limited	HAL
14	Higher Education	HE
15	Higher Education Institution	HEI
16	Human Resource	HR
17	Indian Air Force	IAF
18	Information and Communication Technology	ICT
19	International Labour Organization	ILO
20	Journalism and Mass Communication	J&MC
21	Liberalization-Privatization-Globalization	LPG
22	Master of Arts	M. A.
23	Master of Philosophy	M. PHIL
24	Master of Science	M. SC
25	Master of Technology	M. TECH
26	Master of Commerce	M.COM
27	Master of Business Administration	MBA
28	Memorandum of Understanding	MOU
29	National Aluminum Company	NALCO

30	National Institute of Educational Planning and Administration	NIEPA
31	Organization of Economic Cooperation and Development	OECD
32	Doctor of Philosophy	P. HD
33	Placement Cell	PC
34	Statistical Programme for Social Science	SPSS
35	Subject Specific Employability Skill	SSES
36	Strength-Weakness-Opportunity-Threat	SWOT
37	Universal Declaration of Human Rights	UDHR
38	University Grant Communication	UGC
39	World Bank	WB
40	Work Integrated Learning	WIL
41	Tradition Related Biodiversity Knowledge System	TRBKS
42	Polymerase Chain Reaction	PCR
43	Earth Resource Development Assessment System	ERDAS
44	National Eligibility Test	NET
45	Focus Group Discussion	FGD
46	Principal component analysis	PCA
47	Schedule Caste	SC
48	Schedule Tribe	ST
49	Other Backward Classes	OBC
50	Below Poverty Line	BPL
51	Mahatma Gandhi National Rural Employment Guarantee Act	MGNREGA
52	Curriculum Vita	CV
53	lecture-practical-tutorial-dissertation	LPTD
54	Information Technology	IT
55	Geographic Information System	GIS
56	Teaching learning material	TLM
57	Tele Vision	TV
58	National Skills Development Agency	NSDA
59	Provision-Practice-Product	PPP
60	Economic and Political Weekly	EPW
61	Placement Cell	PC

CHAPTER-I

1. INTRODUCTION:

After the 1980es neoliberalism with its principle of individualism, efficiency, competition, and minimal state intervention started through the instrument of deregulation, liberalization, and privatization (Noronha & D' Cruz 2017). In the 21st century, from the policy perspective employment has seen crucially important and become human right through the right to work and life in many developed and developing countries. In this context, Adi-Narayan (2014) explained the right to work as a fundamental right enshrined in the Universal Declaration of Human Rights (UDHR) 1948 and recognized at international human rights law through its inclusion in the International Covenant on Economic, Social, and Cultural Rights 1976. Just after few years a report came by Organization for Economic Cooperation for Development (OECD 2019), described traditional jobs and employment are being transformed by new jobs with the speed and nature of globalization, technology, and innovation, change in work organization and working environment, etc. (OECD, 2019). Additionally, Agrawal & Dasgupta, 2018, highlighted due to structural changes in the economy, labour market that needs multidimensional skills in the hand of employees. Consequently, Employability Skill (ES) became a key driver for universities in Australia, and role of universities in society and the economy has come under increasing scrutiny (Clarke 2017). Therefore, government and employer's groups have been putting pressure on the tertiary education for the quality of graduates. Skill has emerged as a buzzword in 21st century and earnings of workers with different skill levels required to develop a policy-support is important step in the enhancement of skills1. However, to strengthen skills institutional training, infrastructure, coaching training abroad, sustainable livelihoods and public infrastructure etc. are essential. There is a huge gap persists in the expected level of labour market and the existing skills in the hand of labour force2.

In the meantime, ESs for employment have received much attention in national as well as the international labour market. Defining ES, Hillage & Pollard (1998) said it refers to the ability to be employed, maintain employment, and obtain new

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[1] Shukla, et al. (2019). Return on skill: The widening earnings gap. Retrieved on 30th April 2020 from https://mail.google.com/mail/u/1/#inbox/FMfcgxwHNMRZwjBNnFxRwNTRTWdbrmhR?projector=1&messagePartId=0.3

[2] Shukla, et al. (2019). Explained: Gap between Skill India goals and current status. Retrieved on 30th April 2020 from https://www.financialexpress.com/opinion/skill-india-why-there-is-a-gap-between-current-status-and-goals-explained/1520633/

employment if necessary. Harvey (2001) pointed out skills and non-skill factors (job type, the timing of job, attributes and recruitment, further learning) influence employment in the labour market. Thus, ES is not the only determinant of being employed, but also important to perform well in that particular job and necessary to take a new job if required. According to West 2000 employability of Higher Education (HE) graduates can be developed; firstly, by fostering ESs in HE and secondly by professionalizing HE through professional models. Therefore, it is worthwhile noting that, HE is the crucial means for the cultivation of intellectual and professional capabilities of individuals. Consequently, it is crucial to create a strong human resource base for the nation to empower in the world labour market. Further, HE acts as a panacea for solving the problems of intergenerational instability in income and wealth, poverty, unemployment, untouchability, digital illiteracy, etc. In addition to that, when the employment of educated youth increases in an economy, the net collection of tax also increases (Tilak, 2005). Incorporating the above ideas, the purpose of education has been transforming from a very narrow understanding of "Education for the sake of Education" to a holistic view of "Education is for better knowledge, skill, value, ethics, and competencies for future employment, livelihood, and holistic development". In this context, Prime Minister of India, Narendra Modi, remarks "India can meet the skilled manpower needs of the entire world. We need to assess our capabilities in the global context". It is also recognized that HE provides an improved skilled labour force to the national economy (Panigrahi, 2017). Therefore, embedding skill in the HE for professional cultivation needs priority.

ESs development has received much attention over the last two decades. UK and Australia efforts has been made to adopt range of generic skill-based learning by adding internships, work placements and international study in their curriculum (Clarke, 2017). Number of scholars including; (West, 2000; Harvey, 2001; Knight, 2001; Knight & Yorke, 2002; Yarke & Knight 2003; Moreau & Leathwood 2006; Maxwell et al 2009; Sunday, 2013; Calrke, 2017; Khare, 2018; Agrawal & Dasgupta, 2018; Gunaratne, 2019; Doolan et al., 2019) discussed the association between employment, employability, and its development in HE. The approaches through which ESs can be developed in HE (West, 2000). More elaborately, Harvey (2001) described the attributes essential for employability. There has been a considerable recent discussion going on the generic and key skills in the employability research domain, but little attention is given to know "how students themselves may perceive the

capability agenda", (Lizzio & Wilson, 2004). ESs have a great concern in the 21st century viewed by (Moreau & Leathwood, 2006). Maxwell G et al (2009) and Sunday (2013) explores the attributes essential for ESs. Nonetheless, it is recognized that more introspections are needed at the institutional level to raise the benchmarks by producing market-ready graduates by providing quality education (Kaytal & Arora, 2013). The impact of differences in employment, ethnicity, religion, and English language proficiency groups. 38.2 percent (34.08 percent net return) of the English proficiency group. Economic changes and higher education in the labor market, especially with English language proficiency, bring the most returns in a decade (Rani, 2013).

Simultaneously, better human resources and its base are immensely important for improving the country's competitiveness and growth (Khare, 2014). Graduate employability is embedded in the national context and, as such, may vary across countries and economic sectors (Illieva-Trichkova, 2014). Again, better human resources and its base are immensely important for improving the country's competitiveness and growth (Khare, 2014). In the international level rapid expansion of enrolment became a cause for higher graduate unemployment (Martin, 2018). Demand and supply of ESs in India emerged due to basic distortion in the low level of learning, discipline, quality, degree diploma, and equity, etc. (Khare, 2019). Hence, there is a need to align between the HE institution and labour market for the enhancement of ESs among new employees. Hence ESs development of HE graduates for a sustainable, balanced, and effective growth path is vital. Simultaneously, India is burgeoning with 65% of the youth population in the working-age (Sanghi and Sinha, 2019). HEIs play a vital role in making of employ-able professionals for changing labour market (Agarwal & Dashgupta, 2018). In this context the role of internal quality assurance (IQA) in HEIs directly associated with quality of teaching and learning, and indirectly with graduate employability. At the same time both the government and market competition have triggered for quality of HE, thus internal quality assurance emerges worldwide (Martin, 2018). At the same time, it is quite important to realize the potential of the demographic- advantage of having the youngest workforce with an average age of 29 years in comparison to other developed and developing countries (Sanghi, Parvathy & Khurana, 2019).

In India massification of HE started from the 1990s in terms of student enrolment and institutional growth. Data evidence that in the year 1950-51 the enrolment was only 0.2 million which increased to 4.4 million in the school year 1990-

91 and further in the post-reform era. In the year 2016-17 total enrolment is 35.7 million (Varghese et al., 2018). Simultaneously state was being liberal and gave chances to private stakeholders to enter the HE sectors. HE sector is being privatized in all over the world (Khare, 2019), it is being Japanized, sellable, and so on. With the effect massification of students, HE is suffering from the unwieldy affiliating system, inflexible academic structure, uneven capacity across various subjects, eroding-autonomy of academic institutions, and the low level of public funding, etc. (Agarwal, 2006), that results in continuous crisis in HE; over demand in the market, inadequate staffing, deteriorating standard and quality, poor physical facilities, insufficient and overall public apathy, etc. It brings the irregularity that the growth of HE is not equitable, less productive, lack of flexibility, less accountability, and autonomy, etc. It is not only the problem of the Indian HE system but also in other developing and developed countries also. It is worthwhile noting that the challenges associated with Work Integrated Learning formation and implementation in Australian HE is characterized by limited resources, large and diverse student cohort, the shift of teacher's attention from teaching-learning activities, etc. (Freudenberg et al., 2011). It is clearly specified in the UGC prepared "Annual Report 2018-19 on Higher Education" that UGC currently set up objectives which focused on enhancing learning outcomes and soft skills, enabling youth secure access to employment/self-employment or engage in the pursuit of HE; developing social –industry connects; availability of motivated teachers and accreditation to ensure qualitative self-improvement in HEIs. Therefore, it is necessary to evaluate the status of Central University Odisha (CUO) in terms of the above mention objectives.

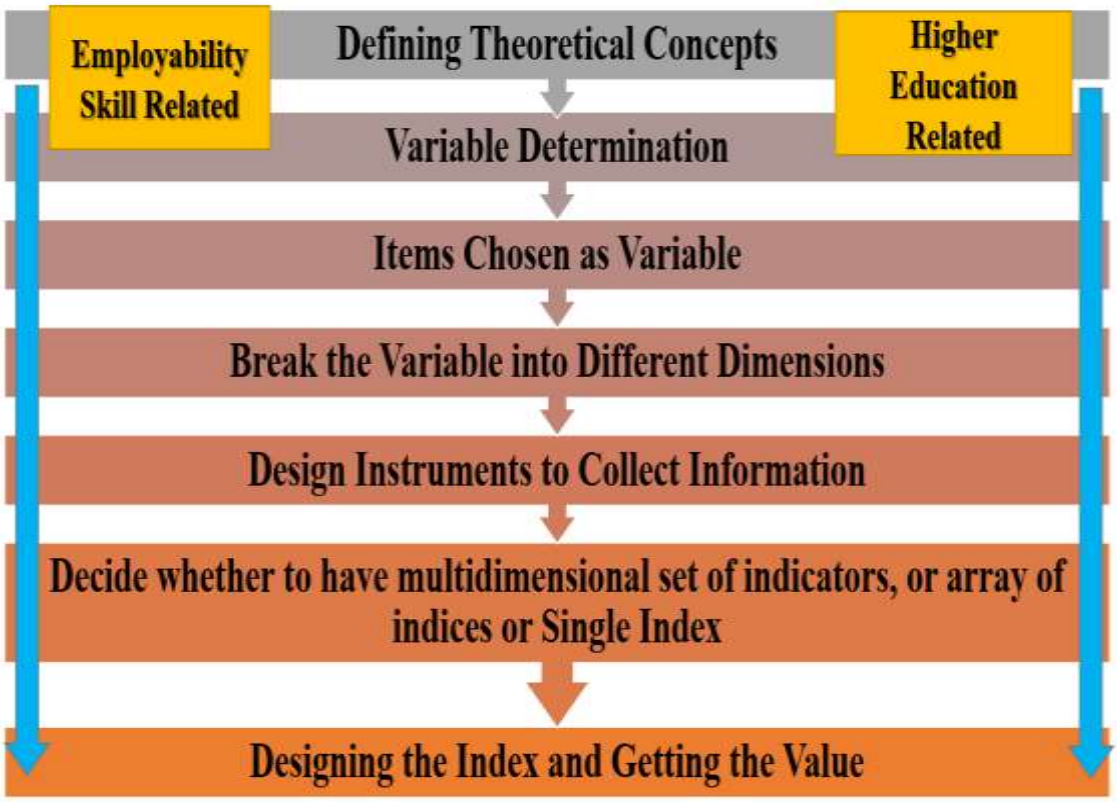
There are 12 new Central Universities established and 3 state universities upgraded to the central university under the Central University Act 2009, passed by parliament, Government of India. In the East Indian region (West Bengal, Bihar, Jharkhand, Odisha) there are three new central universities established for providing quality and equitable HE. Out of four states in East India, the Visva Bharati University founded by late Gurudeva Rabindranath Tagore in 1921, was incorporated as a Central University in 1951 by an Act of Parliament. In the CUA 2009, in Bihar, Central University of Bihar (CUB), in Jharkhand, Central University of Jharkhand (CUJ), and in Odisha, Central University of Odisha (CUO) was established. Among the three newly established universities, the study has taken the CUO for the field study as a case. The novelty of the study lies in the exploratory and comparative analysis of quality

outcomes in terms of ESs in CUO. Elaborately, CUO has seven schools and fifteen Departments and offers Bachelor, Integrated M. Sc, M.A., M. Sc., M. Phil. & Ph. D programs. For the present study, M. A. and M. Sc programs are selected. the study selected six Departments like; 'Economics, Management, J&MC and Mass-Communication, Mathematics, Statistics and BCNR & Conservation of natural resources' from six schools in the CUO for ES survey from students and faculties.

1.1. Conceptual Framework:

Conceptual framework refers to the construction through which the researcher can elucidate the natural movement of the phenomenon to be considered (Camp, 2001). It can be arranged in a reasonable structure to deliver a representation or pictorial display of how thoughts are related to each other in the study (Grant & Osanloo, 2014). Generally, it is connected with the explored concepts, observed research and important theories castoff in the upgradation of facts and approaches provided by the former researchers (Peshkin, 1993). It offers many advantages to an investigation. For example, it helps the researcher in recognizing and building his/her overview of the phenomenon to be studied (Grant & Osanloo, 2014).

Figure 1.1: Conceptual Framework of the Study



***Note*: Design Based on Harvey & Macdonald 1993 and Harvey 2001**

The above figure portrays the conceptual framework of the study. It is divided into different stages. Staring from "defining theoretical concepts" phase to "designing the index for getting results" phase. All these phases are explained in detail below.

- **Phase-I: Defining Theoretical Concept:**

From the review of literature, it is found that concept of ES is not new, there are more than two decades of multi-dimensional research on this concept, but unfortunately, no specific theory has developed yet. Thus, the theoretical concepts are based on selected previous works. Study specifically based on the concept collected from; Harvey and Macdonald 1996, Harvey 2001, Harvey, et. al 2002, Kinght and Yorke 2002, Bowers-Brown & Harvey 2004, Sunday 2013, Khare 2014, Pitan 2016, and Clarke 2017, etc.

- **Phase-II: Variable Determination:**

In this phase, variables are determined from the related literatures. According to different skills agenda, skills have defined into different categories and in the recent study skills are categorised as generic ESs and subject-specific ESs. ESs refer to the skills necessary to be employed in the labour market. The skill which is generally important for each employee is considered as generic ESs, on the contrary, the skills which are key for a specified job are called key skills/SSESs. Four-Cs skills like critical thinking, communication, creativity, and collaboration are part of generic ESs supported by a few pieces of literature. Let's discuss the phase which is crucial for the methodology part of the study.

- **Phase-III: Items chosen as variables & Break it into different dimensions:**

In this phase, first skills as attributes have chosen from the former literature based on labour market importance nationally and internationally. Skills covered under the maximum number of studies have considered as important for the study. Accordingly, 14 generic ESs have chosen for the generic ES index formation. For the subject-specific ES index, ten skills have defined from the book "Student employability profiles: A guide for Higher Education practitioners" developed by "The Council for Industry and HE", Great Britain. For the measurement of each skill, three statements are formed as a proxy to measure the skills, totally, 42 sentences for 14 generic ESs and ten statements for each subject-specific skill of each discipline. Through five-point Likert scale technique skills have assessed by students with the self-perceived method.

- **Phase-IV: Design instruments to collect information:**

In this phase different instruments like data collection, data analysis tools have defined through methodology surveys from related literature. The semi-structured questionnaire has been taken as a data collection tool. Questions are formed in 52 statements for the skill survey through five points Likert scale. Despite that some open and close-ended questions about; student's and teacher's socio-economic and demographic profile, availability of physical facilities and faculties, skill development activities and programs at the Department and university level, problems associated with skill development, etc. Software like SPSS and Microsoft excel has taken for the data analysis. Through analysis of dimension reduction in the SPSS, principal component analysis has operated for finding index value.

- **Phase-V: Decide whether to have a multi-dimensional set of indicators or array of indices or single index:**

As Employability Skill is a latent variable, it depends on multi-dimensional indicators and two indices for the measurement. In this phase, firstly, parameters have categorised into two groups, such as; GESs and SSESs according to nature and definition. Secondly three statements for each parameter have been taken for the measurement of GESs and 10 statements have formed for measuring SSESs.

- **Phase-VI: Designing the Index and getting the result:**

In this phase, the ES index is measured form these two sub-indices. The selected attributes have been taken for the designing the main index and two sub-indices. Subsequently, the values of the sub-indices are calculated through factor analysis. After that, the value of the indices confirmed the variation in the skills among disciplines and accordingly states are being ranked.

1.2. Statement of the Problem:

In the recent time, the importance of graduate skills has been transforming with the impact of digitization, modernization, and automation in the labour market and HE is in the state of flux to provide the same.

Persistent increase in unemployment and under employment among higher education graduates is an important concern for the research. Data evidence that unemployment rate among post graduates increased from 21.3 percent in 2011-12 to 32.2 percent 2017-18, and among total educated youths rose from 6.1 percent in 2011-12 to 17.8 percent in 2017-18 (Mehrotra and Parida, 2017).

Currently the Indian labour market is dominated by 56 percent of employees, who are engaged as Level-2 workers, whose task is to operate machines and electronic devices. Near about 30% of the labour force are engaged in levels and performing simple routine, physical or manual work, about 11% of employees are people of Level 3 skills, and are engaged in working with written records, simple calculations, and the use of interpersonal communication skills in specific areas. Further, people engaged in Level 4 performs tasks that require complex, decision-making, creativity-based work and problem-solving and their share in the labour market is only 3 percent.[3] Thus, another concern for the research is due to lower level of generic skills and competencies to understand the command of the senior officials. Which are responsible causes of communication gap in the operation line.

Nonetheless, the third problem is deteriorating nature of ESs. It is evident from the India Skill Report 2019 that; firstly, the deteriorating nature of ESs among MBA graduates. Data shows, in 2014 which was 41.02 decreased by nearly 5 percent to 36.44 percent in 2019. Consequently, hiring is decreasing from 22 percent to 13 percent. Secondly, the HE domain including post-graduation and equivalent (MCA/MSC/MA/M. Com/CA/M. Tech) have hired the most. Constantly the rate is growing from 6 percent to 11 percent in 2019. Thus, it is essential to investigate the cause of skill deterioration among MBA graduates and the status of ESs among master students.

An important problem responsible for the study is unexplored characteristics of employability related research in Indian social science research. From the review of literature, it is evident that the problem of the employment and ESs is not only the problem of Indian HE but also in many developed and developing countries. Simultaneously, it is also recognized from the review that, though the research on ES is vast in the international context, but in the Indian context, the number is very less and covered partially. It is because research on ESs did not include humanities and social science discipline. Thus, rethinking the ESs in the Indian context, in HE, on master students is quite important.

Therefore, the explored relationship among HE, internal quality assurance, graduate ESs, and labour market expectation needs to be researched in the Indian context.

[3] Shukla, et al. (2019). Return on skill: The widening earnings gap. Retrieved on 30th April 2020 from https://mail.google.com/mail/u/1/#inbox/FMfcgxwHNMRZwjBNnFxRwNTRTWdbrmhR?projector=1&messagePartId=0.3

1.3. Rationale and Scope:

Over the years the importance of ES is recognizing by students and teachers in the HE institutions, employers, and employees in the labour market. The importance is due to the massification of HE leads to the massive transition of graduates to the labour market. Secondly, the skill gap between HE and the labour market is increasingly wider, more importantly, the graduates are lacking skills according to the need of the labour market. Thirdly, the growing demand for multitasking professionals in the 21st century with the effect of the fourth industrial revolution. In the crucial time, ESs which are immensely important for being employed require being evaluated recognizing the national as well as international importance.

Nonetheless, there are various responsible reasons for deciding CUO as the study area is as follows:

First, from the macro perspective, it is evident that numerous researches have done which indicates HE plays a major role in accelerating highly productive labour force to the world of work, but in the Indian context, the quality, excellence, and outcome of students and institutions are not to that level in compared to a world-class institution. Therefore, the study is significantly relevant.

Second, in 2009, there are 12 new Central Universities (CUs) have been established and 3 state universities have upgraded to CU under the Central University Act 2009. CUO is one among them and there are fifteen Departments under 7 schools providing Bachelor, Integrated M. Sc Programme, M.Sc., M.A., and M. Phil. And Ph. D. Programme etc. Every year university produces 400 graduates under different programs. Though there is no study conducted for the outcome evaluation of the institution, the chosen topic is nuanced and significantly relevant.

Third, the university itself aimed at producing market fit graduates through the skill-oriented courses, for that the programs related to ESs have to be assessed.

The fourth reason is that, as the university is established in a very backward region of Odisha and there are so many problems persist in the university functioning, Central University of Odisha is situated in the most backward districts of Odisha, one of the KBK district. The majority of students are from Odisha, including a few percentages of students from Andhra Pradesh, West Bengal, Bihar, Jharkhand. Maximum students are first-generation graduates and they are aspirant of good service and earnings in their life. It is also situated within the industrial region of Koraput, where Hindustan Aeronautics Limited (HAL) and NALCO like macro production units

situated. As a macro production unit, HAL manufactures and supplies the entire range of spares required for first and second-line servicing of engines at the Indian Air Force (IAF) bases. University has Memorandum of Understanding (MOUs) with HAL, COATS in the year 2017.

In fifth, recently the Central University of Odisha has completed its ten years of the academic journey. Unfortunately, there is no single literature available as a case study of quality outcomes in terms of student achievement and faculties performance.

As a central government HE institution, it is essential to support and provide quality human resources to the nation for the local as well as national level development. It is also mentioned in the mission and vision of the university agenda university is established and aims at development "for the region for the nation". But how Departments are operating in the creation of skilled human resources is needed to be explored. Therefore, firstly, how the university is producing market fit graduates, and secondly, is there any variation in ESs among students across different disciplines is important to an inquiry.

1.4. Operational Definition and Key Terms:

Employment refers to a person engaged in economic activity (for the productive work), and he/ she is getting any type of remuneration (Kind and Cash) in a short reference period[4]. For the study student engaged in the higher for further academic learning after their master program is also consider as employment. that the motive of the study is to evaluate the engagement of student.

Employability refers to the conditions for being employed in the labour market, sustaining in the job and able to find a new job. As employability is a latent variable, for the measurement it depends on the construct compiled with some market fit skills and other non-skill items.

ES refers to a set of competencies including skills, understanding and personal attributes, which is immensely important for engaging in the world of work in their chosen occupation which will benefit to individual, employer, community, and the economy. As ES is a latent variable, an index has been calculated from skill scores of parameters under generic and subject-specific ESs. Index score

[4] Employment defined by International Labour Organization, Available at https://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/WCMS_470295/lang--en/index.htm Accessed on 25th January 2020

Generic Employability Skills refers to those skills which are essential to be employed in the labour market without considering any job type. It is measured by the collection of individual skills score in the rating scale.

Core Skill/Key Skills/Subject Specific Employability Skills (SSESs)/key skills denote the skills, which is essential for being employed in a specified work like; teacher, researcher, mathematician, statistician, scientist, etc. It is also measured through skills *score* in the rating scale.

In the following table 1.1, the individual skills used for the calculation of index are specified with the operational definition.

Table 1.1: Operational Definition

Skills	**Definition**	**Operational Definition**
Communication skills	It is defined as the skills essential for effective speaking and writing clearly so that others understand, reading and understanding information which is in the form of words, graphs, diagrams, or charts, etc. In addition to that other attributes involved with communication skills are listening and asking questions to understand the instructions from other people's points of view.	
Problem Solving Skills	It refers to the skills, which assess situations, identify problems, and prescribe solutions for a phenomenon. Additionally, certain qualities include problem-solving skills are recognition of many dimensions of problem and determination of the root causes, again should not be afraid to be creative when solving the problem and ready to learn from past experiences.	It is measured through the score

Team Working Skills	It might be identified as work/cooperate well with the team leaders and members while working in a team and work effectively for the individual as well as aggregate development. Besides, those other qualities include team working skills are effective in negotiating/persuasions and remain an active listener and respect others' view while working in the team.	on the rating scale, termed as skill rate
Planning and organizing Skills	It can be determined as devise programs/plans appropriate to the needs of the present as well as future time, take bold initiatives and handhold with associates for the achievement of goals, expect difficulties, troubles, etc. Apart from these qualities prepare backup plans accordingly the skills of using/organizing resources efficiently to get maximum benefit are also certain skills that include in Planning and organizing skills.	
ICT Skills	It is defined as being familiar with MS word, excel and Power Point practicing, browse the internet to get information for the study and performing its own tasks. In addition to that other attributes involved with ICT skills is to be familiar with the use of emails to send and receive messages and information	
Self-management Skills	It might be specified as to learn very quickly, have a high sense of direction that means a person's ability to know	

	without explicit guidance the direction in which they are or should be moving. Besides this there is some of the attributes like have knowledge about SOWT (strength, awareness, opportunities, and threats) analysis for self-management and growth is also involved in self-management skills. Developing self-assessment enabled them to not only state clear goals for their future learning but also their personal development (Marais & Perkins, 2012).	
Time management/ prioritizing Skills	It might be described as to manage the time and meet the schedule in own work within deadlines, priorities activities among several tasks in one period, and find an alternative to do work for saving time and resources.	
Decision making & leadership Skills	It can be described as to take important decisions in a difficult situation for individual betterment as well as institutional development, recognize the problem and take steps for immediate resolution, support and motivate others to work for a common goal, give directions and guidance to others while working in a team and also follow their ideas, etc. In addition to that other attributes involved with decision making and leadership skills are communicating ideas to persuade and convince others, set shared goals,	

	monitor progress, exhibit self-discipline, and take responsibility for the result.	
Integrity and honesty Skills	It is specified as deal with people, problems and situations with honesty and integrity, value unity and integrity in every step of the life and do such type of activities which is right and ethical that is backed by constitutional laws and integrity	
Self-confidence & positive attitude Skills	It is defined as believe in self-confidence and remain positive in life, belief in hard work that can successfully complete a task in any adverse situation. Besides these some other qualities involved in self-confidence and positive attitudes are believe in own ability to complete work successfully within a time framework, always be optimistic in nature, can see the bright aspects of each action, etc.	
Flexibility Skills	It is described as to adjust and adapt in various working environments, have the ability of lifelong learning and accepting new things, accept the changes and adjusts to the changing work ecosystem.	
Work Ethics and Morality Skills	It might be defined as do work according to the order of the senior officers, come to the office in time/ maintain punctuality, and don't do such kind of things which will affect the working environment negatively. Apart from this some other attributes like	

	congratulating a new initiative taken by colleagues/associates and could move in that directions also come under this skill	
Stakeholders	For the study teachers, students, and heads of the selected Departments from the HE institution is considered as the stakeholders.	Number of teachers, number of students, Percentage of teachers, Percentage of students, number of heads
Higher Education	For this study, HE refers to the Master of Arts (Economics & J&MC), Master of business administration and Master of science (BCNR, Mathematics, Statistics).	
Core course	It refers to a course, which is compulsorily to be studied by a candidate as a core requirement in the subject.	Number of core requirement in the subject and credit assigned for that
Elective Course	It refers to the courses which is very specific, specialized, advanced, supportive to the discipline, which provides extend course, which enable an exposure to the student is called elective courses.	Number/percentage of specified, specialized, and advanced requirement in the subject and credit assigned for that
Practical Paper	It refers to the part of course structure, which is essential for the practical orientation of subject specific knowledge.	Number of practical paper and credit assigned

Summer internship	Internship program refers to that part of work integrated learning, which provides enough time to learn from the work environment.	number of times in one master program, Number of days. Credit assigned
Dissertation/ Project	It is a compulsory paper in the course designed to acquire specialized advanced knowledge in a field of any discipline through closer investigation of literature and empirical data.	

1.5. Objectives of the Study:

The specific objectives of the study are as follows:

I. To construct the Employability Skill index of the selected disciplines[5].

II. To explain the variation in Employability Skill among students belonging to selected disciplines of Central University of Odisha[6].

1.6. Hypothesis of the Study:

Based on the above objectives, hypothesis is formulated below;

[5] Developing an Employability Skill index is an auxiliary work of 2nd objective. Though there are numerous researches in the recent past in world level, but it is very tough job to define which skill set is consider as employability skill. Therefore, researcher after going through past literatures, able to define common parameters for representing both two sub-indices and main employability index. As the employability skill is a latent variable and depends on many parameters for the construct, through different phases it has come to conclude. Both literally and empirically the ES index depends on two sub-indices, such as the generic ES index and the subject-specific ES index. In the paper, methodologically these indices depend on setup skills selected from the literature review. For calculating the ES index 52 items have taken as a proxy to measure 14 generic employability skill and 10 subject-specific employability skill for each discipline.

[6] Here, variation in ES among master student's is measured for identifying, the variation in terms of the employability skill, employability skill gap. For determining the responsible causes study also focused to analyse diversity in curricular structure, availability of human and physical resources, diversity in academic activities including teaching-learning and assessment criteria, etc. related to ES.

$Ho_{1:}$ Mean values of the Employability Skills across selected discipline are not varying significantly.

1.7. Delimitation of the Study:

The delimitations of the study are

a. Delimitation for the study lies in the assessment of the quality of HE institutions in terms of quality outcomes. This study reflects quality outcomes, which are not the objectives of the study but the ultimate and hidden objective. For this prospective study delimits quality as ES.
b. ESs are not only determinant employability and employment, but also there are other parameters like job type, the timing of job attributes and recruitment practice, further learning, etc (Harvey, 2001). Nonetheless, skills are divided into different categories, but for this study, it is categorised as generic ESs and subject-specific ESs.
c. Though there are many areas related to ESs like; concepts and development of models, the role of HE institution in skill development, ES as labour market expectations, the relationship among HE institution, labour market and ES, etc, but the study particularly focused on indexing the ESs of master student's and enquiring its development in the selected Departments in a HE institution.

1.8. Limitation of the Study:

Limitation of the study are

- From the literature review, it is evident that the measurement of skills is very tough and problematic. The study for the measurement of skill has used five-point Likert scale of perception statements collected from teachers and students, which is considered as a major limitation of the study.
- Though the concept is widely discussed in international literature, nationally very few researchers have done this concept. The study assumes the skills, which is essential in the international labour market is considered as essential for the Indian labour market, keeping the assumption that Indian economy is an open economy and globalised after 1990s LPG reform.
- The study selected the CUO as a case, which has completed 10 years of its academic achievement. The selected study area is best suitable for micro-level research, but from macro perspective, study area is not justified.

- Due to less time available for the study, researcher is not able to consult with the stakeholders like; Industry resource person, HR managers who are coming for campus and placement) who have enough knowledge of ES and its development.
- Due to large numbers of variables in developed PPP model explaining provision and practices responsible for employability skill development and variation, the findings are not so clear.
- The study is based on student's and teacher's perception on ESs, which is considered as a major limitation of the study.

CHAPTER-II

2. THEMATIC REVIEW & THEORETICAL FRAMEWORK:

This chapter has been divided into two sections to have a brief outline of the numerous researches done in the area of ESs and its development in HE institution. These sections progressively build up the idea and concept of ESs, its importance among HE graduates, role of HE in cultivating ES etc. The first subsection introduced with the idea and importance of ESs in the labour market. The Second subsection deals with context and concept of ESs. The importance of employability among HE graduates is discussed in the third subsection. Lastly how HE institution is cultivating ES is explained richly in the last subsection. Then in the second section the theoretical framework is discussed with the help of previous models. Then in the last part research gap have been formulated with the chapter summary.

2.1. Thematic Review of Related Literature:

The succeeding analysis covers a thematic review of literature pertaining to the areas of employment, labour market needs of ESs, role of HE institutions in cultivating ESs among graduates through different approaches. As, all these terms are associated from different angles, the different themes have been defined according to the nature of interconnection between different concepts. Subsequently, all the themes are discussed in details below.

2.1.1. Discourses on Employability & Employability Skills:

Though the term employability, ESs are used interchangeably, there are conceptual differences that are identified by many scholars. The relationship between employability and ESs is like two sides of the same coin and both go hand to hand in the labour market. In this context, Bhaerman and Spill (1988) defined both the terms “employment” and “Employability” are different. The first one denotes having a job, however, the later one denotes being capable of having a job. Employability is possessing the capabilities required to get the job; sustaining it for long and switching jobs easily, if required (Hillage & Pollard, 1998). For instance, an individual might get a job or employment due to various reasons like luck, networking, however, one must employable to perform well and sustain the job in the long run. In this context, difference between employability and ESs reflects in the attributes like non-skill factors (job type, the timing of job, attributes and recruitment, further learning) influencing employment (Harvey, 2001). Again, in his view, the explicit and implicit definition of employability reveals job type, the timing of job, attributes, and recruitment, further

learning and ES (core skill and generic attributes) are major factors influencing individual employment. Many pieces of the literature revealed that employers look for more than a degree or subject knowledge; they prefer that a graduate should possess the right combination of attitude, knowledge, and skills which makes a graduate employable. Therefore, all graduates should aspire to become employable rather than focusing on getting employment soon.

A negative impact of employability discourse is recognised by many authors. For instance, (Knight, 2001) finds an emphasis on employability threatens other developmental outcomes. Reflecting on the practice of quality in HE, discourses for employability shifts from factors like well-being, passion, wisdom, enjoyment, and self-acquisition, etc. Due to excess enrolment in university education and unemployment among higher education graduates is high, for solving the problem they suggested, at first university places should be 'protected' for those with higher A-level grades and secondly the shortage of skilled trades-people must be addressed by transforming the remaining to vocational education (Bowers-Brown & Harvey, 2004). Consequently, due to the over-expansion of HE, and less opportunity in the labour market, graduate employability has become a serious concern (Moreau & Leathwood, 2006). Therefore, due to over transition and crowded graduates in the labour market, the importance of ESs became subsequently important in the national and international labour market. In the same time, the problem of the skill gap is recognised in the hand of educated youth and the gap is due to the poor linkage between HE and labour market (Khare, 2014). Explaining the interactive forces responsible for labour market skill distortion (Choudhary, 2014) through a closer investigation, found: at first job market is not incentivised to generate skill human resource, the very less economic effort has been made by the employers to train the less skilled and make them adaptive in the job market. Secondly, the education system is not in sync with job market requirements. Consequently, the unemployed and underemployed skills produced in the education practice go wastage and misallocation. Simultaneously the importance of market-ready professionals is being guided by higher growth of organisation (Agrawal & Dasgupta, 2018) and for sustainable employment by employers and employees (Khare, 2018). According to Agrawal & Dasgupta (2018), employability skills considered multidimensional in nature and sometimes as a performance indicator for academics. Employability skills are key factors for employment; thus, it can be a part of the curriculum at finishing school like it.

2.1.2. Concept and Attributes of Employability Skill:

In supply-side, employability Skill continues to be a quality parameter of the university assessment and the determining factor for employment in demand-side. The concept of ES has been defined by many former studies. The concept of employability is complex and multidimensional in nature. Core skills develop at school, at work, and at home.

Hillage and Pollard (1998) in their research paper "Employability: Developing a framework for policy analysis" discussed the origin of employability. They stated the concept of employability has been in the literature for many years. They defined employability as an ability to be employed i.e. a) ability to gain initial employment b) ability to maintain employment c) ability to obtain new employment if required. Further, ESs like quantitative ability, knowledge in information technology, learning to learn, etc. knowledge and skills related to subjects, disciplines, professions, or specialisation is more crucial and immensely important for graduates in the 21st century (West, 2000). Some author defines ES as personal attributes, core skills, practice skills, etc. of the individual which provides the opportunity to learn from different spheres. For instance, Knight & Yorke (2002) discussed ES consists of personal attributes like (adaptability, willingness to learn, and reflectiveness); core skills (including numeracy, oral and written communication, listening, critical analysis, and self-management); generic skills, personal skill, key skill, core skill, practice skills (including applying subject understanding, computer literacy, commercial awareness, political sensitivity, coping with ambiguity and complexity, influencing, teamworking, and negotiating), etc. Again, Lizzio & Wilson 2004 found student's conception of the total domain of skills persist in the disciplinary professional skills, written communication, and information literacy, problem-solving, communication and leadership, conceptual thinking and organisational membership, and personal responsibility, that reflects awareness among students of both academic and individual in the employment environment. Engineering students view problem-solving skills are more important for them. Ten core skills as discovered by Maxwell (2009) in this domain namely; Communication skills, Decision-making skills, Independent working skills, Information retrieval skills, Leadership Skills, Numerical Skills, Personal Learning and Development Skills, Problem solving skills, Strategic skills, Team working skills is important for the 21st-century labour market. Employability is not just vocational and academic skills; an individual requires relevant and updated market information to

make the right decision. Fleming et al. (2009), highlight that the most important competencies are the ability and willingness to learn/ enthusiastic participation, initiatives, self-sufficiency, and personal planning and orientation skills for both cooperative education students and graduates. These competencies need to be reinforced in the graduate program. Sunday (2013) found numeracy, independent study skills, and teamwork were highly ranked in the assessment, other skills like problem-solving, ICT skills, and time management were ranked low.

Historically there has been a great deal of confusion in the literature regarding the definition of skills, some of them say Individuals‟ employability assets comprise of basic skills, occupation-specific skills, and involvement skills, other related it with human capital, social capital, etc. Basic foundation skill (foundational literacy and numeracy, prerequisites for education and training, acquiring transferable, technical and vocational skill), vocational and technical skill (specialised skill, domain knowledge, and knowhow to do a particular work), professional and personal skill (individual attributes like honesty, integrity and work ethics), core work skills (ability to learn and adapt, read, write, compute competently, listen and communicate effectively, creative thinking, independent problem solving, manage oneself at work, interact with co-workers, group work or team working capacity, manage basic technology, good supervision, etc.) are the core skills for employability which is needed for the world of works (ILO, 2013). Under the foundational skill; written and oral communication, problem-solving, etc. and under critical analysis, adaptive capacity, adapt to a new situation and foreign workplace, learn with autonomy, develop new ideas and innovative ideas, etc. are important (Oliver et al., 2014). Further, team working and interpersonal skills, IT skills, skills related to coping up with pressure and stress, be flexible and adaptable to meet deadlines, and technical and domain-specific skills are concerned. Suleman (2016) under the heading of "required skills for graduates", noted that there are different methods have been used to define the set of skills that employer's value most. Through direct method skills have been defined from job advertisements, or through employer's graduate's report. In addition to that through the indirect method employee satisfaction survey, graduate's skill survey skills have been defined.

Martin (2017) defined it differently than graduate ESs depends upon human capital (Skills, competencies, work-integrated learning), social capital (network, social class, university ranking), and individual behavior (carrier self-management, carrier building skills). How the ES definition has shifted from demand-led skill set towards a

more holistic graduate attributes, then to transferable skill and person-centric qualities, then to subject-specific knowledge, skills and competencies are discussed by Khare (2019). Agrawal & Dasgupta (2018) viewed ES considered multidimensional in nature and sometimes as a performance indicator for academics, these skills are said as four elements of ESs as; employability asset (knowledge, skills, attitude), deployment (carrier management skills, job search skills), presentation and job getting skills (CV writing, work experience, and interview techniques), external factors (opportunities available in present market condition).

Gunaratne (2019) found the employers perspective most rewarded graduate attributes are; skill in English language, level of computer literacy of graduates, professional qualification and work industry experience through an internship, domain knowledge, attitude, and behavior, controlling emotion a behavior, establish and maintain a positive relationship in the working environment, making responsible decisions and solve challenging situations and achieve positive goals, etc. Doolan et al. (2019) focused on embedded work-integrated learning (WIL) and described the benefits like organisational learning, professional relationship, and networks, improved skills i.e. communication skills, problem-solving skills, Planning, and organising, relationship building skills, etc. Employability, in other words, is about being capable of getting and keeping full filing work.

2.1.3. Importance of Employability Skills in Higher Education:

To address the demand of government and employers' group, the importance of ESs have been recognized by administrative body in higher education and the labour market of both developing and developed economies. Due to multi-dimensional factors, ESs have become so vital. For instance, Importance of Employability is recognized from three prospective i.e. first, the ability to gain initial employment, second the ability to sustain employment and do transitions between jobs and roles within the same organization to meet new job requirements, and the ability to obtain new employment, if required, by being independent in the labour market and able to manage employment transitions between organizations (Hillage & Pollard, 1998). Again, keeping the government expectation and traditional academic value into consideration Othman et al. (2010) developed a model named USEM. The USEM model is based on Understanding (of course of study and how organization work), Skillful practices

(academic, employment and life generally), Efficacy beliefs (the student's self-concept and self-belief), and Metacognition including (self-awareness and a capacity to learning). Supporting them, Marais & Perkins (2012) in his paper "Enhancing employability through self-assessment", explained self-assessment of skills is important for graduates. They recommend the strategy to enhance students' self-assessment after integrated into their new learning environment which enabled them to not only state clear goals for their future learning but also their personal development. It should become a compulsory part of the HE programs in future academic years. Due to transformation in the economy, the labour market, and the HE, the importance of English language proficiency is recognised from returns to skill concept in the last decade (Rani 2013). Recognizing the importance of ES, Cranmer, (2006) discussed skill can be developed in the classroom, all disciplines should be embedded with ES by introducing new courses, modifying existing courses, and expanding opportunities for work experience in its curriculum rather the notion that only vocational education needs to be. Wells et al. (2009) highlighted the importance of the personal, intellectual, and interpersonal aspect of professional capabilities among graduates lead them to succeed in the workplace.

The interpersonal and communication skills necessary to develop in the accounting by embedding in the course curriculum, in this context in which assessment strategies and learning environments are best suited to develop these skills is a great challenge for university. The study found that "responsiveness to clients in the workplace" needs and requirements as a professional capability. Othman et al. (2010) findings that the conventional learning approach of mere lectures has restricted facilities for skill development in the century. In contrary problem-based learning helped the students to become more independent and active in their learning practice. The author suggested problem-based learning (PBL) or engineering student as applied mathematics students can better ESs of students which are essential for sustaining in the labour market and survive in their own life. Reflecting on the importance of ES, Dhar (2012) explained irrespective of qualification and experience, without knowledge, skill and attitude individual is unable to maintain a livelihood. According to him, day-to-day learning helps the mind to be young always rather retired from learning. Again he commented on the notion of the ranking of HE in the 21st century, he argued whether the business school is scoring top ranks by different business school rating agencies, rather it is crucial to focus important whether the business school can change the

dimension of learning by its up-to-date course curriculum, innovative teaching pedagogy as well as andragogy. In the same year Smith, (2012) by evaluating the quality of WIL curricula highlighted that work-integrated learning curricula are an increasingly common feature of the HE in Australia and elsewhere and have a long-standing traditional place in professional education. In the same type by evaluating the formative function of HE institution, Steur et al. (2012), investigated that formative function itself is the starting point that distinguishes graduateness from employability. The author states that universities are at risk due to the changing aim of the university from graduateness to the sense of board academic cultivation to professional training with a strong emphasis on graduate employability. He defines graduateness that integrates theories on relative thinking, scholarship, moral reasoning, and lifelong learning. The developed model can be used to know why some students from pre-master programs are more successful than other students when entering master programs. Rowe & Zegwaard (2017) Graduate employability is a complex concept and its cover ESs, networks, professional identities, and activity citizenship. HE sector must realise the education for the sake of education to education for the sake of employment by adopting sustainable skills development strategy (Khare, 2018). ESs are key factors for employment; consequently, it can be a part of the curriculum at finishing school like it. Martin, (2018) explained HE and graduate employability is interconnected and concern for employability is the driving force for focusing on course design and delivery. Then in his paper, "Assessment of ESs development opportunities for senior secondary school chemistry student's", HE Institutions plays a vital role in the making of employ-able professionals for changing the labour market (Agrawal & Dasgupta, 2018). Gunaratne, (2019) viewed competitiveness of the employment market is influences by the expansion of HE, increasing in the number of graduates entering the employment market with foreign qualification, unprecedented change in technology, globalization, and the expansion in the global economy, etc. He suggests that system-wide interventions required to address microlevel mismatch.

Therefore, it is concluded that the central questions exist for the HE system are "What to produce, how to produce, for whom to produce and at what cost to produce graduates: in 21st century changing world.

2.1.4. Higher Education & Development of Employability Skills:

West (2000) discussed are two alternative approaches to promoting ESs in HE and employment. Firstly, fostering ES HE and secondly professionalising HE system through the professional model. Albeit the interaction between HE and the labour market is the wider and less exclusive but professional model of HE and the labour market interaction may have more prospect of success in modern condition. In the case of both profession and discipline-based HE draws their distinctive form on the context of articulation, exploration, elaboration, and framing. Statutory professional practice employability can be possible through placement opportunities, employer-linked projects, visits, and work-shadowing (Harvey, 2001). In his suggestion, employability should be developed in institutions, for that internal management of institutions is needed rather than simple ranking. Knight, (2001) also discussed what is essential for being employed, is skills, which skills are important for being employable, etc. again in his next paper with Yorke in 2002, he developed the understanding-skills-efficacy-metacognition (USEM) model by describing the implication of self-theories of graduates to facilitate the employability, which, at its richest, must embody inter alia something of a 'get up and go' spirit with a low fear of risking failure, implication relates to curricular structure, the design, and enhancement of complete degree programs. Their implication of Bandura's work on the model is to develop self-efficacy of the students through dissertation writing. Nevertheless, the skill plus projects provide a better idea about teaching-learning and assessment criteria and their interlinkages. Bowers-Brown and Harvey (2004) explore the elitist and democratic perspective on the expansion of HE before examining the views of employers. Fundamentally elitist perspective deals with the increase in HE participation from the economic benefit of education. It declares elitist argument has two main themes: firstly, university places should be 'protected' for those with higher A-level grades, and secondly, the shortage of skilled trades-people must be addressed. If HE is restricted, elitist views that more people should take vocational and technical education. From a demographic point of view the more graduate we have the better social benefit. Vocational education perspective is that rather than going for liberal education, people should demand to learn how to trade, which is vocational training. A business investment perspective says that there is a lack of commitment for lifelong training and graduates are not used effectively in the job market. Lack of inputs from the business world is the major reason for skills miss-match, and the business world has recognizing the importance of skills. Developing ESs

is a continuum practice and depends upon academic work, community engagement, social networking, and life experience of a student. Incorporating curriculum into HEIs provides employment opportunities for students by engaging students in work-integrated learning (York and Knight 2004, Cranmer, 2006). Again Cranmer (2006) focused on assessing how academics perceive and engage in teaching and learning, employers' engagement in curriculum designing and delivery have got a positive effect on the graduate outcome, their engagement in the labour market within six months of completion of their study. As graduates acquire more job and occupationally specific skills and knowledge through work-based training and experience, that leads to having a positive effect on graduate outcomes. Work-integrated learning through different activities including (workplaces, writing case studies, projects, and consulting tasks) enables students to obtain skills that are vital to success at the world of work (Little and Harvey, 2006; Craner, 2006). Supporting to the previous literature, Wells et al. (2009) recommended application of learning to real-world situations or professional practice are two key areas for developing professional capabilities, for the same university should include use of case studies and integrating work placement activities or internships into course curriculum for encouraging students to work in the real-world problems. Othman et al. (2010) find PBL is an alternative, systematic approach for teaching-learning practice for creating an enabling environment for both student and teacher. Through PBL students are getting opportunities to develop their communication, leadership, and problem-solving skills to be employable. Likewise, Freudenberg et al. (2011) Professional development program is an approach to WIL, which integrated into a business degree program for students learning, generic skill development, and supplement to their theoretical studies, and for overall employment. Nonetheless, Dhar 2012 describes management institute must be able to contribute positive value addition to student's life through linking HE to the labor market, then the companies will come and recruit in bulk from the campus, as they have generated brand preference as well as brand conviction towards the business school as outputs or the finished products of the management institute are already tested by them. In the understanding of Steur et al. (2012), the classification between reflective thinking and scholarship as well as moral citizenship of lifelong learning not only significant but also important for the university to include in its formative function. According to Smith 2012 considerable investment in expanding WIL in the HE sectors, beyond those programs in which it has traditionally featured. The author mentioned that WIL is a

relatively expensive curriculum compared with standard lecture-plus-tutorial designs. The author suggested variations in the way that WIL courses or subjects are designed within these dimensions are the basis for different expressions of the quality of such courses. Sunday, (2013) found that different ESs development opportunities abound in the schools in varying degrees. He suggests that school authorities should create an enabling environment where the development of ESs will thrive, and that science teachers should provide enrichment activities specially to develop students' competency in problem-solving and ICT. In the view of Jackson 2014, Work Integrated Learning is also encouraging graduate job-readiness by building student's confidence in their workplace capabilities, better knowledge of student's required skills in the workplace. In the same year Ferns & Zegwaard (2014) critically assessed issues in WIL and found external forces are mandating a reshaping of all aspects of education, and with the advancement of technology, opportunities for new assessment methods and approaches have emerged. Again, realising the importance of ES development in HE Jackson, (2014) discussed work-integrated learning (WIL) is instrumental and outcome-oriented to enhance graduate employability among graduates for better performance in the labour market. He defined WIL refers to the composition of traditional academic knowledge of formal learning experience and skills learned from exposure in the world of Work through different programs. Radhakrishnan & Sudha (2015) found curriculum mapping is the stepping stone for reducing the skills gap and to meet the expected employable skills of employers in the labour market. In the academic arena, it requires proper teaching staff with suitable skills resources and awareness of current industry practices. Row & Zegwaard (2017) defined to support employability outcome appropriate pedagogical strategies is necessary to use WIL experiences. WIL encapsulates a range of experimental and practical based learning models and activities for the cultivation of ES among graduates, for the same WIL activities must be integrated and alliance to the curriculum. Again, defining model, he explained previous authors' ideas; such as, activities, work-based learning, and service-learning, cooperative education (i.e. fieldwork, internships, volunteering, project-based work, clinical placements, practicum, simulations). Similarly, in macro aspect Agrawal & Dasgupta (2018) proposed carrier EDGE model, which describes step by step achievement of employability through; carrier development learning, experience, degree subject knowledge, generic skill, and emotional intelligence, it is better to take

WIL experiences for effective curriculum design which is important for cultivating employability among graduates.

Gunaratne, (2019) universities should rethink and revisit their curriculum and pedagogy, teaching-learning, and assessment for the student are to be equipped with the knowledge, skill, and value for the development of intellectual, personal, emotional, and social potential. The concept of core skills, which is the auxiliary part of broader ESs develops at school, at work, and home (Agrawal & Dasgupta, 2018). Thus, the concept is supported by Martin, (2018) explored the relationship between HE and ES by reviewing graduate tracer study, employer survey, job market analysis. There are different tools like; graduate tracer study (aims at investigating job market integration and employment, condition of graduates, provide a comparison of employment by field of specialisation about knowledge, skill and attitudes,) employer survey (its purpose is to identify strengths and weaknesses of graduates in terms of professional and cross-cutting skills communication, Specialised knowledge and skills), job market analysis (aims at identifying job opportunities for graduates through gathering information from the labour market survey or from on and off-line, open days internship sources). She recommended that enhancing employability lies at the discussion of employability issues among stakeholders in HE and the labour market. Usually, IQA is a university cell working for enhancement for teaching, but it also can be increased for the development of graduate employability.

2.2. Theoretical Framework:

The relationship between education and ESs began to visible more clearly in the 21st century due to many factors like; the aim of education, quality of HE, skill mismatch between perceived and expected skills, etc. The reason is that the education sector is not growing with the expectation of the labour market. Thus, a major question arises about the quality of human resources produced in the HE is not relevant to the labour market. The persisting skills gap, under-skilled personals have been produced significantly, which is the liability for the labour market rather than an asset.

The study is based on the premise of the following ideas. The following discussion focused on the relationship between HE, ESs, and employment. In this context, West (2000) discussed there are two alternative approaches to promoting ESs of graduates in HE for employment. Firstly, fostering ESs in HE and secondly professionalizing HE system through the professional model. The question comes in

this regard, that how to enhance ESs, responding to the question, Harvey 2001 viewed by tracking previous graduate employment rate institute can develop ESs among graduates for employment. Therefore, the ESs should be developed in HE institutions, for that internal management of institutions is required rather than ranking. On the other hand, the importance of ESs has recognised by Bowers- Brown & Harvey (2004). They discussed due to the mobility of labour across national borders, the importance of generic skills in the domain of international market has been increasing day by day. Simultaneously, Cranmer (2006) discussed how in the Department level teaching-learning addresses the ESs in the field of HE. In this aspect, many educationists viewed work-integrated learning programs are considered a key strategy for developing ESs of graduates (Freudenberg et al. 2008; Jackson 2015; Peach et al. 2014; Trede 2012) and boosting employment outcome (Ferns et al. 2014). Thus, the following ideas focused on some models upon which study is depending.

2.2.1. Review of Related Models:

Different former researchers have developed multi-dimensional models on employability, employability, ESs, and its development in HE. In some paper, the model related to the concept and characteristics of employability and ESs have been defined. Some models particularly developed for how to enhance ESs in the university premise. All the details about the models are given below.

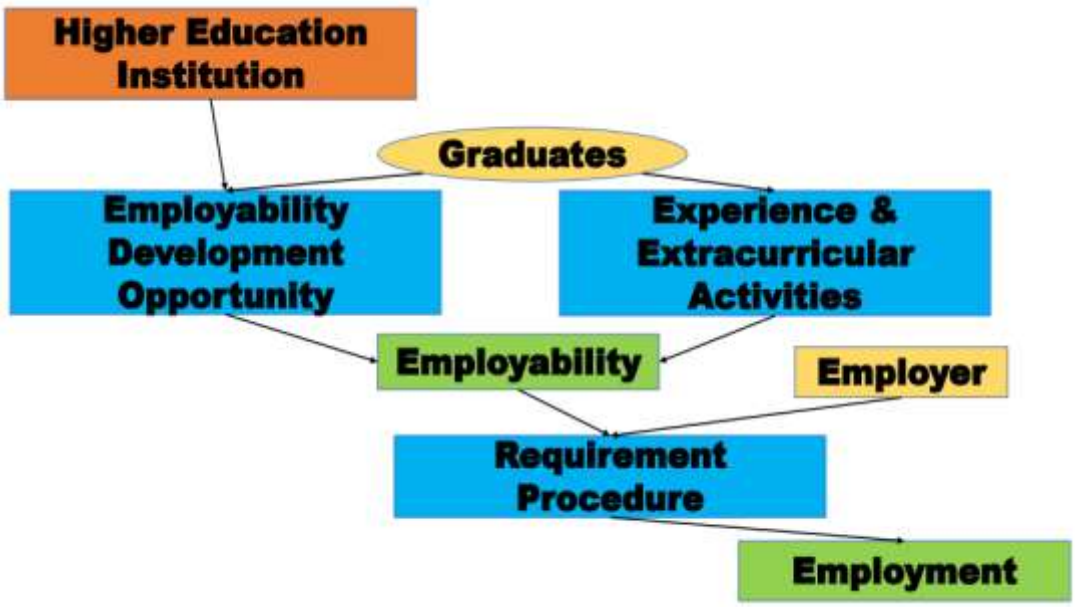


Figure 2.1: A model of Employability Development and Employment (Harvey, 2001)

The model shows the explored relationship between opportunities provided by the HE institution and the ESs of graduates for employment in the labour market, some of the procedures of requirement also discussed. In this model, the ESs development is based on employability development opportunities and graduates' experience and extra-curricular activities. These factors like; previous experience, extracurricular activities, career intentions and networks, and the quality and availability of the employability experience within the institution, particularly that which is integral to and explicit in their program of study affect student's employability. Then while the employers' recruitment procedures are based on a `rational' appraisal of appropriate attributes on an individual-by-individual basis. Writers view that, even with a `rational' approach, there is a range of factors that mediate the employment practice, irrespective of the opportunities afforded by the graduates. The opportunities like; type of HE institution, mode of study, student location and mobility, subject of study, previous work experience, age, ethnicity, gender, and social class, etc. Therefore, irrespective of the opportunities, factors like political compulsion and reputation of the institution are factors affect employment in the real the labour market. Though Harvey (2000) develop the model, but the paper fails to discuss the opportunities HE institution provides for ES development. Once more, in the year 2002, Harvey develop a model of graduate employability development.

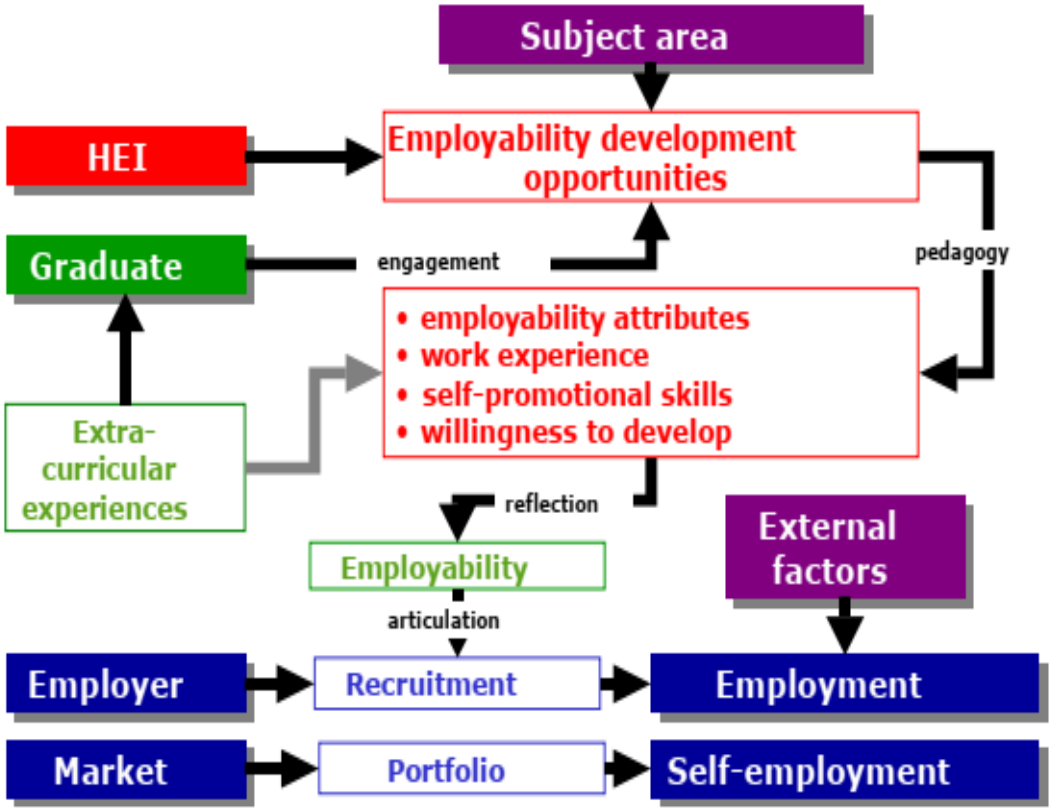


Figure 2.2: A model of graduate employability development (Harvey, Locke, and Morey 2002)

The model depicts that, initially when a student enters, HE with some extracurricular experiences under some specific subject area, then after getting employability development opportunities, he/she became employable for the labour market. Nonetheless, the model also reveals that employability depends to some extent to pedagogical practice covers employability attributes, self-promotional skills & willingness to develop the skills. With the ESs graduate goes the labour market through the procedure of requirement. However, the model discusses the opportunities in the HE through different pedagogical approach but fails to discuss what requires a pedagogical practice for ES development.

At the same time, another model developed by the Knight and Yorke named the USEM model of ES through the development of curriculum in the HE. In that model, the student's capabilities depend on the subject understanding, key skills, self-efficacy, and metacognition.

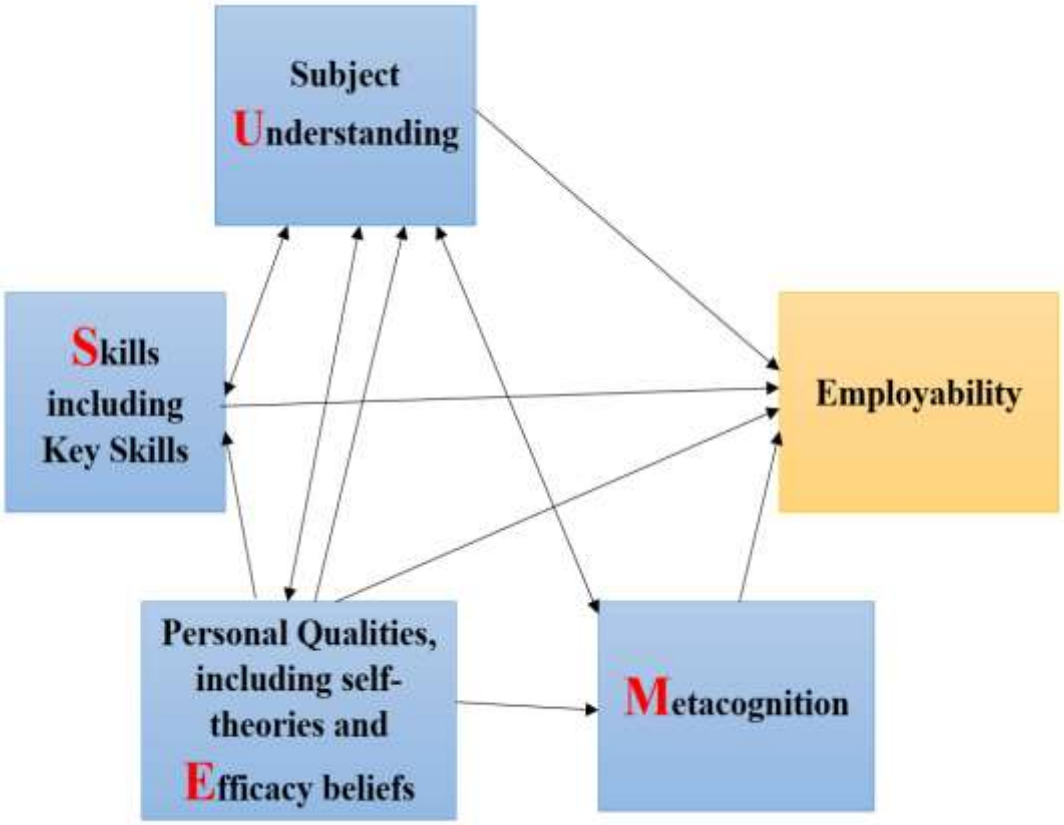


Figure 2.3: USEM Model of Employability (Knight & Yorke 2002)

The above model shows a network of interconnections between the understanding, skills, and metacognition. All these factors are mutually supportive and developmental. In this case, the ES depends on the theoretical understanding by the key skill which is in the hand of a student, method of teaching which stimulates the thinking practice of student to varying extents, assist to student's for developing skills and metacognition, etc. author gives the example of; (use of computers in information retrieval and numeracy, for example) will enable the gaining of subject understanding, and that the methods chosen for the teaching which has an effect on student's metacognition. Thus, the practice ESs development can be possible through curriculum structure. Once more, the paper fails to discuss the structure of curriculum and pedagogy for better development of ESs among HE graduates.

Again, there are many pieces of literature related to ES, but the models are not relevant for the study as models are based on human psychology and thought practice. After many years in 2014, a model developed by Khare reflects on the factors impacting the individual employability and structure of HE. Details about the model are explained below.

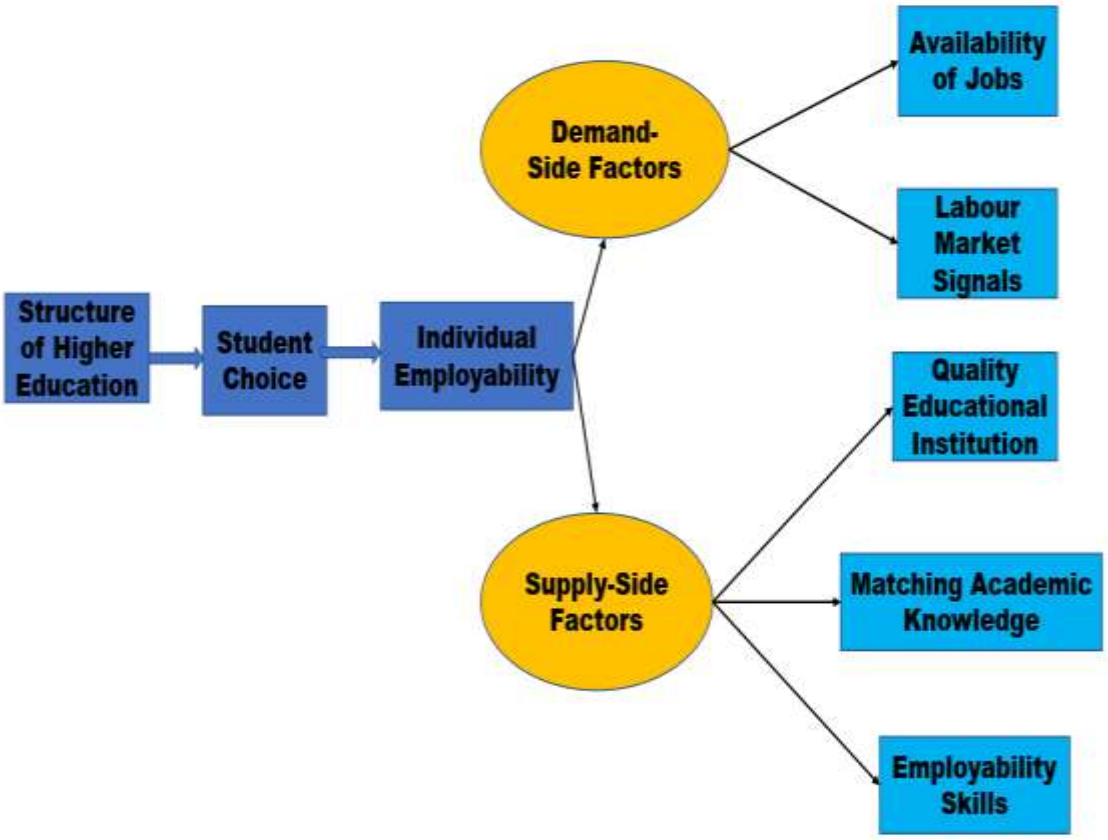


Figure 2.4: Factors impacting individual employability and Higher Education structure (Khare, 2014)

The model networks the relationship between individual employability and structures of HE institutions. Basically, the model reflects the individual employability is the reflection of the structure of HE. In this context, though the HE in India is being professionalised, thus the employability is reflected by that professionalism. Again, it is the student's choice for the subject which will provide higher employability in the labour market, it depends on the phenomena happening in the demand side factors like; availability of jobs and the labour market signals. Similarly, in the supply side, the employability is depending upon the quality of HE institution, matching academic knowledge and ESs required in the labour market. The model covers macro aspects of the employability and structure of HE. Thus, it fails to discuss micro phenomena like what are the factors influence the quality of HE in the HE premises, problems related to matching academic knowledge and ESs, etc. How ES is embedded in the course curriculum with a different approach to pedagogy, etc.

Just after 2-year Pitan (2016) developed a model, named "Model of Graduate Employability Enhancement". The model discourses about major stakeholder and agency involved in the enhancement of ESs.

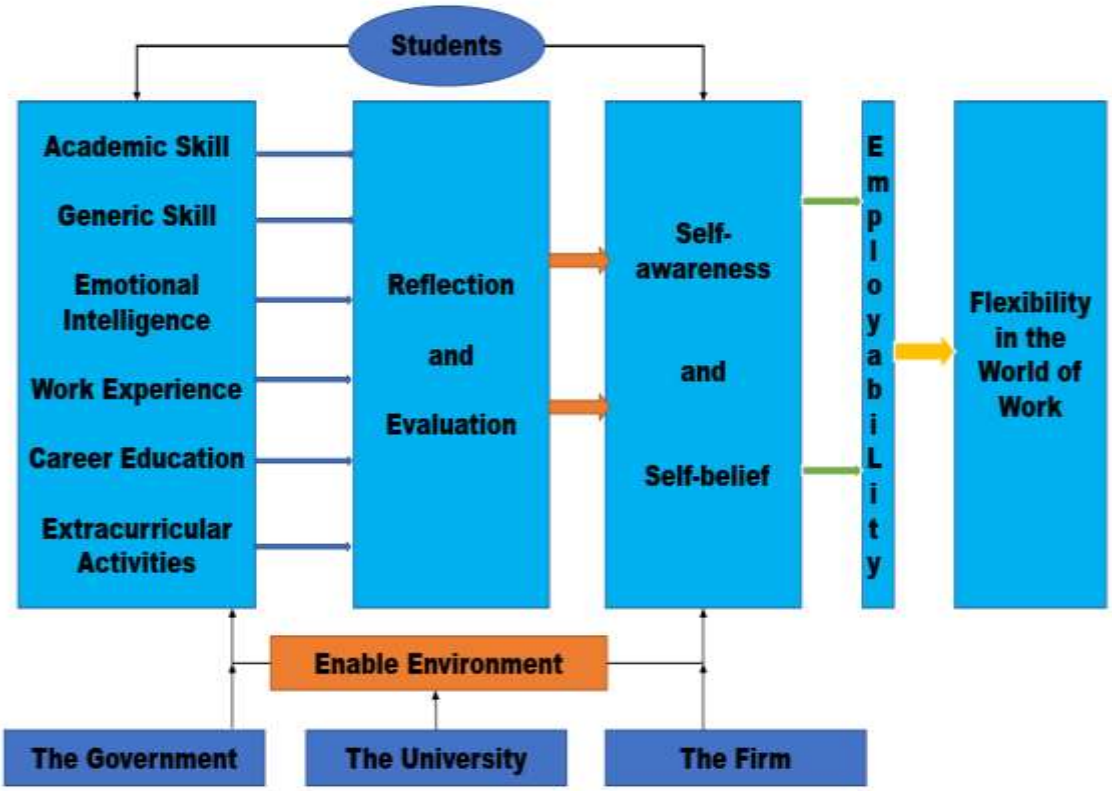


Figure 2.5: Model of Graduate Employability Enhancement (Pitan, 2016)

In this model, the student enters to HE for the enhancement of ESs. Simultaneously, in the HE institution, he/she came across academic skills, general skills, emotional intelligence, work experience through field attachment, career education, and extra-curricular activities. For the same government, HE institutions will create an enabling environment with industries in a national economy. By getting that enable environment, students enhance ESs through the development of self-efficacy and self-belief. By getting that ESs students can work flexibly in the labour market. Once more, the paper is partial because, it reflects on the skills, knowledge generation for self-belief, and self-efficacy, but how to develop in the HE is not explained in the model. Again after 2 years, a model developed by Clarke (2017), shows the attributes, factors affect graduate employability.

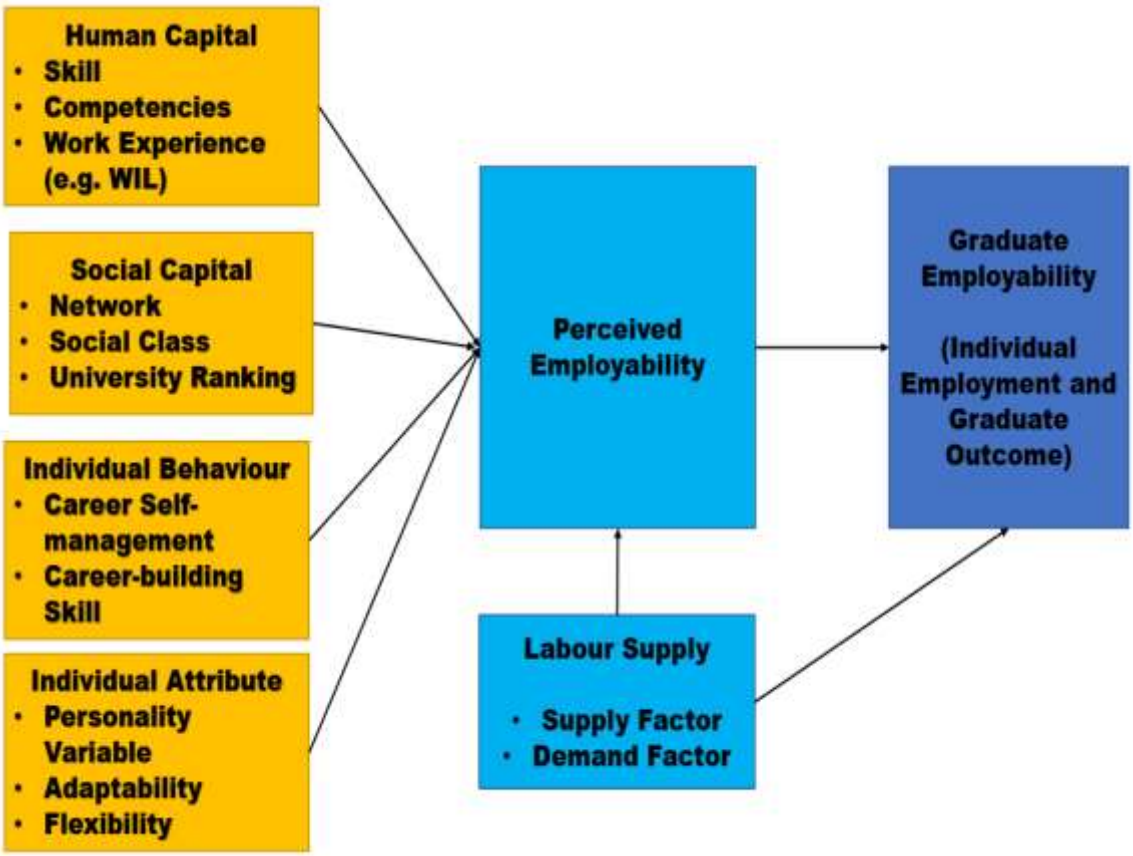


Figure 2.6: An Integrated Model of Graduate Employability (Clarke, 2017)

The above clarifies that perceived employability depends upon the factors like human capital comprise of skills, competencies, work experiences, social capital, individual behavior of student, and some individual attributes like personality variables, adaptability, flexibility. In addition to that some supply side and demand side factors affects individual employability.

2.3. Research Gap:

Based on the available literature of which the study has gone through so far, it is found that there have been numerous works that explored the integrated relationship among employment, employability, and ESs. Previous studies have almost exclusively focused on the evaluation of employment, employability, and employability skills of professional and technical education; therefore, studies are partial in nature. Though there are numerous researches, it is observed from the review that maximum studies are theoretical in nature, secondary data based. Over time wide-ranging literature has developed on employability and employability skills, but literature unable to differentiate employability skills from the employability concept. In this context, few researchers have successfully defined employability skills as a part of the macro domain

of employability. Historically, there has been a great deal of confusion in the literature regarding types and nature of employability skills, as studies require to define from the labour market perspective. In the Indian research domain, the concept of employability, employability skills have rarely investigated. The development of the employability skills of master graduates in higher education institutions in India is not extensively explored. Therefore, a more systematic and empirical analysis is required to make a thorough investigation of the issues rose above. Consequently, the study addresses the following research questions:

1. What are the Employability Skills enhanced by selected disciplines in Central University of Odisha?
2. Do Employability Skills vary among student's belonging to selected disciplines[7] in Central University of Odisha?

In order to address the questions outlined above, a systematic methodological framework have been designed and analysed in the next chapter.

2.4. Chapter Summary:

This chapter has reviewed the literature pertaining to the concept of the employability, the ESs, and the role of HE institution in shaping ESs among graduates for an easy transition to the labour market. As evident from the above analysis, the term ESs has been explained in multiple ways and in a wide variety of contexts in international research. It also highlighted existing models of ESs development in a higher education institution. Thus, the present literature surveyed was an attempt to bring a clear and concise idea of ESs and its development in HE institutions.

[7] Discipline like Business Administration, Economics, Journalism and Mass Communication, Statistics, Biodiversity & Conservation of Natural Resources & Mathematics.

CHAPTER-III

3. RESEARCH METHODOLOGY:

The chapter discusses methodology applied for the study. In the section, nature of the study, nature of data and collection procedure, data analysis and interpretation of ES and its development in HE institution have been explained elaborately. Data have collected through survey method, focused group discussion and qualitative questionnaire survey method. Stakeholders like students, teachers, and head of the Department from selected Departments have selected as participants. Data have analysed through different statistical technics like; principal factor analysis for determining ES index, simple statistical tools like mean, standard deviation, ratio, percentage are taken for analysing other aspects. The qualitative data have analysed through content analysis etc. All the details about methodology applied are as follows.

3.1. Research Design:

The set of methods and procedures for data collection, measurement, analysis, and interpretation is termed as research design. There are different types of research design, descriptive, experimental, and correlational. Descriptive research design refers to the set of scientific procedures, in which researcher solely interested to describe the situation or case under the research. This type of research basically focused on describing the phenomena from how and why perspective. Similarly, Experimental research design aims at establishing the relationship between cause and effect. In this type of casual design, one observes the impact caused by the independent variable on the dependent variable. Again, Correlational research refers to a technique which helps researchers to establish the relationship between two closely connected variables. It requires two different groups. Therefore, from the above analysis it is concluded that the study is descriptive in nature. Study is based on mix-method analysis of explanatory sequential design[8].

3.1.1. Mix Method Research:

This is a systematic and comprehensive combination of both quantitative and qualitative approach used to found the strong and synergetic inference from both quantitative and qualitative data. The purpose is to understand the phenomena and context more clearly than using only qualitative and quantitative approach. It provides ideas about deeper understanding of the phenomenon and worth investigation. There

[8] More details about Explanatory sequential design is explained in the chapter-17 of An Applied Guide to Research Designs: Quantitative, Qualitative and Mixed Methods, Second Edition, By**:** W. Alex Edmonds & Thomas D. Kennedy

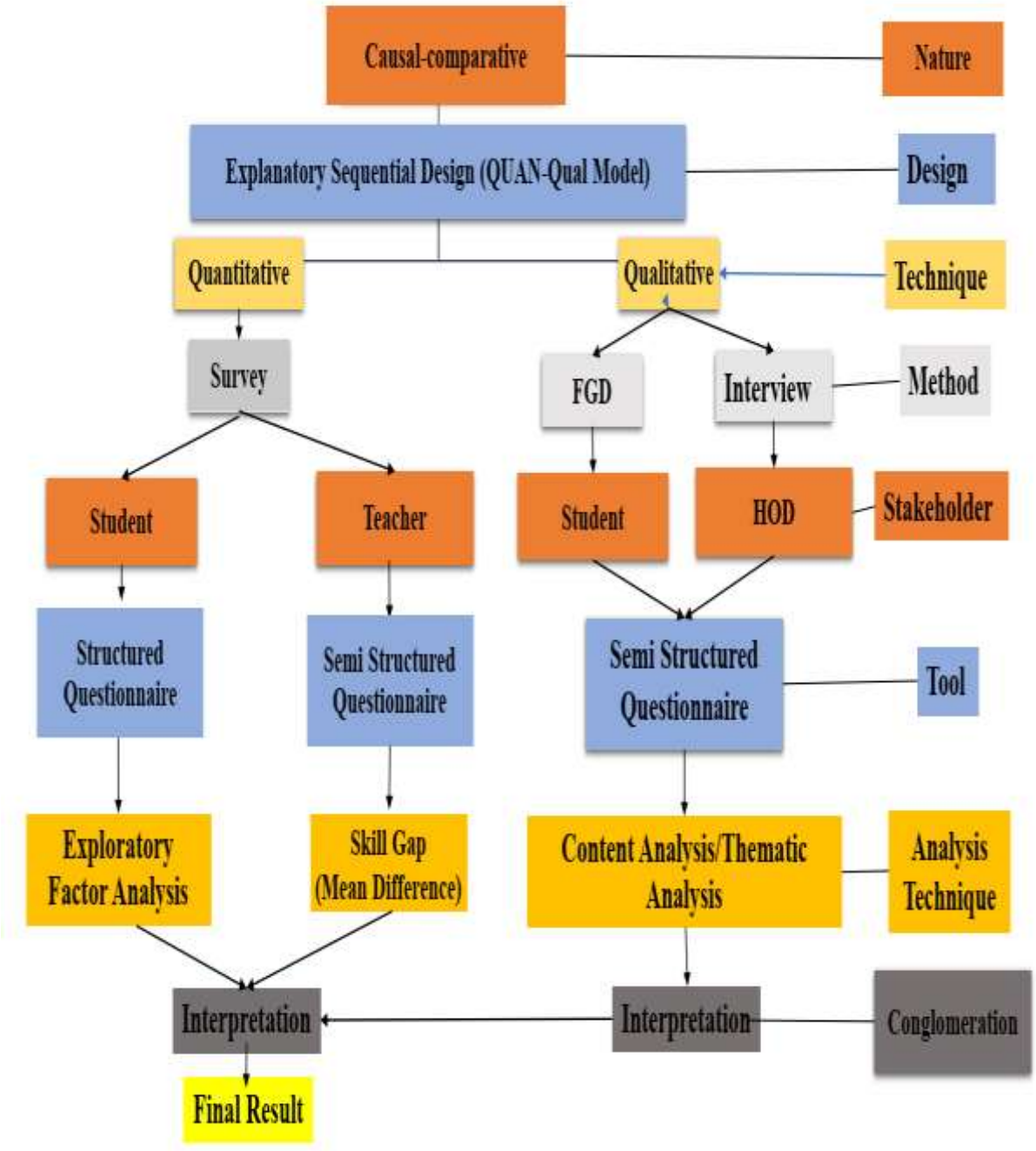
are three types of mix-method research design such as; QUAL-Quan model, QUAN-Qual model, and QUAN-QUAL model. QUAL-Quan model refers to the mix method approach, in which qualitative information collected from observation and open-ended interviews with individual or groups in the first phase. In the second phase, variables are identified from the qualitative data analysis and hypothesis tested with the quantitative data. This model is also known as exploratory mixed method design. QUAN-Qual model refers to the explanatory mixed method design, in which quantitative data collected from the field and further explained by qualitative data. In this approach, in the first phase the formed hypothesis is tested by quantitative data, with auxiliary analysis. In the second phase to elaborate the findings of quantitative data, qualitative data are collected. Similarly, the third model named QUAN-QUAL model is the triangulation mixed method design, under which both quantitative and qualitative data are equally weighted and are collected concurrently throughout the same study. Accordingly, from the above analysis of different model it is concluded that the selected approach for the study is explanatory sequential design approach, which is based on QUAN-Qual Model. The model and the approach are explained comprehensively below.

3.1.2. Explanatory Sequential Design & QUAN-Qual Model.

Explanatory sequential design is a method used to analyse the phenomenon with the help of both quantitative and qualitative data. quantitative results with qualitative data and vice versa. In this case the quantitative interpretation and classification is explained by qualitative data. The study has followed two phase approach. In the first phase, researcher interested in explaining the findings from the quantitative data and in the second phase that quantitative data will be further explained on the findings of qualitative data. Data have collected from the students, teachers, heads of concerned Departments in CUO. Under explanatory sequential, study is based on **QUAN-Qual Model**[9]. More practically below figure portrays detail about design of the study.

[9] QUAN-Qual model is a design under Exploratory mixed method design. For further investigation, see Gay, L.R., et al. (2015). Educational Research: Competencies for Analysis and Application". pp 423-447.

Figure 3.1: Design of the Study



Source: Compiled by Researcher

3.1.3. Data and Data Sources:

The study is based on both primary as well as secondary data. Primary data have collected from selected Departments in CUO. Semi structured question has taken for the data collection. In addition to that focused group discussion, and indirect oral

interview method have applied for qualitative data collection. Various years national and international reports, web resources, India Skill Report, and other researches, UGC Reports, India HE Reports etc. have taken for the secondary data.

3.1.4. Population and Sampling Design:

Target population selected for the study comprise students, teachers, and heads of the six selected Departments of CUO. For the present study six master programmes related to science, humanities and social science have been chosen.

Table 3.1: Schools and Departments for Determination of Total Population

Schools	**Departments**	**Established Year of Programme & (student intake capacity of different programmes)**		
Programmes		**M.A./ M. Sc.**	**M. Phil.**	**Ph. D.**
School of Languages	Department of Odia Language & Literature	2009 (30)	2013-14	2013-14
	Department of English Language & Literature (2009)	2009 (30)	-	-
	Department of Hindi (2015-16)	2015-16 (16)	-	-
	Department of Sanskrit (2015-16)	2015-16 (16)	-	-
School of Social Sciences	Department of Anthropology (2009)	2009 (30)	2013-14	2013-14
	Department of Sociology (2009)	2009 (30)	2013-14	2013-14
	Department of Economics (2009)	2009 (30)	2013-14	2013-14
School of Education &	**Department of J&MC & Mass Communication (2013-14)**	2013-14 (30)	2013-14	2013-14

Education Technology	Department of Education (2011-12)	B. Ed 2013 (50)	2013 (1)	2013 (2)
School of Basic Sciences & Information Sciences	**Department of Mathematics (2011-12)**	Int. M. Sc. 2011-12 (20)	-	-
	Department of Computer Science (2015-16)	BCA (2015-16)		
School of BCNR & Conservation of Natural Resources	**Department of BCNR & Conservation of Natural Resources (2011)**	2011 (30)	2014-15 (5)	2014-15 (5)
School of Commerce and Management Studies	**Department of MBA (2015-16)**	2015-16 (30)	-	-
School of Applied Sciences	**Department of Statistics (2015-16)**	2015-16 (16)	-	-

Source: Prospectus, Academic Session 2019-2020, Central University of Orissa Koraput,

The above table 3.1 clarifies the number of Departments under 7 schools, year of establishment & student intake capacity. It also clarifies that in the present scenario has seven schools and fifteen Departments and offers Bachelor, Integrated M. Sc, M.A., M. Sc., M. Phil. & Ph. D programs. For the present study, M. A. and M. Sc programs has been taken into consideration. Let's discuss the selected Departments extensively.

Table 3.2: Sample Size of 4th Semester Student's & Teachers

Disciplines	Total Student's	Sample Student's	Total Teachers	Sample Teachers
M. A. Economics	23	12	4	4

M. A. JMC	9	5	5	5
MBA	29	15	3	3
M. Sc. BCNR	24	12	3	3
M. Sc. Statistics	9	5	2	2
M. Sc.	13	7	4	4
Total	94	**56**	21	21

Source: Based on the Results of 2nd semester (2018-19) Student's[10]

The table 3.2 elucidates the sample size for ES evaluation. Students have selected based on proportionate random sampling through lottery method with the proportion of 50 percent. Total teachers of the selected Departments have taken for the data collection.

3.1.5. Selected Schools and Departments:

For the present study six master programmes related to science, humanities and social science has been chosen. To evaluate institutional quality outcome in terms ESs Master Programmes; Master of Business Administration, Master of Arts (Economics), Master of Arts (J&MC and Mass Communication), Master of Science (Statistics), Master of Science (Mathematics), Master of Science (BCNR & Conservation of Natural Resources) has been taken into account on the basis of available master courses in the university. The objectives of the individual Departments and overall university goals are as follows.

3.1.5.1. Department of BCNR & Conservation of Natural Resources[11]:

The Department started in the year 2011 under the "School of BCNR & Conservation of Natural Resources" providing currently 2 years of master's program and research programs (1-year M. Phil & Ph. D). The Department started in the vision of developing Department into the advanced centre, preparing policy related to the subject matter, and to preparing scientific manpower for solving the problems related to bio-diversity and natural resource conservations. Important mission on which Department works are, undertaking research, studies on carbon sequestration

[10] Result, Central University of Odisha. Retrieved on 25th January 2020 from http://cuo.ac.in/Academic_Results.asp?pgid=4

[11] Department of Bio-Diversity and Conservation of Natural Resources, Central University of Odisha, Retrieved on the date 05, January, 2020 from https://cuo.ac.in/Academic_Departments_Natural_Resources.asp?pgid=4&subid=1

of the forests in and around Koraput, extraction of bioactive substances from the existing flora and fauna and its possible use in the livelihood up-gradation of society at large, documentation and dissemination of Tradition Related Biodiversity Knowledge System (TRBKS) for the preservation of Natural Resources, etc. There are two libraries (wet laboratory & remote sensing laboratory) available in the Department including facilities like; PCR machine, gel electrophoresis, high-speed refrigerated centrifuges, spectrophotometer, gel documentation system, chlorophyll fluorescent metre, infra-red gas analyser, etc. In the remote sensing laboratory, ERDAS imagine software and arc imagine software facilities are available. Teachers of the Department also working on different research programs, project works, etc. The Department also arranging workshop, seminar, and conference-related to bio-diversity and conservation of natural resources.

3.1.5.2. Department of Economics[12]:

Under the school of social science, the Department of Economics started its journey since 2011. The Department growing with the objective of enhancing the teaching and research programs related to tribal Economics, development Economics, rural Economics, environmental Economics, agricultural Economics, etc. Department has been working for the development of teachers and students through field surveys, seminars, conferences, symposiums, panel discussions and interactive sessions bringing expertise from top universities and research institutions. Currently, the Department has the objective of opening of Integrated MA in Applied Economics, MA in Development Studies, M. Phil in Economics, Ph. D in Economics and Post-Doctoral Degree (D.Litt.) in Economics. The Departmental vision is to enhance the teaching and research into the highest standard and to emerge as a centre of excellence in the field of Economics with a focus on innovative teaching, advance research, and public policy analysis. There are two classrooms with LCD projectors and Wi-Fi connectivity, Computational Software like SPSS, E-Views and STATA, and office/faculty room, with computers, printer, scanner, and Wi-Fi connectivity in the Department. By the compilation of 8 years, there are more than 50 alumni have secured jobs in various govt. and private sectors, 5 students have qualified UGC NET, 10 students are doing M. Phil and Ph. D in Economics in various national reputed institutions/universities in India and students

[12] Department of Economics, Central University of Odisha, Retrieved on the date 05, January, 2020 from https://cuo.ac.in/Academic_Departments_Economics.asp?pgid=4&subid=1

of the departments are participating in various academic, sports, cultural and co-curricular competitions in the university and securing top prizes and faculty of the departments also participating, presenting, and publishing papers in national and international publications.

3.1.5.3. Department of MBA[13]:

Department of MBA is a young department in central university Odisha, started in the year 2015-16. The department currently provides only 2 years of master's program with a student intake of 30. The department aims at providing industry-oriented and theoretical knowledge through a comprehensive curriculum including ESs, entrepreneurial skills, and managerial competencies. Faculties from internal and external departments are coming for excellent teaching in the department. Faculties are coming from the department of English, Computer Science, Economics, J&MC and Mass Communication, and Mathematics of the same university. Department offers functional areas of Financial Management, Marketing Management, and Human Resources Management. The department has a direct linkage with the industries and members from the concerned universities are coming for the seminar, conference in the department and students of the departments are also going for the workshop, a field visit to the concerned industries. Department follows the selection procedure based on Entrance Examination followed by GD and/or PI.

3.1.5.4. Department of J&MC and Mass Communication[14]:

The department of J&MC and mass communication started in the year 2009 to provide media education and professional training, to study and utilise mass media and traditional media, to act as a media centre to produce news, video and audio programs related to rich culture and heritage of Koraput as well as Odisha for regional and national transmission, to act as the media resource and research centre. To set up the state-of-the-art studio & editing setup, to start a community radio station, to set up an electronic multimedia research centre, to work in collaboration with other prominent

[13] Department of Business administrations, Central University of Odisha, Retrieved on the date 05, January, 2020 from https://cuo.ac.in/Academic_Departments_MBA-d.asp?pgid=4&subid=1

[14] Department of Journalism and Mass Communication, Central University of Odisha, Retrieved on the date 05, January, 2020 from https://cuo.ac.in/Academic_Departments_Journalism.asp?pgid=4&subid=1

Universities/ institutions, etc. The department selects students based on the performance in the entrance examinations.

3.1.5.5. Department of Mathematics[15]:

Department of mathematics in the central university Odisha started her journey in the year 2011 under the School of Basic Sciences and Information Sciences. Since the beginning of the institution, the department offers 5-Year Integrated M.Sc. in Mathematics. The department aims at enhancing the excellence in the domain of mathematics, employability in the domain, acquisition of analytical skills and to motivate the students to thrive in Mathematics. Department selects students based on the performance in the Entrance Examination. Department also provides Skill Enhancement courses are Computer Graphics, Operating System: Linux, Modelling and Simulation, Electronic Commerce, Latex and Web Designing, Introduction to MATLAB, etc.

3.1.5.6. Department of Statistics[16]:

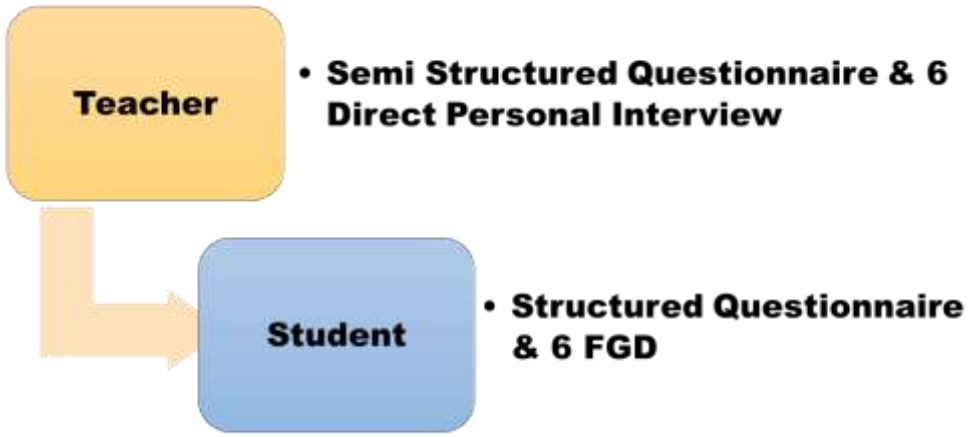
Department of statistics is a young department started in the year 2015-16 under the School of Applied Sciences. Currently, the department offers two years M. Sc program. Department aims at enhancing the ES development for being employed in industry, research organizations, and academics, etc., rather simple providing theoretical and practical skill. Department provides advanced knowledge in the areas of advanced elective courses, theoretical statistics, and in-depth statistical knowledge through project work. Department is also aimed at providing employable graduates to solve statistical problems in the areas of genetics, ecology, medicine, and finance, etc for the broad social development.

3.1.6. Tools to be used for Data Collection:

For collecting important information and data from students and teachers semi-structured questionnaire will be taken for both student interview and focused group discussion (FGD).

[15] Department of Mathematics, Central University of Odisha, Retrieved on the date 05, January, 2020 from https://cuo.ac.in/Academic_Departments_Mathematics-d.asp?pgid=4&subid=1
[16] Department of Statistics, Central University of Odisha, Retrieved on the date 05, January, 2020 from https://cuo.ac.in/Academic_Departments_Statistics-d.asp?pgid=4&subid=1

Figure 3.2: Tools for Data Collection



Source: Compiled by Researcher

3.1.7. Attribute used for the data collection:

As ES is a latent variable and so many parameters used for collecting and calculating the same. Many former reported literatures suggested that there are no single set of skills for employability. The practice of defining and calculating is different from study to study. Many of the researcher try to define it from demand side and others from supply side.

For the study ES is divided into generic ES and subject-specific ES. Under generic ESs and subject-specific ESs, fourteen attributes with 42 statements have taken for the same purpose. The variables are as follows.

Table 3.3: Skills Needed in the Job Market:

Construct	Skills	Number of studies taken
Generic ESs	**Communication Skill**	Brown, Hesketh & Williams 2002, Marais & Perkins 2005, Wells et al. 2009, Othman et al. 2010, Blom et al. 2011, Hinchliffe et al. 2011, Rasul et al. 2012, Sunday 2013, Beasley 2014, Jonck & Minnaar 2015, Cimatti 2016, Pitan 2016, Chavan 2017, Robles 2012, Doolan et al. 2019.
	Problem Solving Skill	Holmes 2001, Marais & Perkins 2005, Othman et al. 2010, Hinchliffe & Jolly 2011, Rasul et al. 2012, Sunday 2013, Beasley 2014, Jonck & Minnaar 2015, Metilda & Neena 2016, Cimatti 2016, Chavan 2017, Rowe 2017, Cheng & Chang 2019, Doolan et al. 2019.
	Critical Thinking	Blom et al. 2011,

		Rasul et al. 2012, Pitan 2016, Beasley & Cao 2014, Jackson 2015, Cimatti 2016, Doolan et al. 2019.
	Team Working Skill	Blom et al. 2011, Robles 2012, Sunday 2013, Cimatti 2016, Chavan 2017, Doolan et al. 2019.
	Numeracy	West 2000, Hinchliffe & Jolly 2011, Knight & Yorke 2002, Sunday 2013, Jackson 2015, Cimatti 2016. Doolan et al. 2019.
	Provision and Organizing	Sunday 2013, Chavan 2017, Doolan et al. 2019.
	Creativity/Innovation	Sunday 2013, Metilda & Neena 2016, Jackson 2015. Chavan 2017.
	Independent Study	Sunday 2013, Chavan 2017.
	Analytical Skill	Othman et al. 2010, Chavan 2017.
	Interpersonal Skill	Hinchliffe et al. 2011, Rasul et al. 2012, Pitan 2016.
	ICT Skills	Blom et al. 2011, Hinchliffe et al. 2011, Sunday 2013, Jackson 2015, Cimatti 2016, Chavan 2017.
	Flexibility Skills	Hesketh & Williams 2002, Thijssen 2008, Blom et al. 2011, Robles 2012, Doolan et al. 2019.
	Self-management Skills	Blom et al. 2011, Sunday 2013, Jonck & Minnaar 2015, Chavan 2017, Doolan et al. 2019, Cheng & Chang 2019.
	Decision Making	Dacre & Sewell 2007, Jackson 2015, Chavan 2017.
	Leadership Skills	Chavan 2017.
	Time Management Prioritizing Skills	Robles 2012, Sunday 2013, Cimatti 2016, Chavan 2017.
Generic Employability Competencies	**Integrity and Honesty**	Blom et al. 2011, Robles 2012, Rowe 2017, Chavan 2017.
	Self-confidence and positive attitude	Chavan 2017.
Non-Skill Factors	**Experience of Work Environment**	Hinchliffe et al. 2011, Doolan et al. 2019.

Source: Compiled by Researcher

Simultaneously, variable related to curriculum structure, availability of human and physical resources, academic activities at the department level, etc. have been defined and surveyed through qualitative and quantitative questionnaire. Attributes like the number of teachers, teacher's characteristics, teaching experience, nature of job, etc are covered under availability of human resources at departmental level. In addition to

that, availability of smart classroom equipped with all the equipment, ICT facilities, computer lab, science lab, instruments for practical work, have selected for collection and measurement of teaching-learning practice. Activities like; project work/dissertation, seminar and presentation under assignment, summer internship and workshop, field visit and field attachment, etc. and programs like; department level seminar/conference, lecture by resource person from other educational institutions and industry, industry-academia linkages, etc have asked to teachers and head of the department. Some of the qualitative questions related to importance and role of ESs, problems associated with teaching learning practice, programs related to ESs have asked in focused group discussion with student's and direct personal interview with head/teachers in the departments.

3.1.8. Procedure of Data Collection:

At first, for data collection, a formal letter sent to the head of the selected department in the central university of Odisha. After permitted by heads, teachers of selected departments have asked to fill the questionnaire. In this phase how parameters are related to master students also asked and some parameters are added in the questionnaire prepared for FGD. After collecting valuable data and information from teachers of selected departments a questionnaire has framed for student's survey. In this stage, the maximum number of questions have asked on a 5- Point Likert Scale with a smaller number of qualitative questions. In addition to that, six FGDs have conducted with student's for deeper understanding about importance and role of ESs, problems associated with teaching learning practice, programs related to ESs, etc. Again, qualitative questions about activities associated with the teaching-learning practice, assessment, and problems related to the functioning of the department have been asked through direct personal interview.

3.1.9. Techniques of Reliability Test:

Reliability refers to "what extent data is stable, equivalence and internally consistent and out of error". Though there are different types of reliability test, the study has used internal consistency reliability method. For the study coefficient alfa (Cronbach's alfa) 1951 is taken for the test of internal consistency. This test is widely used in the areas like educational, industrial, social, clinical, child, community, and abnormal psychological researches (Cortina, 1993). It is mostly used for examining internal consistency of many psychological data. By reviewing Social Sciences

Citations Index for the literature from 1966 to 1990, Cortina (1993) viewed Cronbach's (1951) article had been cited approximately 60 times per year and in a total of 278 different journals. In his work, referring the work of Nunnally (1967), he defined reliability as the internal consistency among sets of data from one testing occasion to other. The value of alpha α ranges from 0 (More error) to 1 (No error). Higher the value of covariance the α value is nearer to 1 and the internal consistency among variable is greater. If all items in the scale are independent from one another, then the value α is zero and data set is internally inconsistent.

Formula for Cronbach's alpha is

$$\boldsymbol{\alpha}=\frac{NC}{V+(N-1)C}$$

Where **N** is equal to the number of items

C is the average inter-item covariance among the items

V equals the average variance.

When the number of items for measurement increases then the value of **α** increases and vice versa. Following table 3.4 shows the rule of thumb for the value of **α** and internal consistency among items.

Table 3.4: Cronbach's alpha Value and Internal consistency

Internal consistency	Cronbach's alpha
Excellent	$0.9 \leq \alpha$
Good	$0.8 \leq \alpha < 0.9$
Acceptable	$0.7 \leq \alpha < 0.8$
Questionable	$0.6 \leq \alpha < 0.7$
Poor	$0.5 \leq \alpha < 0.6$
Unacceptable	$\alpha < 0.5$

Source: What Does Cronbach's Alpha Mean[17]? | SPSS FAQ

The above table 3.4 shows that the value of α ranges from 0 to 1 and when the value is greater than 0.7 there is the satisfactory level of internal consistency and that data is acceptable. Likewise, when the value is than 0.7 then data is questionable ($0.6 \leq \alpha < 0.7$), poor ($0.5 \leq \alpha < 0.6$) and unacceptable ($\alpha < 0.5$).

[17] What Does Cronbach's Alpha Mean. Retrieved on 13th March, 2020 from https://stats.idre.ucla.edu/spss/faq/what-does-cronbachs-alpha-mean/

3.1.10. Techniques for Construction of Employability Skill Index:

Though the study depends on both qualitative and quantitative data, thus different data analysis has taken for the same. For comparative analysis of the ESs among students from selected departments index have prepared based on principal component analysis technique. Qualitative data have analysed through content analysis and thematic analysis. All other data are analysed through basic statistical techniques like; average, ratio, percentage etc.

3.1.10.1. Principal component analysis (PCA):

Principal component analysis (PCA)[18] through factor analysis have done with the help of statistical package IBM SPSS statistics Package 21 and Microsoft Excel 2010. Through repeated factor analysis, eigen value for each factor have defined for explaining the magnitude of the data. Then eigen value and factor loading value are multiplied with the value of each attributes. This procedure is for giving weightage to each factor in each index measurement. Then difference in ESs among disciplines will be calculated through appropriate statistical techniques. Due to the varying nature and importance of generic ESs for different disciplines caused to take weighted index rather than any other unweighted. Qualitative data have analysed through Content Analysis Technique.

3.1.11. Qualitative Data Analysis Technique:

3.1.11.1. Content Analysis:

Content analysis is a research tool which used to determine the presence of certain concepts within a text or text set. The text can be defined as text, book chapters, essays, interviews, discussions, newspaper headlines and essays, historical documents, speeches, conversations, advertisements, theatres, on-the-spot question-and-answer conversations[19]. To analyse the content of any such text, the text was coded, or broken, in a manageable category at different levels - words, words, sentences, sentences, or themes - and then one of the subject's analyses. A single study can employ the qualitative method in this regard to explore and analysis in the field of education,

[18] PCA is a statistical technique developed by Karl Pearson in 1901, which uses an orthogonal transformation to convert a set of variables to a set of linearly uncorrelated variables, called principal component. It converts the data in such a way that first principal component has the largest possibility of variance as so on.

[19] An Introduction to Content Analysis, Retrieved on 21st September, 2019 from https://writing.colostate.edu/guides/page.cfm?pageid=1305&guideid=61

linguistic, influential, cognitive, social, cultural, and historical significance. In this guide, we discuss two common categories of content analysis: concept analysis and related analysis.

In addition, content analysis reflects a close relationship with social and psychology and plays an integral role in the development of society. The following list of features provides more possibilities for the use of content analysis:

1. Express differences point of view in society and education content
2. Identify the existence of problems
3. Identify the purpose, focus, or communication style of an individual, group, or education institution
4. Describe the attitude and behavioural response to society

3.1.11.2. Thematic Analysis:

Thematic Analysis shows in many policies and procedures for content analysis. This refers to a specific pattern structure found in the literature which focused on the quality of the material being analysed the content (Boitjis, 1998). In the type of thematic analysis proposed in this chapter, existing theories drive the questions one asks and one's understanding of the answers, so that one does not 'reinvent the wheel'. This is important since qualitative work, to a greater degree than quantitative research, has the potential to underestimate evidence that contradicts the assumptions of the researcher. Therefore, it is advantageous to hold a model of `testing' in mind, regarding taking counter-evidence seriously, even though it is only in quantitative work that the researcher `tests' theories in a statistical sense.

3.2. Implication of the Proposed Research:

The findings of the study offer scope to the academicians and researchers for further research in future. This study has highlighted the actual ESs perceived in the hands of student's and challenges and prospects of ESs development among disciplines. The outcome of the present investigation will be of immense importance to evolve, develop and implement the location specific problems and solution related to ES. Moreover, it will benefit the policy makers, industrialist to decide the strategies and suitable schemes for sustainable employment of HE graduates through equipped ES.

CHAPTER-IV

4. CONSTRUCTION OF EMPLOYABILITY SKILL INDEX (O_1):

In this section, the collected data are used for the calculation of the student's ESs Index. Previously in the methodology chapter, ESs, and its types, components have discussed in detail. Referencing that type and components of ES Index, this chapter deals with making GES Index, SSES Index, and finally ES Index. The collected data from students of six selected departments in the Central University of Odisha are used in the following manner for the calculation of ES index and two sub-indices. After the determination of the index value, departments are ranked accordingly which shows the variation in student's potential on ES.

4.1. General Background of Employability Skill Index:

Calculating the ESs index is essential for comparing which disciplines have better in comparison to others. Literature reveals the calculation of index value sometimes useful to differentiate pre- and post-employment situations through the assessment of ES of final year and newly employed individuals. Nonetheless, the computation of skills index is backed by comparing different stages of education including secondary education, higher, technical, and professional education. Simultaneously, it is crucially important to make a skill index, as skills differ from different stages of education and profession. The main objective of the computation for the study is to figure out the variation in ESs of master students in selected disciplines.

4.1.1. Suggestive Indicators:

The broad area of ESs has been divided into two categories; namely, GESs and SSESs/professional/core/Key ESs. Commonly skills which required for each profession are called generic ESs, in other words skills which is common in nature. Again, skills necessary for any profession like; teacher, doctor, engineer, scientist etc. is called as professional skills. Following skills are identified from the articles and books in which researchers have gone through, and then categorised into these two heads. Below table 4.1 conveys about the skills and their macro domain.

Table 4.1: Types of Employability Skills and Attributes:

Broad Skill Category	Core Work Skill and Abilities
Subject Specific/Professional/ Core Employability Skills/Key Employability Skills	Skills Related to subject area and content specific skills
Generic Employability Skills	Communication skill, Decision making skill, Independent working skill, Information retrieval skill, Leadership Skill, Numerical Skill, Personal Learning and Development Skill, Problem solving skill, Strategic skill, Team working skill, Ability to learn and adopt, Creative thinking, Independent problem solving, Manage oneself at work, Interact with co-workers, Manage basic technology, Good supervision, ICT Skill, Problem Solving Skill, Team Working Skill, Core Skills, **Personal competencies (**Individual attributes like honesty, integrity and work ethics)

Source: Literature survey

By considering the above skill set and their macro domain, the computation of ES index is further divided into Generic ES Index and Core ES Index.

4.2. Weighted Index Number for Calculation of Employability Skills:

The weighted index method of constructing index number has been used to compare price/quantity of production/consumption/distribution of commodities from place to place and from time to time in an economy. Due to the development of science and technology, knowledge, skills, like other psychological parameters are being quantified in numbers and further mathematical treatments.

The formula for Weighted index is

$$W = \frac{Pi}{P1+P2+\cdots Pn}$$

Where W weighted index

Pi is the price of the commodity for calculation

P1+P2+….Pn are the prices of the available commodities for the calculation

4.2.1.1. Weighted Aggregate Index Number:

Again, there are two types of weighted index number. For the analysis Weighted Aggregate index number have been taken and the formula is like

$$I=\frac{\sum_{i=1}^{n} Xi(\sum_{j=1}^{n}|Lij|.Ej)}{\sum_{i=1}^{n}(\sum_{j=1}^{n}|Lij|.Ej)}$$

Where I is the Index, Xi is the i^{th} Indicator; L_{ij} is the factor loading value of the i^{th} variable on the j^{th} factor; E_j is the Eigen value of the j^{th} factor

4.2.2. Rationale for Selecting:

- The purpose for weighted index is to make the index number more representative and to give importance to all the items.
- It is must important to give weightage to different items according to their importance, though weighted index numbers different items in the series are accorded different weights depending upon their relative importance. For the present calculation to give importance to each attribute collected from six disciplines weighted aggregate index has been taken. For ex; different attributes in the ES basket have different importance, again the skill which is more important for an Economics student have lesser important for bio-diversity student. Thus, the varying nature and importance of skills caused to take weighted index rather than any other unweighted.

For Example: While calculating the index value for master of business administration student's the calculation will be as follows

(4.903x3.33+1.858x2.87+1.693x3.20+1.159x3.20+.388x3.00+5.354E-16x2.93+2.446E-16x2.93+7.138E-17x3.27+2.091E-16x3.13+4.203E-16x2.60)/173.6486

This is an index for a set of indicators in the MBA departments. For the remaining all the departments same procedures may be followed

Table 4.2:Weights and the indicator value for MBA student's Generic Employability Skills

Weight	4.903	1.858	1.693	1.159	.388	5.354E-16	2.446E-16	7.138E-17	-2.091E-16	-4.203E-16
Factors	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
MBA-SSES	3.33	2.87	3.20	3.20	3.00	2.93	2.93	3.27	3.13	2.60

Source: Based on Researchers own Survey

The above table 4.2 demonstrates, factors taken for constructing weighted index number for SSESs and their relative weightage, which is called eigen value in principal component analysis. Q1, Q2, Q3… Q10 are the skills taken for calculating SSES Index.

4.2.3. Cronbach's Alpha Reliability Test of Employability Skills:

After selection of index, before running principal factor analysis we may take the help of reliability test of the collected data. There are different methods of reliability test. For the study **Cronbach's Alpha reliability test** has been taken for reliability test as the test is suitable for perceptional studies. In appendix fig-1, value of $\boldsymbol{\alpha = 0.950}$ for GESs and value of $\boldsymbol{\alpha = 0.857}$ for SSESs, that shows data is excellent and there is higher level of intercorrelations among test items. Now data is ready for further mathematical treatment.

4.2.4. Factor Analysis of Employability Skills:

PCA is a statistical technique developed by Karl Pearson in 1901, which uses an orthogonal transformation to convert a set of variables to a set of linearly uncorrelated variables, called principal component. It converts the data in such a way that first principal component has the largest possibility of variance as so on. For performing PCA of ESs, study used SPSS software. Followings are the steps for running PCA in SPSS. The data for the calculation are in five-point Likert scale. Thus, data are in same scale, no need to normalise.

4.2.4.1. Generic Employability Skill Index Value Calculation:

Factor analysis is a statistical procedure to find the latent variables (or factors) that explains attributes underlying common variables in the matrix. Nunnally & Bernstein, 1994 defines through data reduction technique the large set of variables are grouped into smaller set of dimensions or factors which have common characters. Therefore, it is called as data reduction technique. Despite using different of methods for extracting factors, principal component analysis and Principal Axis Factoring (PAF) are used most.

4.3. Generic Employability Skill Index Value Calculation:

Table 4.3: Index value and Rank of Generic Employability Skills of Selected Departments:

Department	Index value	Rank
ECO	0.065475	1
BCNR	0.061888	2
J&MC	0.059807	3
Math	0.057836	4
MBA	0.052821	5
Stat	0.048846	6

Source: Based on Primary Survey

The table 4.3 confirms, GESI of economic student's has high index value (0. 600868741) and the department rank 1, followed by Bio-diversity student's GESI value (0. 587358394). Likewise, student's GESI of statistics is very less (0. 427788855), which ranked 6th.

In the same way Subject Specific Employability Skills Index (SSESI) have calculated for showing comparison across discipline. The following table shows about index value and rank of different disciplines in relation to SSESI value.

4.4. Subject Specific Employability Skills Index:

Table 4.3: Index value and Rank of Subject Specific Employability Skills of Selected Departments:

Department	Index Value	Rank
MBA	0.062567	1
BCNR	0.06210	2
J&MC	0.051678	3
Eco	0.051578	4
Math	0.050185	5
Stat	0.041824	6

Source: Based on Primary Survey

The table 4.3 illuminates the difference among SSESs. It says MBA, BCNR & J&MC student's subject specific skills are greater than other departments.

4.5. Employability Skills Index:

Table 4.4: Index value and Rank of Employability Skill of Selected Departments

DEPARTMENT	ES Index Value	Rank
BCNR	0.123988	1
MBA	0.122375	2
ECO	0.117054	3
Math	0.108021	4
J&MC	0.104499	5
Stat	0.090670	6

Source: Based on Primary Survey

The table 4.4 makes clear BCNR is the top in index value of ESs as the value is 0.215851582, followed by MBA (0.203286355) is in second position, Economics (0.19319303) in 3rd position. The causes responsible for the skill gap is discussed in the next chapter keeping institutional facility into consideration.

In the next chapter comparative analysis of ES, and its development in HE is discussed with the developed model.

CHAPTER-V

5. ANALYSIS OF EMPLOYABILITY SKILL AND HIGHER EDUCATION (O_2):

This chapter is an attempt to describe the skill gap between; students and teachers of each department, student of one department with the student of others, etc. In addition to that, the chapter also focused to explain causes responsible for the ESs variation among stakeholders. Structurally, the chapter is divided into four sections. In the first section, the skill gap in terms of teacher's expectation and student's potential on ESs have been calculated and described. Most importantly, the second section deals with determining causes responsible for skills variation among stakeholders by employing developed PPP (Provision-Practice-Product) model. The model mechanically describes as, in the provisioning phase its emphasis on the provision in the curriculum related to theoretical knowledge and practical orientation, provision of physical facilities, the provision in terms of quality and quantity of human resources, the provision in activities related to teaching-learning and assessment practices, etc. Secondly in the practices stage- practices related to teaching & learning, practices of practical orientation, etc. Thirdly, the product refers to employable graduates or graduates with ESs. The first two phases are interpreted with both qualitative and qualitative data whereas the third phase has already calculated in the last chapter, some parts are also discussed in this chapter. In the third section glimpse from focused group discussion with students has been described. In addition to that, the HODs/Teacher's reply to the different questions in the direct personal interview has been discussed in the fourth section. The following analysis reflects on the skill gap which is determined by differentiating student's potential on skills in terms of teacher's expectations.

Section-I

5.1. Evaluating Employability Skills Gap:

The skill gap calculation is not new, many pieces of literature have extensively discussed on skill gap in the 21st century. Hinchliffe & Jolly (2011) calculated the skill gap among employer expectations of graduate potential through mean difference. Similarly, variation in the personal and core skills of the management graduates with Industry expectations is calculated with the help of mean difference (Meltida, 2016)). Likewise, the skill gap is calculated through mean differences (Khare, 2019). Hence, as prolonged studies have used to calculate the skill gap in terms of mean difference, the study has decided to determine the skills gap between students and teachers on ESs in

the same manner. In addition to that skill variation for each skill among students from selected departments have been identified with the help of mean difference, and top skills developed in selected departments also determined.

The following method adopted for calculating the skills gap between teacher and students. For this calculation, the data collected from students and teachers through schedule survey have been utilised. In the survey both the teachers and students are asked to rate ESs through 53 items consists of 14 GESs items and 10 SSESs items. Items have framed in the form of different statements that have measured through the five-point Likert scale. For the measurement of the teacher's expectation on ESs, the five-point Likert scale was framed like (the skills which is extremely important=4, very important=3, important=2, less important=1, not important=0). Similarly, for the measurement of student's potential on the ESs in Likert scale was mechanised through (the skills on which students' potential is best, option was excellently=4, Very well=3, Somewhat=2, Just a little=1 and Not at all=0). Then the mean value of each skill of teachers and students is taken for the calculation, assuming expectations of teachers on ESs can be compared with the student's potential in the same department. Symbolically, the formula for the calculation is

$$\mathbf{SG}= \frac{\Sigma \boldsymbol{TES}}{\boldsymbol{N}} - \frac{\Sigma \boldsymbol{SPS}}{\boldsymbol{N}}$$

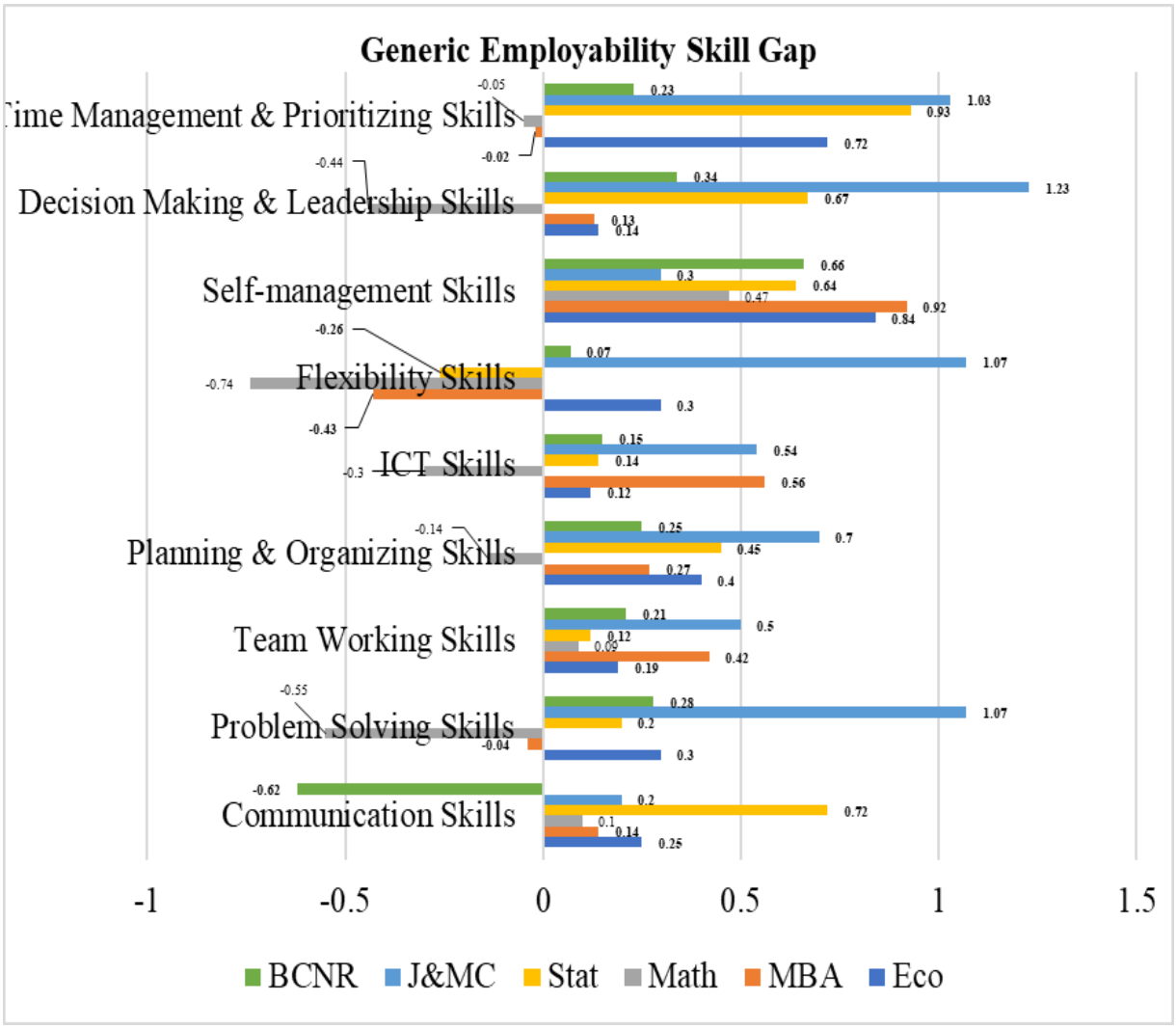
Where SG refers to Skill Gap

TPS is the teacher's expectation on Skills

SAS is the student's potential for Skill

For the calculation of skill (GES gap, SSES gap, and ES gap) the aforementioned mathematical equation is employed. The result of the skill gap is in the figure 5.1 below.

Figure 5.1: Skill Gap among Selected Disciplines:



Source: Based on Primary Survey

The GESs gap among selected disciplines of CUO is portrayed in the figure 5.1. The calculation is based on the collected data from student's and teacher's on different attributes under GESs. The figure 5.1 also reveals that the communication skills gap of students in all the departments is positive, despite the BCNR department. Communication skill which is crucially important in the teaching-learning practice within/out of the classroom, when the teacher and communicate well, then the basic concepts are easily understood, consequently, the outcome is better. The gap is positive for the department of J&MC, Stat, Math, MBA, Eco, etc. that reflects the student's potential on skills are lesser than teachers' expectation. In the department of statistics, the gap is higher, which reflects there is a problem of communication gap between students and teachers. If, the same problem will occur in the working field of graduates, then, the problem of possible misunderstanding between the line manager and

employee may create the situation to pushed out from the job (Holmes, 2001). Transformation in the labour market, economy, including higher education, English language proficiency plays a vital role in determining returns to education in the last decade. She also calculated 38.2 percent (34.08 percent net return) of the return is due to English proficiency in employees (Rani, 2013). Consequently, if the students after their education shall not be able to communicate well, then they may suffer from under-employment, unemployment or underpayment.

Similarly, in the case of problem-solving skills, the students of MBA and Mathematics perform well in terms of the teacher's expectation. Generally, the problem-based-learning method applied in all the disciplines for better professional skills (Othman, et al., 2010). It is found from the data that the performance of students is better in terms of problem-solving skills in mathematics and MBA. It is due to both the department students' exercise activities related to problem-solving skills. All other departments like BCNR, J&MC, Statistics, Economics, etc. potential of the student is less than the teacher's expectation. Figure 5.1 reflects there is a big difference in problem-solving skills is found in the department of J&MC. Therefore, the department needs to teach through problem-based-teaching-learning method for the effective cultivation of problem-solving skills.

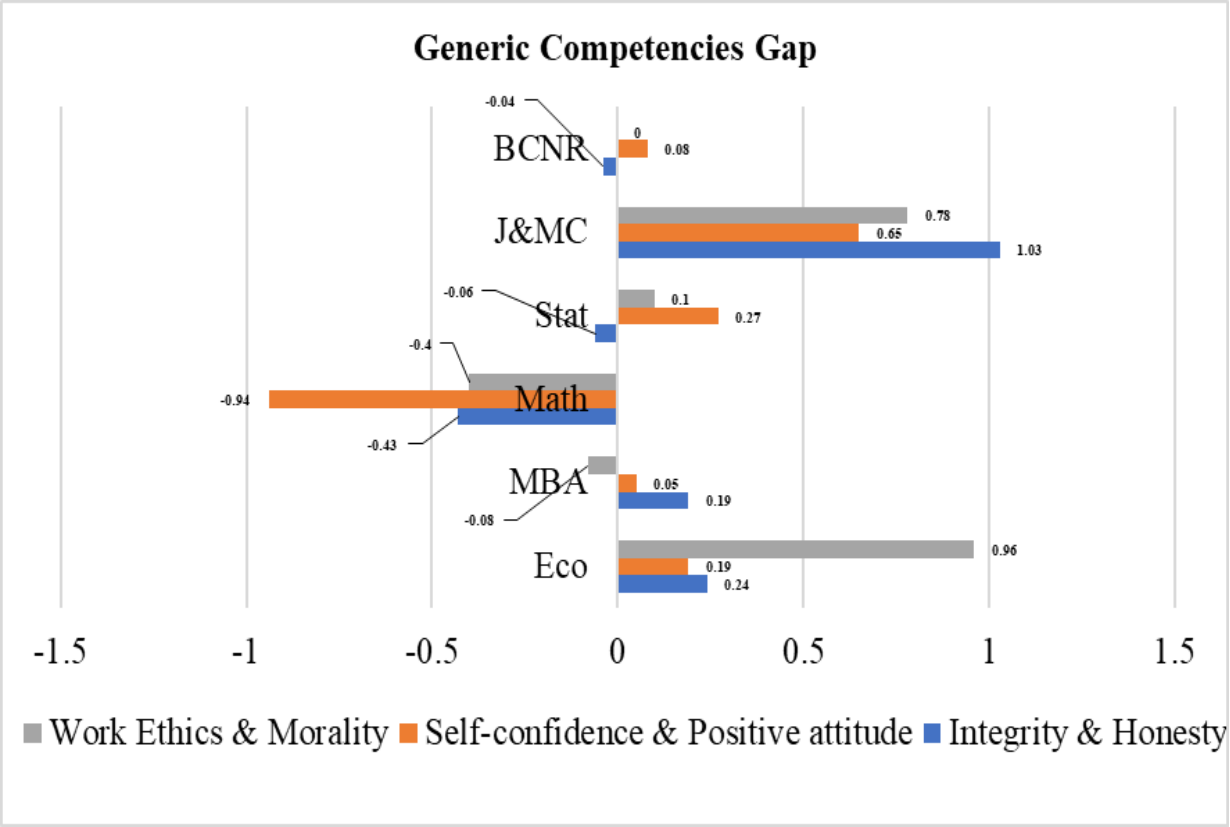
In the case of planning and organizing skills, students of mathematics department performance were found better. Students from all other departments are not performing well in the expectation of teachers. In fact, the gap is more in the department of J&MC, Statistics, Economics, etc. in Planning and organising skill. For example, "the ability to organize and maintain information is essential in management work" (Rasul, 2012). Therefore, the skill is crucially important for MBA and Economics student. Hence, it is vital to add some relevant activities in their course curriculum for further development planning and organisational skills.

Further, in teamwork skills, which is also recognized as group working skill, the student's potential is lesser than the teacher's expectation. Therefore, the figure 5.1 shows a positive gap in all the departments, which reflects students are poor in terms of team working skills. Though students in all the departments are working in a team for preparing their assignments, unfortunately, the observation shows that in many selected departments coordination, understanding, and cooperation is not there, so their performance is less in compared to teacher's expectation.

Information and Communication Technology facility is a broader term that emphasis various type of communication device, like television, computer, mobile, network, hardware, satellite, and so on. There are various services and appliances with them including video conferencing as well as distance learning education. These technologies have been flaunted as potentially powerful tools for enabling and access the educational sector and the health sector. The above figure 5.1 depicts that, in the case of J&MC and MBA ICT skill gap is high, it is because the departments are grappling with the paucity of basic infrastructures related to the teaching-learning process.

Skills like; flexibility, decision making, and leadership, time management, etc. the gap is negative in the case of the Mathematics department. It may be due to the teacher's expectation is lower than the student's performance. Student's performance in all other departments is not so good in terms of skills expected by their teachers. Literature suggests that every student should analyse their development through SWOT analysis technic for better employment (Radhakrishnan and Sudha, 2015). But it is found that, under self-management skill, SWOT analysis skill which is crucially important is lacking in the hands of all students.

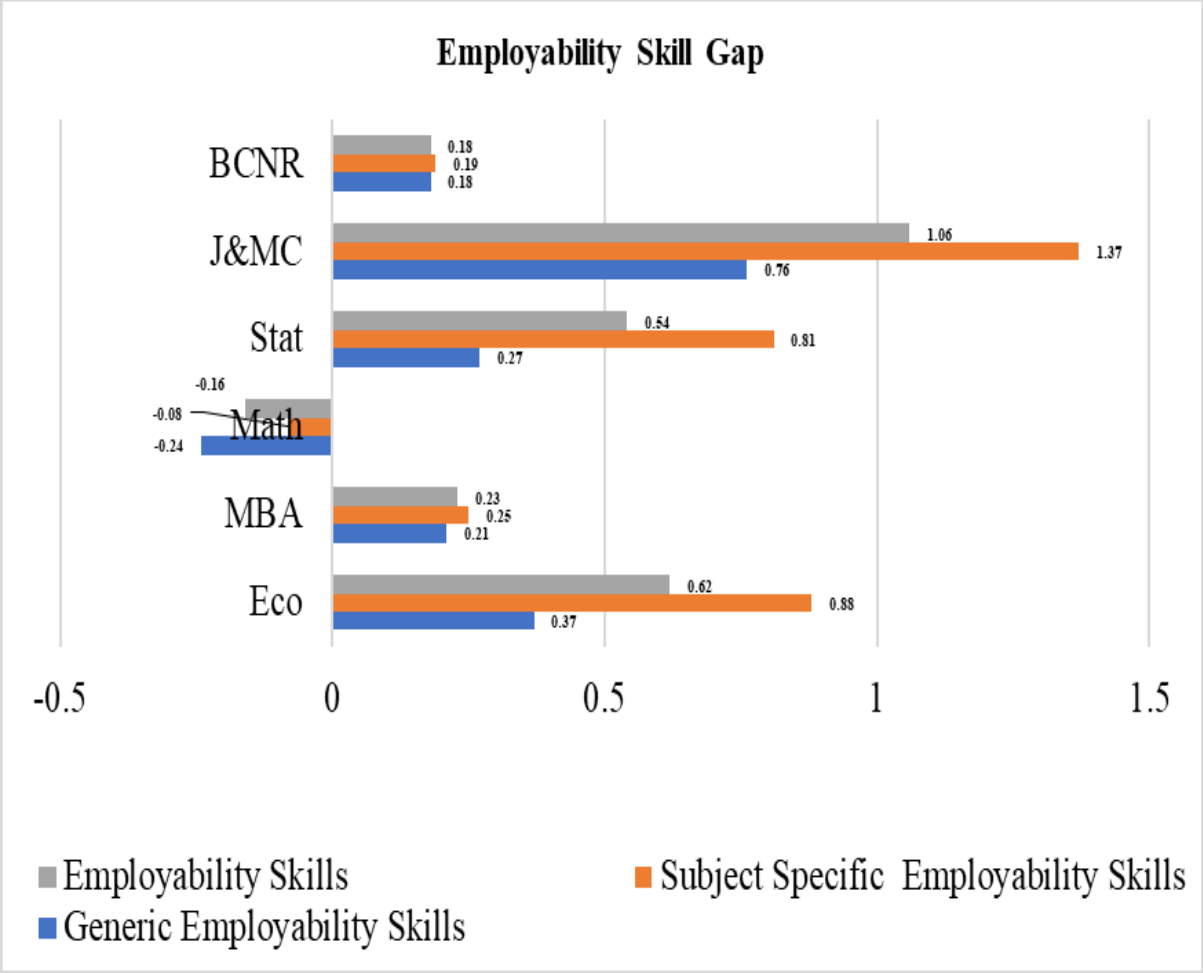
Figure 5.2: Generic Competencies Gap among Disciplines



Source: Based on Primary Survey

The above figure 5.2 replicates the competencies gap. In Mathematics departments, student's performance is better than the teacher's expectation. For example; the gap is positive in case of integrity and honesty, self-confidence and positive attitude, work ethics, and morality. Likewise, competencies in integrity and honesty are larger in the hand of BCNR and statistics students. In work ethics and morality MBA student's performance is well, whereas a wider gap found in case of department of Economics. The J&MC department is suffering for lack of generic competencies among students, as the gap in all the selected competencies is wider.

Figure 5.3: Employability Skill Gap



Source: Based on Primary Survey

The above figure 5.3 demonstrates that the ES gap is negative in the department of mathematics, due to better performance of students to teacher's expectation. In the disciplines like; J&MC, statistics, and Economics the skill gap is greater, that reflects student's performance is too lesser to teacher's expectation.

Therefore, it is concluded from this section that, the potential of students in comparison to teacher's expectations in both generic and subject-specific skills is better in the Department of Mathematics, in all other departments student's performance is poor. The students from departments like Economics, J&MC, and Statistics have extremely poor performance in subject-specific skills. Further, the performance of Students in generic ES is lacking in the J&MC department. Therefore, it is quite important to know the causes responsible for skill variation among selected disciplines of CUO. Thus, the following section discusses causes responsible for variation in ESs.

To sum, it is concluded that the skill gap is negative in the case of the Department of Mathematics, in all other departments the skill gap is positive, and that reflects students are performing poorly in the expectation of teachers. The below table 5.1 reflects on comparative analysis of different skills among selected departments.

Table 5.1: Comparative analysis of Employability skill of Student's:

Departments	**Eco**	**MBA**	**Math**	**Stat**	**J&MC**	**BCNR**
Communication Skill	3.38	3.28	3.21	2.90	3.10	3.29
Problem Solving Skill	3.31	3.04	2.95	2.80	2.53	3.03
Team Working Skill	3.50	3.25	3.11	3.00	2.90	3.38
Planning and Organizing	3.23	2.98	2.64	2.55	2.45	3.08
ICT Skills	3.56	3.33	3.48	3.87	3.27	3.53
Self-management Skills	2.17	2.29	2.33	1.87	2.60	2.64
Time Management & Prioritizing Skill	2.89	3.22	2.86	2.27	2.47	2.97
Decision Making & Leadership Skill	3.36	3.18	3.05	2.63	2.47	2.96
Integrity and Honesty Skills	3.36	3.51	3.24	3.60	2.87	3.44
Self-confidence and positive attitude	3.44	3.28	3.43	3.10	2.60	3.42
Flexibility Skills	3.50	3.53	3.05	3.47	2.53	3.53
Work Ethics and Morality Skills	3.08	3.38	3.21	3.15	3.15	3.42
Generic Employability Skill	3.23	3.19	3.05	2.93	2.74	3.22
Subject Specific Employability Skill	2.79	3.05	2.69	2.54	2.22	3.04
Employability Skill	3.01	3.12	2.87	2.73	2.48	3.13

Source: Based on Primary Survey

The above table 5.1 shows the comparative analysis of ESs of students among selected departments. The comparative analysis can be done in two way, firstly in terms

of each skill which department perform best and which department perform worst. secondly, what are the top 6 skills developed in each selected department?

In the case of communication skills, student's performance is better in the Economics department having an average score in the rating scale (3.38) and Statistics is worst (2.90) compared to other departments. The finding may be supported by focused group discussion data, which reflects that the department students have more exposure to fieldwork, industry visit, workshop, and internship, etc. Though it is evident from the skill gap data that students performance in Economics is not adequate to teachers expectation, but it is also evident f the performance of Economics students is well in case of problem-solving skills having 3.31 rating, and J&MC is the worst having 2.53 score in compared to other departments. Further, in the case of team working skill, planning, and organizing skills students in the Economics department have a good score. In terms of ICT skills, students of Statistics perform well in comparison to other, it is due to the availability of computer lab and ICT related courses in the curriculum, which does not exist in other departments. Self-management skills are scored less among students of all disciplines, in the BCNR student's mean score is 2.64, which is highest in comparison to all other departments. All the departments need to take necessary steps for the development of self-management skills which is crucially important in the labour market. As a professional higher education department, MBA has the highest mean score (3.22) in time management and prioritizing skills in comparison to the most depressing score (2.27) in the hands of students of Statistics. Decision making and leadership skills are scored highest by students of Economics (3.36) and MBA (3.18) in comparison to J&MC lowest (2.47). These two skills are much more important in the labour market, which is also coming under professional skills, thus departments need to focus on the provision and practice of teaching-learning for the development of the same. Integrity and honesty said to be individual characteristics, which is coming under generic competencies in the GES basket, is scored highest by students of Mathematics (3.60), and lowest by (2.87) Statistics. Data reflects 75 % of chances for a job in the labour market is depending upon employability skill, particularly on generic competencies. Further, in self-confidence and positive attitude, students of Economics scored highest (3.44), followed by Mathematics (3.43), which is the lowest (2.60) among students of J&MC.

In case of flexibility skills which is one of the most important qualities emerges in the labour market. Data replicates that, the students of BCNR and MBA have the

highest score (3.53), compared to the lowest (2.53) among J&MC students. The 21st-century the labour market needs the bend or adapt to changing circumstances and expectations of the department under which an individual is working. Thus, it is essential for the departments to decide upon flexibility skills. Similarly, work ethics and morality skills which are sometimes referred to as moral and ethical skills is another important area of professional skills, from data it is evident that BCNR and MBA student's performance is well in comparison to other departments.

Moreover, among all the GES items, students from the Department of Economics have scored highest (3.23) followed by BCNR (3.22). In this case, students of the Department of J&MC have scored lowest (2.74). As the department is more professional and vocational oriented, the Department must take necessary steps for the further development of GESs. In the case of SSEs, the Department of MBA scored highest (3.05) followed by BCNR (3.04), the department of J&MC has the lowest score (2.22). Therefore, the department in which students have poor potential in terms of both the skills need to rethink their curriculum, teaching-learning process, and work integration.

Secondly, focusing on the top six skills developed by each department. It is evident from the table that skills like ICT (3.56), team working (3.5), flexibility (3.5), self-confidence and positive attitude (3.44), communication (3.38), decision making & leadership (3.36) are the top six skills developed in the Economics department. The data is backed by higher the orientation higher the aforementioned skills, as the students are attending workshops, seminar, internship, and field attachment in their own attempt, then it clarifies their self-confidence and positive attitude. While students are attending a different program, students developed these skills by working in a team, with the use of ICT technology, decision making in the tea, and so on.

Further, table 5.1 demonstrates in the department of MBA, the top six skills are flexibility skills (3.53), integrity and honesty skills (3.51), work ethics and morality skills (3.38), ICT skills (3.33), communication skill (3.28), self-confidence and positive attitude (3.28).

In the department of Mathematics, the top six skills are ICT (3.48), self-confidence and positive attitude (3.43), integrity and honesty (3.24), communication (3.21), work ethics, and morality (3.21), team working (3.11), etc. Similarly, the top six skills found in the hands of Statistics students are ICT (3.87), integrity and honesty

(3.6), flexibility (3.47), work ethics and morality (3.15), self-confidence and positive attitude (3.1), and team working (3), etc. (Table 5.1)

Table 5.1 also depicts in the department top six skills produced in the department of J&MC are ICT Skills (3.27), work ethics and morality (3.15), communication (3.1), team working (2.9), integrity and honesty (2.87) and self-management (2.6), etc. likewise, in the department of BCNR top skills produced are; ICT (3.53), flexibility (3.53), integrity and honesty (3.44), self-confidence and positive attitude (3.42), work ethics and morality (3.42), team working (3.38), and communication skill (3.29), etc.

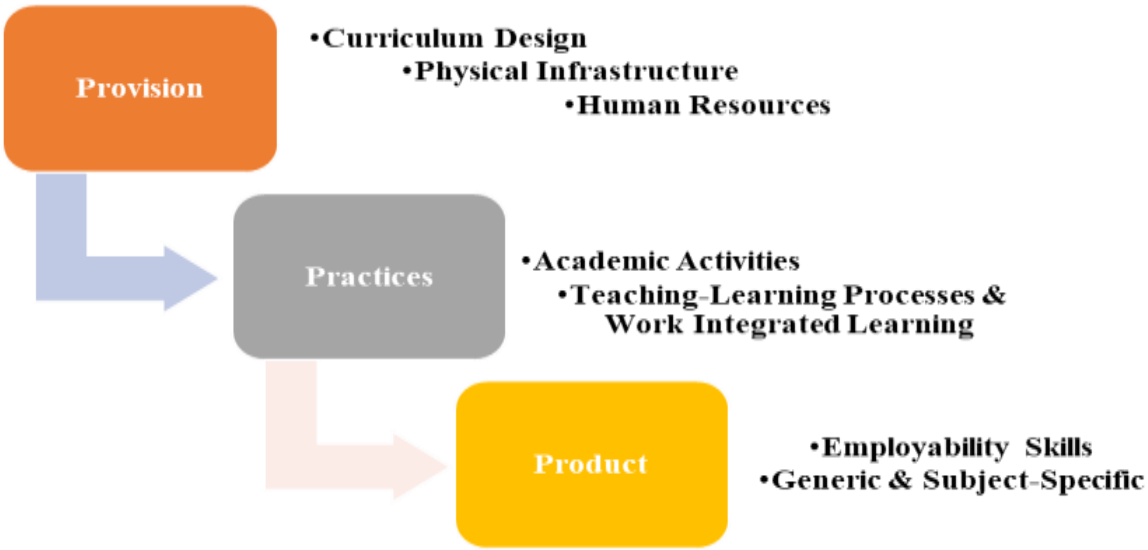
From the above analysis, it is clear that employability skills variation among students of different departments exist in the study area.

Section-II

5.2. Causes Responsible for Employability Skills Variation:

This section aims to describe the causes responsible for the skill gap among students of selected disciplines. In this context, the description is based on the diversity in terms of curriculum designing, academic activities, availability, and accessibility of physical & human resources, etc. at the departmental level. For analysing the responsible causes, both qualitative and quantitative data have been collected through focused group discussions with students and direct personal interviews with teachers. The following provision-practice-product model developed from the literature survey for analysing responsible causes of ESs gap among disciplines.

Figure 5.4: Provision-Practice-Product Model



Source: Compiled by Researcher

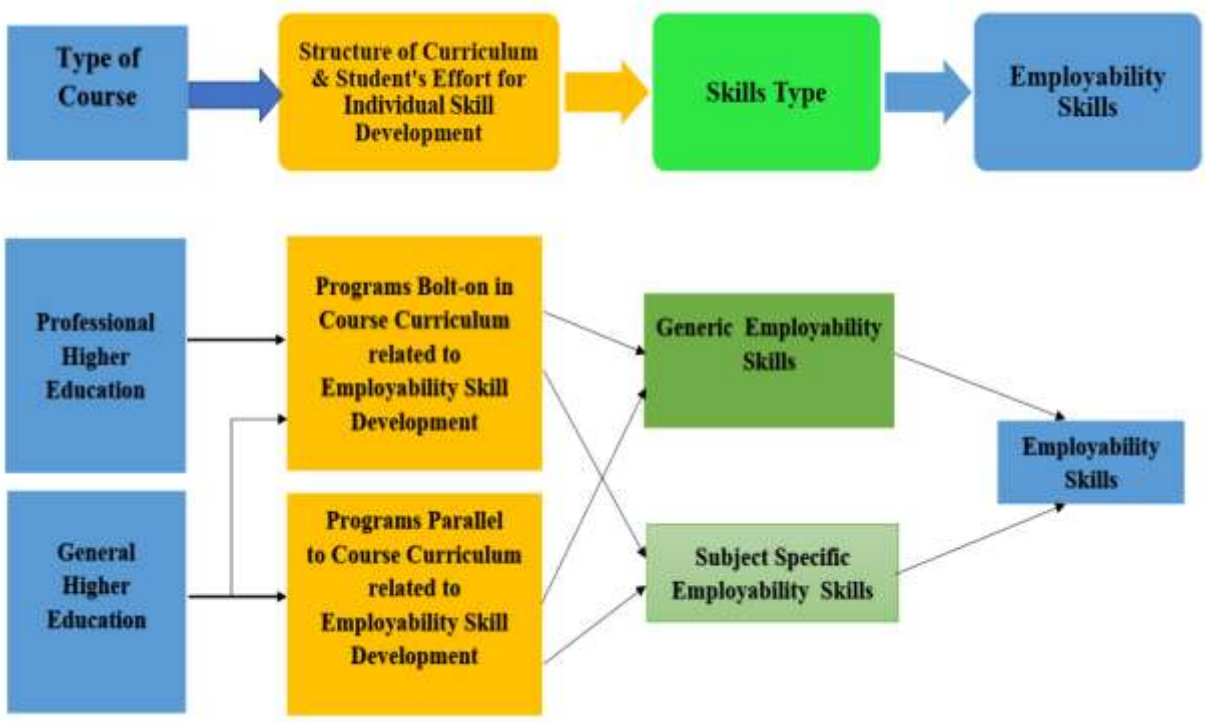
The above figure 5.5 demonstrates PPP model which explains that there are two broad phases through which ESs can be developed in the HE. The idea is supported by many past commitments, which states that employer's involvement in the curriculum design, pedagogical practice, practices related to teaching-learning, application of learning in real-world situations, or professional practice through work-integrated learning, problem-solving activities. In this context, Khare (2019) developed there is the concept of the 3Cs, which reflects curriculum, campus, and connectivity, these are coming under the broad academic activities of HEI. It is widely accepted that several pieces of literature reflect teachers have a positive impact on ESs development of student's (Cranmer 2006; Wells et al. 2009; Othman et al., 2010; Smith 2012; Radhakrishnan & Sudha 2015; Rowe & Zegwaard 2017; Doolan et al. 2019). PPP model developed by considering the above-mentioned concepts and relationships, which states that there are three phases; Provision-Practice-Product. In the phase of provision, curriculum, physical infrastructure, human resources, etc. have defined and are the key areas of focus at the departmental level. Generally, before starting the academic session the department decides to provide all the prerequisites for effective teaching-learning practices. Further in the practice phase areas like academic activities, teaching-learning practices, work-integrated learning, etc. are discussed which in turn reflects practices related to ESs development. The last phase, which reflects the consequence of both the previous phase is considered as a product. In this case, the product is specified to ES, generic ES, and subject-specific ES, keeping the assumption that all the provision and practices are directly or indirectly effecting ESs growth. Therefore, it is necessary to measure how departments are provision, practicing, and getting a better outcome through the aforementioned model.

5.2.1. Provision-Practice at Departmental Level:

The relationship between employment and HE has become a major issue in recent years. Therefore, for a better outcome, departments are focusing on special provisions and innovative practices related to different activities. The department, where better provisions and practice are the systematic and effective manner in an enabling environment, which produces a better outcome. Though the previous analysis reflects on core activities in different structures of education. In this context, the comparative structure is based on the ideas of (West, 2000; Knight and Yorke, 2002; Wells et al. 2009) and so on. According to West (2000) fostering ESs in HE is based

on two kinds of setting; first professionalising HE system through the professional model and second, embedding skills in the general higher education system. In this context, in professional HE for the cultivation of ESs, ESs should be bolt-on in the course curriculum, and in the case of general HE, the student should go for parallel courses. Therefore, the ESs is cultivated in the hands of graduates through the above-mentioned structure which reflects on curriculum design and academic activities. Supporting the statement, Wells et al. 2009 recommended, ESs can be developed through two key areas; first, application of learning to real-world situations and second, professional practices on the campus or outside the campus. Hence, the university should focus on the use of case studies of ESs development for integrating work placement activities or internships into the course curriculum for encouraging students to work in real-world problems. Again, through embedding problem-based learning in the course curriculum, professional capability can be enhanced, which is the part of generic and subject-specific ESs (Othman et al. 2010). However, the outside departmental aspect is also responsible for ESs development. For instance, in the Indian context, value addition to student's life through linking HE to labour market is crucially important for cultivating ESs (Dhar, 2012). Considering the above discussions, the model developed for ESs development in HE, which is described in detail below.

Figure 5.5: Comparative Curriculum Structure for ES Development



Source: Compiled by Researcher

The in-depth observation of the course curriculum in selected departments clarifies course design is based on the above model. The department of MBA and J&MC are coming under professional higher education departments and rest are general higher education. In context to selected departments model is examined by both primary and secondary data in detail below.

5.2.2. Structure of Course Curriculum:

It is well known that the curriculum aims at enhancing effective teaching-learning practices and mostly operative for achieving certain goals in the academic and professional career. For achieving desired goals and objectives in academic and professional life, effective learning with some basic understanding of content and context is crucially important. In this context, when the curriculum is designed up to the required standard and composed of better courses with an effective pedagogy, innovative learning through exposure (industry-academia interaction), internships and field, training programs, and certification program, then the better cultivation of professionalism can be achieved. For the same, a deeper understanding is essential, how ESs are associated with all these activities in the curriculum need to see from both micro and macro perspective. For instance, employability should be embedded in the curriculum more explicitly by introducing new courses, modifying existing courses, and expanding opportunities for work experience (Cranmer, 2006). Again, in his developed model named "Expanded model of methods of delivering ESs in the HE curriculum" Cranmer explained ESs can be developed in the curriculum by embedding subject-specific and generic skills and knowledge in the curriculum. Defining how HE institution can embedded skills; he approaches skill can be embedded through bolt-on technique and parallel technique. In bolt-on technique skills are directly embedded in the study curriculum through "Specific modules aimed at enhancing professional and generic skills". In the parallel technique skills can be embedded by taking extra courses/skill programs for developing writing, creative thinking, CV writing by using web resources, career guidance, making effective job applications, etc. Although, he suggested the model to bolt-on ESs in the course curriculum, but did not correlate which skills are associated with different activities in the department. Supplementary, Jackson (2014) explored, classroom activities involve planning, goal setting, and subsequent self-reflection on performance outcomes, etc. assists skill development at the department level. The curriculum of many developing countries has been criticized not

only for lack of continent quality but also for being largely theoretical and overloaded, absolutely disconnected to the labour market needs (Pitan, 2016). Similarly, another important cause for the discussion is, university teaching is questioned and criticised for it is disconnected from society and the market (Mandal, 2018).

According to Khare 2014, a well-crafted curriculum with regular up-gradation is crucial for the enhancement of quality. For the same Multistakeholder involvement is essential at a different level. She mentioned, in the matter of Indian HE with the little effort of teachers and leaders in the HE institution can bring quality outcomes.

Though, curriculum design also lies in the heart of teaching-learning practice, hence when the curriculum design is better than that results effective practicing. It is also evidence from the previous study that in an effective credit system, more credits should give to the paper with more weightage. In-depth analysis and observation from the secondary data reveal, in central university Odisha the curriculum design for core paper in all the departments is based on LTPD (lecture-tutorial-practical-dissertation), LPTD (lecture-practical-tutorial-dissertation) structure for the different courses within a program. For statistics core and elective paper are given 3-0-1-0 (L-T-P-D) credits and dissertation paper 8 credits. That clarifies in the department of statistics 3 credits out of 4 go to lecture classes. Likewise, in the department of Mathematics credits are distributed in 3-0-1-0 (L-P-T-D) for core and elective papers, and for project-1 credits are 0-0-0-7 (8) and project II 0-0-0-7 (12). The department of J&MC and BCNR have not mentioned the credit distribution in their curriculum guide. Department of Economics and Management also have the credit distribution like (L-P-T-D) and for all the core and elective papers credits given like 3-0-1-0. Similarly, in Management 8 credits has given to internship work and 6 credits have given to the dissertation. In the department of Economics, the dissertation carries 8 credits. That reflects variation in the credit distribution within different modes of teaching-learning for different papers across departments. Therefore, the following discussion is on the credit distribution among different papers in a master degree of selected departments.

Table 5.2: Course Structure & Credit Assigned

Total Credit	Eco	MBA	Math	Stat	J&MC	BCNR
Core Paper	4	4	4	4	4	3
Elective Paper	4	3	4	3	4	3

Practical Paper	0	2	0	2	4	4
Summer Internship	0	8	0	0	4	0
Dissertation/project	8	8	20	6	4	20

Source: Based on Syllabus of Selected Departments 2019-20

The above table 5.2 shows credit assigned to different papers in the curriculum of selected departments. As curriculum is the foundational pillar in the teaching-learning process, thus it is quite important to discuss. The analysis of the table 5.2 is given thematically as follows.

5.2.2.1. Core paper in the Curriculum:

It refers to a paper, which is compulsory to be studied by a student as a core requirement in the subject. These papers are focused on the theoretical understanding related to the subject area. It is evident from the above table 5.2 that, in the department of BCNR 3 credits assigned to each core papers, in comparison to other departments have 4 credit. From the closer investigation, it is found that there are 13 core papers (12 in the first 3rd semester, one in 4th) in the course curriculum of the Economics Department. Likewise, in the course curriculum of the MBA, there are 19 core papers in the master's program. In the mathematics course curriculum, there are 10 core papers in 1st three semesters, in 4th semester there is no core paper. There are 14 core papers in the course curriculum of the Statistics Department and 17 in J&MC and 12 core papers in the 1st, 2nd, and 3rd semester of the BCNR department. Again, teaching and learning are interconnected, a better understanding with enough learning can be possible through effective teaching, and both can be effective when the course is designed accordingly. It is well recognised from the above data that the department of MBA has the highest number of core papers followed by J&MC. From the above analysis, it is concluded that MBA, Statistics, J&MC Departments have the highest number of core papers in the curriculum, it is also found that higher the number of core papers higher the student’s performance on SSESs assuming number of teachers and other facilities provided.

5.2.2.2. Elective Paper in the Curriculum:

A paper that is very specific, specialised, advanced, supportive of the discipline, which provides extends the course, which enables exposure to the students is called elective courses. In the department of Economics, from 9 available elective papers in the first 3 semesters, the student must choose 3 electives and 2 electives in last semester.

In the department of MBA have 4 elective papers in the 4th semester which carries 4 credit each. Department of Mathematics has 3 departmental electives 4 credit each and 2 open elective carries 4 credits. The above table clarifies that there is 3 credit assigned for elective papers in the department of MBA, statistics, and BCNR, in comparison to 4 credits in Economics, Mathematics, and J&MC. The above table clarifies that in the department of MBA, Statistics, and BCNR importance to elective papers are less recognized.

During the survey, it was found from the FGD that students compromise in their selection of elective papers due to a smaller number of teachers in the department and a smaller number of student's demands for the paper. In this regard, in the Department of Economics, one student replied to teach an "advance econometrics" teacher is not in the department; he is compromising with his choice. Thus, it is concluded that student's SSESs are being affected due to the aforementioned problems.

5.2.2.3. Practical Paper in the Curriculum:

It refers to the part of the course structure, which is essential for the practical orientation of subject-specific knowledge. There is no practical paper in the course curriculum of the Department of Economics and Mathematics. In the MBA Department in 1st semester a practical paper entitled "Computer Application in Management", in 2nd semester 2 practical papers named "IT Lab" and "Computer Lab" are in the course curriculum. In the Department of Mathematics course curriculum one paper named "Data Base Management System" is there, in which only one credit is devoted to practical class. In the department of statistics "Using C", "Using excel/SPSS", and "Using R/MATLAB" are 3 practical papers in the 1st, 2nd, and 3rd semesters respectively designed as practical paper in the course curriculum. In the J&MC curriculum, there are 5 credit distributed for practical classes according to the need and importance. In the case of BCNR in the 1st, 2nd, and 3rd-semester curriculum 4 credits each semester is assigned for practical classes. Hence, it is found that the Department of Economics, Mathematics needs to revisit its course curriculum for the practical orientation of theoretical knowledge. Therefore, data clarifies the importance of practice papers in the course curriculum needs further designing.

5.2.2.4. Internship in the Curriculum:

Fleming et al. 2009 describe the development of skills and competencies that can be possible through learning strategies such as project work, through interlinkage between industry and academia. In this context, the Internship program refers to that part of work-integrated learning, which provides enough time to learn from the work environment. The above table 5.2 clarifies that the department like MBA and J&MC have a compulsory internship program. Department of MBA assigned 8 credits for the internship program, whereas J&MC 4 credit. For the same in all the departments, students are asked how the program is helping them in ES development, which is discussed in the below analysis. In the department of Mathematics, statistics, Economics, BCNR internship program is also not in the course curriculum, but students are attending the same in their attempt. The internship which lies in the heart of ESs development is being poorly embedded in the curriculum of MBA and J&MC (FGD Student) and the importance is not recognized by other departments.

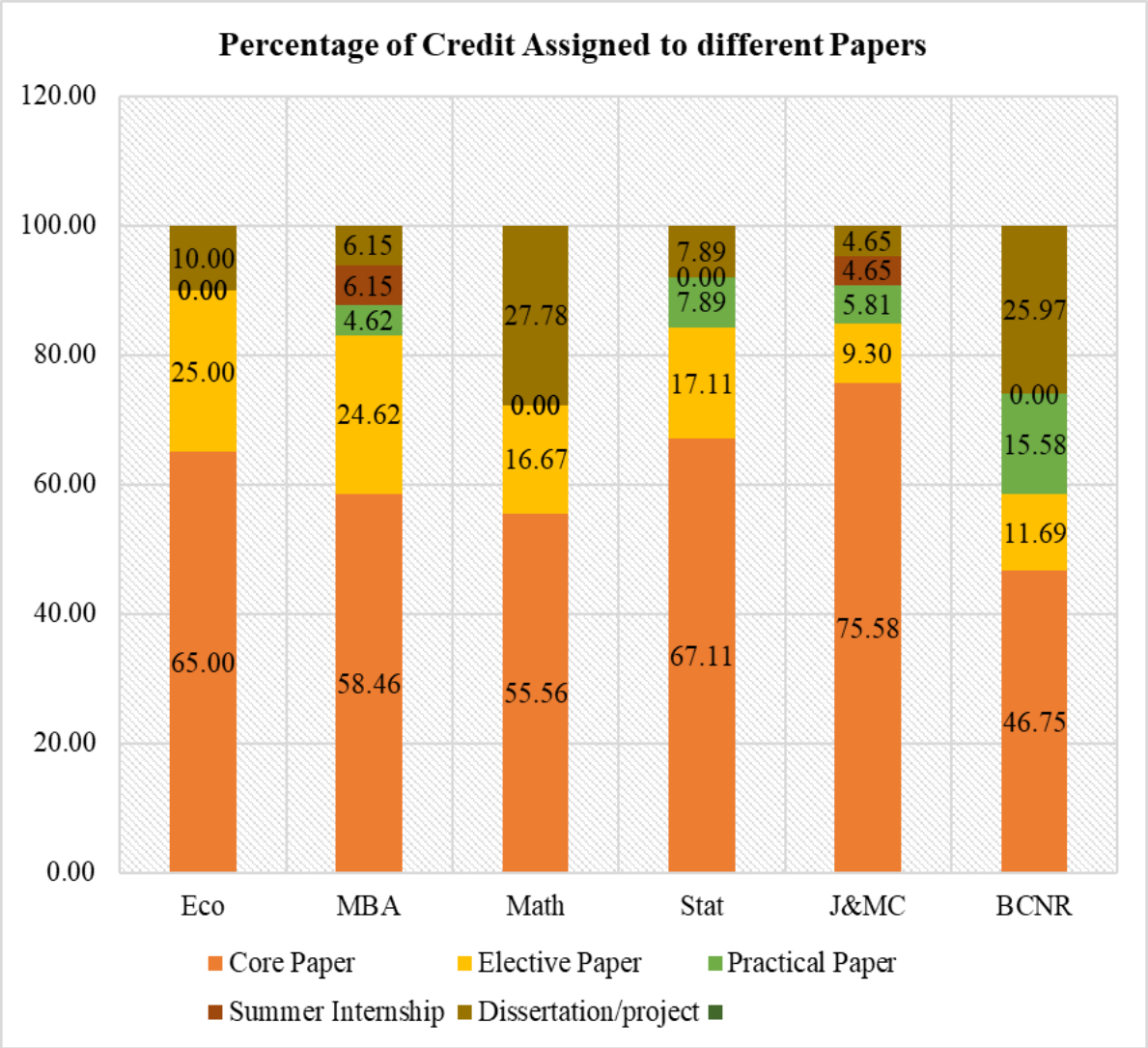
5.2.2.5. Dissertation/Project in the Curriculum:

It is a compulsory course designed to acquire specialised advanced knowledge in a field of any discipline through a closer investigation of literature and empirical data. For instance, in the Department of Economics, a dissertation paper is in the fourth semester. In the MBA Department, dissertation and viva voce are in the fourth semester which carries 6 credits, in the Department of Mathematics two projects, are in the 3rd and 4th semesters. Project in the 3rd semester carries 8 credits whereas in fourth it carries 12 credits. Likewise, in the Statistics Department, the dissertation is in the 4th semester and 6 credit is assigned. The maximum time and credit assigned for dissertation work are in the Department of BCNR. The last semester in Economics and BCNR is specifically devoted to dissertation work. Therefore, as the course curriculum in the selected Departments remains embedded with dissertation and project, it is essential to evaluate the outcome related to skill development.

To sum it is observed that departments have different types of teaching-learning process, according to the importance of lecture-tutorial-practical and dissertation in the paper credits and time are allotted for classroom practices. It is also observed that the core paper, elective papers are basically focused on the development of fundamental/theoretical knowledge whereas practical paper, summer internship and dissertation are for the development of skills through practical orientation. Therefore,

it is essential to discuss how departments are giving importance to different papers in the curriculum. For the same, percentage of credit assigned to different papers in a master programme is portrayed in the figure 5.6 below.

Figure 5.6: Percentage of Credit Assigned to different Papers



Source: Based on Syllabus of Selected Departments 2019-20

After analysing the importance of different papers through the number of papers in the course curriculum of selected Departments, it is essential to evaluate how different papers are embedded with skill-orientation. At first, it is evident from the above figure 5.6 that, out of total credit in the course curriculum of the Department of Economics, 65 percent distributed for the core paper in comparison to 25 percent elective papers and 10 percent for dissertation. Provision of the summer internship program is not in the curriculum the course curriculum does not include practical papers like IT for Economics, Software for data analysis, and so on. It shows the practical

orientation of the students is not given importance. In the case of the Department of MBA, core papers are credited with 58.46 percent, 24.62 percent for elective papers, 4.62 percent for practical papers, 6.15 percent for the Summer internship, and 6.15 percent for dissertation purpose. Moreover, nearly 83 percent of credit assigned for theoretical knowledge generation in the curriculum. The credit distribution is comparatively better in comparison to the Department of Economics, but it suffers from a lack of skill orientation. Further, the curriculum structure of the Department of Mathematics, out of total credit 55.56 percent distributed for core paper, 16.67 percent for elective papers, and 27.78 percent for project purposes. In the department, there is no provision for practical papers and internship programs. Hence, it can be concluded that practical papers and internships need to be added to the curriculum. In the case of the Department of Statistics out of total credits in the course curriculum, 67.11 percent credited for core papers, in comparison to 17.11 percent for elective papers, 7.89 percent for practical papers, and 7.89 percent for dissertation propose. There is no provision made by the administration for the internship program. In the Department of J&MC course curriculum is based on all the available papers. Out of total credit, 75.58 percent credit distributor for core papers in comparison to 9.30 percent for elective papers, 5.81 percent for practical papers, 4.65 percent for the internship, and 4.65 percent for dissertation.

Further, in the department of BCNR credit distribution is so unique in comparison to other departments. 46.75 percent of credit distributed for core papers. Only 11.69 percent for elective papers, 15.58 percent for practical paper, and 25.97 percent for dissertation propose. This department also lacks provision for the summer internship.

To conclude, it is found that the department of BCNR, Mathematics, MBA have a good course curriculum structure in comparison to other departments. It is evident from the literature that, for the enhancement of ESs, not only the curriculum focused on theoretical knowledge, but also credit should be devoted to practical classes and field attachment for the skill orientation of students. Hence, the curriculum in the department of BCNR & MBA is designed by giving importance to both subject-specific knowledge and practical orientation, it benefits in terms of generic as well as subject-specific ESs development. Consequently, the curriculum design is also reflected in the index value of ES and sub-indices. The finding is supported by Wells et al. (2009) on that

discrepancy between the importance of professional capability development and focus of university courses on each item have a significant impact on the educational quality.

5.2.3. Access to Physical Facilities*:*

The importance of quality physical and academic infrastructure for excellence in education is recognised in the UGC report entitled "Issues related to Expansion, Inclusiveness, Quality, and Finance", published in 2008. In that report under chapter named "Emerging Issues in HE Approach and Strategy of 11th Plan", it is discussed that excellence may not be enhanced without quality education. In the Indian context, there are many public universities and colleges suffer from inadequate academic and physical infrastructure. Simultaneously, connecting learning with the real world has become so important. Wells et al. 2009 discussed the graduate's demand for learning related to 'real-life', practical, and relevant to the economy has emerged from the perspective of employment. Now it is important to understand how universities could improve course content and how to deliver easily for a better outcome. Further, Pitan 2016 explains the causes behind low employability and employment are backed by a poor learning environment. He found HE institutions do not have reliable electricity supply grossly deficient and inadequate hostel facilities, library and laboratory are not well equipped with necessary books and instruments, accommodations are substandard, etc. Though, the relationship between physical infrastructure and quality outcome is closely related, therefore, it is important to assess the availability and access of physical infrastructure in the selected departments of CUO.

Therefore, the following analysis reflects on the access to physical resources like computer lab, science lab, modern equipment including projector, computer system, printing machine, smart classroom facility, smart library facility, etc. In addition to that data analysis software, high-quality journals, inter-links or work contract with job placement agencies, full-fledged training and placement cell, subject-specific ESs in the curriculum, campus interview cell, etc. are important facilities for ESs development at departmental level. Let's discuss one by one in details below.

5.2.3.1. Computer Lab/Science Lab:

As there is a paradigm shift that occurred in the knowledge economy and that emerges the importance of Information and Communication Technology for the development. In this context, availability and accessibility to computer lab/science lab emerged in a higher education institution. It is evident from the data that, in CUO the

access to computer lab/science lab, modern equipment including projector, computer, printing machine), smart classroom facility, smart library facility is available. Discussion from the focused group data reflects that the availability of computer lab is in an arrangement basis (common lab) for Economics and MBA students. The provision of the special computer lab is there for students of Mathematics, Statistics, BCNR, and J&MC. From the IT perspective, in the department of J&MC special computer lab is available with 11 systems embedded with some basic software. Despite all these provisions related to science lab is available for BCNR students. There are many types of equipment available for practical work, such as; PCR machine, Gel electrophoresis, high speed refrigerated centrifuges, spectrophotometer, Gel documentation system, Chlorophyll florescent meter, infrared gas analyser, etc. in the BCNR department. Therefore, it is found that, though departments have certain facilitates but not enough for academic activities.

5.2.3.2. Modern Equipment (Projector/Computer System/Printing Machine):

The modern equipment like Projector/Computer System/Printing Machines are available in all the departments. In every classroom, projectors are available and used according to the need for teachers and students. But the students are not allowed to access for printing machine.

5.2.3.3. Smart Classroom Facility:

Smart classroom facility in the 21st-century education is backed by modern teaching-learning practice, innovative teaching pedagogy as well as andragogy, curricular structure, etc. (Dhar 2012). It is evidence from the data that facilities is not enough, there are many instruments essential for the smart classroom.

5.2.3.4. Smart Library Facility:

There are two libraries available in CUO at the main and old campus. In all the library books with digital facilities for accessing journals, magazines, etc. available adequately facility. But, high priority journals and reputed publishers (Scopus, Tailor & Francis) for accessing books, journals, and magazines are not available in any department.

Thus, to sum it is decided that departments are equipped with different types and different levels of physical resources. It is concluded from the above discussion that resources are not enough according to the requirement. Despite the discussion,

there are some facilities which have direct and indirect effect on ESs development. Therefore, the following analysis is all about facilities related to Software, Journal, Program, Work Contract, and Placement, etc. All these are explained details in table 5.3 below.

Table 5.3: Access to Facilities related to Softwire, Journal, Program, Work Contract and Placement

Facilities	Eco	MBA	Math	Stat	J&MC	BCNR
Data analysis softwire like SPSS, STATA, MATLAB, R, NVIVO, Atlas-ti, Adobe pro, Power director, Photoshop, Quark express, InDesign	Yes	Yes	Yes	Yes	Yes	Yes
Journals & Access point (Sage, Tailor & Francis, EPW, Nature, Nature Communication) (JSTOR, Springer, Scopus,)	No	No	No	No	No	No
Inter-links or Work Contract with Job Placement Agencies	No	Yes	No	No	Yes	No
Full-fledged Training and Placement Cell	No	No	No	No	No	No
Subject Specific ES Programme	Yes	Yes	Yes	Yes	Yes	Yes
Campus Interview Cell	No	Yes	No	No	Yes	No

Source: Based on Primary Survey

The above table 5.3 clarifies the access to Facilities related to Softwire, Journal, Program, Work Contract and Placement activities, etc. All these facilities are discussed thematically in detail below.

5.2.3.5. Data analysis Softwires:

It is the most important element of teaching-learning practice in the 21st century, it makes human effortless and complete the task within a second, but it requires essential skill to perform effectively. Thus, for HE graduates data analysis skill is crucially important. In this regard, software should be available in the department for

the practical classes of students. In the era of the 4th industrial revolution with the emerging of the multitasking the labour force, software became a major importance in the production industry. The data in the above table clarifies that all the departments are equipped with software, but not sufficient. The data analysis software like SPSS, STATA, R is used by students of the Department of Economics and MBA. Similarly, students of Statistics and Mathematics used SPSS, STATA, MATLAB, R for their academic excellence, it enables them to be skilled with the skills necessary in the labour market. In the department of J&MC, software available such as; for video making- Adobe pro and power director, for photo editing Photoshop, for newspaper editing Quark Express, InDesign, etc. are available. In the BCNR department special lab is arranged with 10 systems installed with software like; GIS, ERDAS imagine, Arc imagine, etc.

5.2.3.6. Access to Quality Journals:

Correspondingly, the table shows high-quality journals are not available in the departments. Students replied in FGD that only a few journal facilities available in the library. It is very difficult to access journals, magazines which is high quality in nature, consequently, it has reflected in the poor academic activities related to writing the dissertation, thesis, and project papers[20]. A high-quality publisher like Scopus, Springer, nature research journals is not available in the university. Which indirectly affect the quality of writing thesis/dissertation/projects etc, even for the publication also.

5.2.3.7. Work Contract with Job & Placement Agency:

It is well recognised from the literature that work contracts with job and placement agencies are crucial for the enhancement of ESs. For Example, Pitan 2016 described the inadequate collaboration between university and employers of graduates is another cause of poor employability and employment. In the case of CUO, though there are MOUs with different public sector companies regarding work contract and job placement, due to lesser effort from the university administration, effects are poor. Further, the department of MBA and J&MC are interlinked with few industries, but placement activities are not arranging effectively[21]. There is not full-fledged training and placement cell in the university. That caused poor employability among master

[20] Information collected from Direct Personal Interview with teachers/HODs.
[21] FGD Students

graduates in the university. Student's felt that for the effective functioning of placement cell regarding work contract and internships.

5.2.3.8. Provision of Subject Specific Skill Development:

Subject-specific skills are embedded in the course curriculum of each department. The knowledge and skills developed through programs like a seminar, workshop, presentation, and dissertation/project in the course curriculum. All the departments have special provisions for the development of subject-specific ESs.

To sum, it is determined that different departments are equipped with different levels of access facilities such as; computer lab/science lab, modern equipment including projector, computer, printing machine), smart classroom facility, smart library facility, equipment in the science lab, etc. Access facilities related to data analysis software in the selected departments are; SPSS, STATA, MATLAB, R, NVIVO, Atlas-ti, Adobe pro, Power director, Photoshop, Quark Express, InDesign, etc. Facilities for quality journals are not in the university. Departments are not connected with work contracts with job and placement agencies despite MBA and J&MC. All the departments have special provisions for the development of subject-specific ESs. For the better subject-specific skills regular workshops and seminars organised by all the departments.

After the availability of physical and human resources, creativity, collaboration and critical thinking among the teachers and student's is essential for effective outcome in the HE institution.

5.2.4. Availability of Teacher's in the Department:

In one chapter entitled, "Teachers in Universities and Colleges-Current Status: Regarding Availability and Service Conditions", by (Chadh, Bhushan & Murlidhar 2008) in the report entitled "Issues related to Expansion, Inclusiveness, Quality and Finance" in 2008, it is noted that serious shortage of teachers problems is associated with HE system in India. It is also mentioned that the shortage of teachers has managed by ad hoc teachers under part-time employment. The importance of teachers in universities and colleges can be seen from the aspect that they disseminate knowledge through organic linkages with each other on the campus and with the students. When the department suffers from the teacher's shortage it directly affects the generation and dissemination of knowledge which leads to detreating quality of education. Chadh, Bhushan & Murlidhar (2008) discussed from primary data that ratio of part-time

lecturers to regular lecturers is 0.24, for all types of universities put together, 0.32 for the state, and 0.20 for deemed universities; the system of part-time or ad hoc employment of faculty is nearly completely absent in the case of central universities. It is, therefore, essential to investigate the quality and quantity of teachers in the department.

The next most important aspect is the quality of the teacher in Central University Odisha is not good as 48% of teachers are in a guest faculty position. It is evident from the data that, the department of BCNR has a quality teacher in comparison to other departments, as 67 percent of teachers are the assistant professor and 33 percent professor. All other departments have a professor. The department of J&MC and Economics has 20 percent and 25 percent lecturers (ad hoc position) respectively, all other teachers in both the departments are assistant professors. The condition is so poor in the department of Mathematics, Management and Statistics, as 75 percent, 57 percent, and 50 percent of teachers are in ad hoc position respectively. BCNR and J&MC department have pictures with years of experience, in all other departments, the academic experience is only in between 1 to 10 years. So far as caste wise distribution of teachers is concerned, more teachers are from General and OBC background. Further, only two female teachers are at the University. The department of MBA, Statistics are badly suffering for several teachers and other departments for subject-specific teachers.

5.2.5. Practice (Academic Activities) at Department Level:

It is most important to focus on practices related to teaching-learning and assessment for the evaluation of quality and excellence in HE. Further, teaching-learning in HE is concerned with classroom practices and outside the classroom such as laboratory, work integration in a structured environment (Field attachment). There is a growing concern about practices (teaching, learning, performance, and outcomes) in business education in Australia (Freudenberg et al. (2011). It is caused by the emerging capital in graduate attributes and what industry required. Further, student's activity on teaching learning and assessment should be integrated in such a way that students can integrate theoretical and disciplinary knowledge with practical skills which lead to determining what, when, and how such integrated knowledge can be applied. Through the practice, the student can able to enhance professional identity and abilities. Students should emphasize the linkage between theoretical and practical knowledge.

They should apply canonical knowledge and skills in the workplace and reflection on the nature of work itself regarding its fit which state-of-the-art disciplinary thinking. The student should allow transferring learning from the classroom to work in the industry (Smith 2011). He also explained student were required to

- Apply canonical knowledge to their work
- Reflect on their attempt to do this
- Reflect on the work that that they did or observed promoters doing in the workplace and whether they were able to.
- Reflect on the canonical knowledge self.

Additionally, work placement activities like workshops, seminars, and similar events considered best practices in WIL (Jackson (2014). During work placement student's learn skills like problem-solving, critical thinking, communication, work effectively with others, professional and interpersonal skills, understanding of social, personal, and corporate responsibility, etc. In the work placement the feedbacks from the guide, mentors also help students for further development and refining the skills needed for professional development. Therefore, HE institutions should promote an enabling environment for teaching-learning and assessment practices. In this regard, HE institute should constitute a subject expert committee to draft a learning outcome-based curriculum[22]. By implementing the framework, the HE department will be able to create an enabling environment for the student, in which students can be able to acquire skills such as fieldwork, research skills, problem-solving skills, etc. (Malik, 2020).

In this context, an important purpose of academic activities is to the extent more learning outcome and focus on the knowledge, skill, value for enhancing the graduate employability.

Table 5.4: Number of Activities related to Student's Employability Skills:

(Table in Number)

Is your department organizing the following employability activities	**Frequencies of the activities in the Master Program**					
	Eco	**MBA**	**Math**	**Stat**	**J&MC**	**BCNR**
Dissertation/projects	1	1	2	1	1	1
Assignments	20	60	20	20	100	60
Writing report and seminar paper	20	20	20	20	80	40

[22] Learning Outcome based Curriculum Framework, Public Notice, UGC, Government of India, 22nd may 2019, Retrieved on 21st April 2020 from https://www.ugc.ac.in/pdfnews/4598476_LOCF-UG.pdf

Student's oral and pictorial presentation	20	20	20	20	80	40
Team work/ group work/ group discussion	4	16	4	4	16	40
Workshop	1	1	0	0	1	0
Student talk/ show/ debate	6	6	6	6	6	6
Extracurricular activities like (Sports, Yoga, Gymnasium activities)	2	2	2	2	2	2
ICT/Internet research/Information retrieve courses	0	1	0	0	1	0

Source: Based on Primary Survey

5.2.5.1. Dissertation/projects:

Dissertation/Project is a compulsory course designed to acquire specialised advanced knowledge in a field of any discipline. During the dissertation/project work, student through closer investigation of literature and empirical data create something new which does not exist. The above table clarifies that the Department of Economics has compulsory dissertation paper writing. It is in the 4th-semester course curriculum. For writing and submitting dissertation steps such as; topic selection, literature review, research proposal, questionnaire preparation, data collection, data entry, data analysis and interpretation, final submit with viva voce and presentation, etc. are involved. Students in the department felt, through this practice the skills like communication, problem-solving, time management, data collection and analysis, public relation, planning and organising, creativity and innovative thinking, etc. enhanced. After submitting the paper there is a compulsory presentation, which carries 25 percent of the total mark devoted to the dissertation carried out by the constituting research committee.

The Dissertation and comprehensive viva voce are in the fourth semester of the syllabus of MBA students. In this context, the student must submit a report on the topic related to management under the guidance of a teacher of the department. The student must complete it before the commencement of the fourth semester. The evaluation of the report and the viva voce will be based on panel consist of internal faculties and an external subject expert from any other institution appointed by the university. Near about four to five months allocated for writing the dissertation. Under this program, they learn skills like; problem-solving, critical thinking, writing, presentation, public relation, flexibility, organizational and professional skills, etc.

In the department of J&MC, all students for dissertation writing assigned to the teacher through the lottery system. Then the student chooses their topic with the guidance and supervision of his/her guide/supervisor. Students prepare a research proposal before the winter semester vacation. Then, the student goes for the collection of data, and write the paper with continuous and comprehensive discussion with the guide, they submit the dissertation. After that, they present the paper before external resource person and internal teachers, M. Phil, and Ph. D scholars etc. In addition to that project work, Production, and Performance of the Student's assessed by organising into groups in the last semester. In that work, each group must conduct research on any Contemporary Development Issue of local interest. Then they need to prepare scripts/storyboards for different programs (Street Play, Puppetry, Audio-visual, Radio, etc). The program production and Performance of the said programs recorded in for the assessment and marking. Due to the lack of teachers, students are facing a lot of problems in this practice.

In the department of Mathematics, the curriculum included two compulsory projects. For the project work in the 3rd and 4th semester 8 and 12 credits assigned respectively.

Hands-on-experiment of theoretical knowledge through real field attachment for writing a dissertation paper is in the last semester syllabus of the BCNR department. Each student must decide their topic and submit a tentative proposal to the department. After that student's work under the guidance of a teacher. The student must go for field visits related to his/her study area for collecting information. In the department students are using GIS software to capture, manage, analyse, and display all forms of geographically referenced information. Through the practice they develop their problem-solving skills, reporting skill, interpreting skills, communication, time management skills, ICT skills, etc.

5.2.5.2. Assignments:

Assignments are an integral part of teaching-learning practice. Through the assignment, teachers test different capabilities within students under the broad framework of the continuous and comprehensive assessment. Assignments are part of internal assessment in the departments. Assignments like small writeup on any phenomenon, group works, oral and pictorial presentation, etc. The assignments may be in the form of report writing, oral and pictorial presentation, group discussion,

(Economics) report writing, oral and pictorial presentation, group discussion, case study, elongation, GK competition (MBA), paper presentation, statistical and mathematical software package testing, writing report (Math and Stat), practice news reporting, preparing ads for the magazine, radio, and TV, outdoor advertising, news presentation. Making short movies, documentaries, etc. (J&MC), hands-on work in lab and field, report writing, presentation, etc. (BCNR). The date reflects that there is a large variation in terms of the number of assignments given to students in selected departments. In the department of Economics, Mathematics, and Statistics minimum of 20 assignments given by teachers in each department, in comparison to the minimum number of assignments 60 in MBA, 100 in J&MC, and 80 in BCNR. It is concluded that as the aim and objective of the assignment is to evaluate student's ability in terms of generic and subject-specific knowledge, skill, and value, thus more the assignments more will be the knowledge, skill, and value in the hands of teachers. For operating the activities, quality and quantity of teacher must be at adequately available.

5.2.5.3. Writing report/Seminar paper:

In the classroom context, a seminar paper is also part of the assignment and it is a work of original research that is presented to a group of interested peers and teachers. Sometimes it is a group activity carried out by a group created formally in the class. Accordingly, all the member works for a specific goal. In this practice, a group or an individual presents their arguments both in written and presentation form. Many comments directed by other groups of audiences about the idea during the presentation. For writing the paper information concerned to the areas is collected and gathered from the primary and secondary sources according to the nature of paper. Data in the above table shows, for a master's degree a student must submit approximately 20 report/seminar papers in the departments like Economics, MBA, Mathematics, and Statistics, in comparison to 80 and 40 in the department of J&MC and BCNR respectively. The student in the FGD replied that due to teacher shortage all the activities are not operating effectively. The situation is worst in case of Statistics and J&MC department.

5.2.5.4. Student's oral and pictorial presentation:

visual representation as by photography or painting is called pictorial presentation. In brief, when the information presented through pictures or symbols of different objects is called a pictorial representation of data. It is very essential for the

master students of every discipline. Importantly, the department of J&MC students uses the practice to develop their reporting and presentation skills. Pictorial presentation activity is used for submission of the seminar paper, dissertation paper, project paper, and others. This activity benefits student's in cultivating skills like presentation, effective communication, critical thinking, planning & organizing, creativity & innovation, etc. It is informed by the student's in the focused group discussion and curriculum that, the Department of Economics, Management, Mathematics, and Statistics have maximum 20 numbers of pectoral presentation, while the department of J&MC have 80 and BCNR has 40. Thus, a vast diversity is seen among the departments. The skill of communication comprises communication in the public place, academics, field attachment, labor market, etc. Especially, the professionals including editors, writers, teachers, researchers, etc. need a highly developed ability to communicate from each other. Today, the educational community and platform are responsible for the attention given to the specific skill of teaching in the field of academic communication. The importance of communication in the area of the education sector becomes even more superficial consequence in the overall perspective. Thus, the ability to communicate effectively has been a very important job, according to the demand of the market.

5.2.5.5. Team work/Group work/Group discussion:

"Group" is a collection of individual work for achieving a set of goals within a timeframe. Discussion is a practice of exchanging information between two or more peoples at a time to achieve a goal. The importance of the group discussion consists of creating innovative ideas, cooperative achievement, sharing and collecting ideas, solving a problem, and bringing an effective solution, etc. Through the peer interaction students got motivated and encourage his/her self-awareness, self-managed, critical thinking, and problem-solving, communication, professionalism, and adaptability to work effectively with others (Jackson, 2014). Throughout the practice of group discussion, ideas are opposed and supported with the available information. It directly impacts on the development of cognitive skills, communication skills, problem-solving skills, working with other skills, professional skills, etc. Data in the above table 5.4 clarifies that nearly 4 group works organized in the departments of Economics, Mathematics, and Statistics, in comparison to 16 in MBA and J&MC and 40 in BCNR. In the BCNR department most of the group work organized in the science laboratory.

They felt the interactions are highly motivated in a group of students during practical work in the science lab. Further, it helps in the social construct of understanding a phenomenon easily. Despite considerable association in building an understanding of the concept, it helps in the development of practical skills. It is also replied that collaboration between teacher and students, among students, create social, behavioural discourses which support to develop ESs. In the group work students develop team working skills, flexibility skill, critical thinking skills, creativity and innovation skills, leadership skills, etc.

5.2.5.6. Workshop:

Workshops refer to the systematic arrangement of a conducive environment for presenting themes and concepts, or hands-on-experiment for skill development, related to the area. Many stakeholders participate in this activity there are such as; teaching staff, non-teaching staff, scientists, social scientists, experts from different industries & NGOs, students, research scholars. It provides opportunities to meet new people who have expertise in the same area, hands-on learning, discussion, interaction, presentation, and debate on a given topic. The activities have a great impact on skills, such as networking, communication, critical thinking, brainstorming, problem-solving, cognitive, subject-specific skills, etc. through developing the vast knowledge in the subject area. Till now the department of Economics and MBA have arranged workshops, nearly two workshops each arranged by Economics and MBA the departments. The last workshop was on "Sustainable Development & Public Policy" organised by the department of Economics[23]. Another workshop was organized on the date of 26th November 2009 by the Internal Complaints Committee (ICC) of CUO on "Gender Awareness and Sensitization" at its main Campus [24]. In the last year, one workshop was organized by the J&MC Department, which was on communication media and photoshop editing. Resource person from the media industry invited to

[23] CUO Organises Workshop on "Sustainable Development & Public Policy: Recent Trend" Pragativadinewsservice, Retrieved on the date 25, April 2020 from https://odishabytes.com/workshop-on-sustainable-development-public-policy-recent-trends-organised-at-cuo-sunabeda/

[24] Central University of Orissa Organises Gender Awareness and Sensitization Workshop, Pragativadinewsservice, Retrieved on the date 01, January 2020 from https://pragativadi.com/central-university-of-orissa-organises-gender-awareness-and-sensitization-workshop/

practice hands-on work to master students of the same department. Due to shortage of seminar hall, more programs have not been conducted.

5.2.5.7. Student talk/ show/ debate:

It is an organized environment where a student must present the argument or contest of ideas which may be acceptable or opposed. There are two types of the audience found in an argument. Those who suppose with this statement or idea are the "Pro" side. Those who will not agree with this statement or idea are the "Con" side. The presentation depends upon debating skills consists of communication skills, presentation skills, public speaking skills, organization skills, etc. Student talk is not so organized, but it also has some procedures. Supporter and opponents are presented in the talk and your ideas and context is supposed and opposed by the individuals. It is a program, organized 6 times in a master's program by the university. Though it is not a departmental program, comparison between departments is not necessary and valuable. It is evident from the data that there are nearly 6 programs conducted at the university level, and in that program student talk/ show/ debate are the partial activities. Students in the FGD replied that through students talk/shows and debate they developed their communication skill, self-confidence, public speaking, time management, etc.

5.2.5.8. Extracurricular activities like (Sports, Yoga, Gymnasium activities):

Extra-curricular activities including sports, yoga, etc help students to acquire knowledge about develop personality and to use their skills and knowledge in different contexts. The student's participation in extracurricular activities plays an important role in strengthening the brain, developing time management skills, hands-on understanding in the field, associations with diverse people, the advancement of social skills, etc (Banerjee, 2018). Consequently, these activities give people the chance to develop these skills. Thus, it is important to note that this is the best opportunity for improving the ES. Each year annual sports organised by the university. Students replied in the FGD that, when they are participating in group competition among departments, they learn skills like administration, organisation, and delegation, team-building, team working, effective planning and organising skills, etc.

5.2.5.9. ICT/ Internet research/Information retrieve courses:

A more appropriate role of ICT has been communicating, transferring, with the desired goals as well as values through education and technology which reflects the

positive impact in the society. For example, in an educational system, ICT is a driving force in the practice of transferring the system and appears an innovation that is yet to be properly functioning in the field of the educational system. Therefore, this is the practice of development that has been using by teachers in the school/university for imparting knowledge. The skill of Information Communication Technology has transformed into the collect information which conducts academic activities and program in the library as well as an information centre. It includes the entire scale of technology that compasses the information practicing, communication and reclamation, consolidation, and so on. The higher the level of efficiency in using the technology and ICT (Information and Communication Technology) the higher the skill and earning. Data revealed that ICT users earn double as much as non-ICT users[25]. Thus, academic professionals must have a comprehensive term in the context of personality development, time management, leadership quality, etc. However, the knowledge about computer systems and the internet, software, and hardware, which contain its usefulness regarding knowledge and personality development. These types of professionals must preserve themselves up to knowledge related ICT, have very much essential implications for more output as well. It can be seen from the above table that the departments like MBA, Mathematics, Statistics, and Journalism, etc. have ICT courses. As the curriculum in these departments included papers like Computer application in Management, IT lab, Communication lab (MBA), Database management system (Mathematics), Using C, Using Excel/SPSS, Using R/MATLAB (Statistics), and New media technology, Electronic media, Technology, etc. (Journalism). Thus, from the comparative analysis it is concluded that different departments have diverse types of IT skills in the course curriculum. The number of papers related to IT skills also differs from department to department. Further, ICT said to act as the enabler that enables the economically as well as socially important information flow. The relationship between the Internet user and to careers and education, in the field of development and research[26]. Hence, the provision of information retrieves/internet research related papers are not in the curriculum of selected departments. Though these are the essential

[25] Shukla, et al. (2019). Explained: Gap between Skill India goals and current status. Retrieved on 30th April 2020 from https://www.financialexpress.com/opinion/skill-india-why-there-is-a-gap-between-current-status-and-goals-explained/1520633/

[26] Shukla, et al. (2019). Why internet access is an enabler for high returns on skills. Retrieved on 30th April 2020 from https://www.financialexpress.com/opinion/why-internet-access-is-an-enabler-for-high-returns-on-skills/1522838/

elements in the course curriculum, it is recommended that the department should revisit their curriculum and redesigned accordingly.

Table 5.5: **Departmental activities for Skill Development:**

Is your department organize employability programs	**Eco**	**MBA**	**Math**	**Stat**	**J&MC**	**BCNR**
Carrier counselling and related seminars	0	1	0	0	1	0
Interacting with job/ work placement agencies	0	1	0	0	1	0
Internship/ Field attachment	Optional	1	Optional	Optional	1	Optional
Participation and presentation in or out campus regional/ national/international seminar/ conference	Optional	Optional	Optional	Optional	Optional	Optional
Specific course for communication skills/ ICT skills development	0	1	1	1	1	0
Excursion and field	1	2	1	1	1	1
Lectures/ Seminars from external resource persons	60	60	60	60	60	60

Source: Based on Primary Survey

5.2.5.10. Career counselling and related seminars:

Career counselling is a practice that emphasizes helping one understand one's self, and work trends so that one can take an informed decision towards a career in life. This platform helps manage a diverse range of problems like low concentration levels to poor time management, trust problems with the family. Therefore, to understand Career Counselling is the most important platform for the informed knowledge regarding the carrier. The comparative analysis in the above table clarifies that there is no initiative taken by the departments like; Economics, Mathematics, Statistics, and BCNR. But the department of MBA and J&MC have arranged a career counselling program every year. A good career counsellor is a problem solver, a keen listener, and observer, and has enough knowledge of various fields to guide in the career decisions. When the programs are not organizing in the department how students will be guided for their career. Hence, it is recommended that the university administration should

establish a career counselling cell for the better outcome of ESs and career success of the students.

5.2.5.11. Interacting with job/ work placement agencies:

The placement agencies are their adaptability in performing hiring services efficiently. The placement agency can source profiles within minutes of receiving the order. From the perspective, a placement agency not only screens profiles but also brings to the fore opportunities where companies get to reviewing their hiring practice and implement recommendations given by professional full-time recruiters. A placement agency is to source quality profiles for clients. These sources are the primary activity of every professional job in the placement agencies. In this regard, Khare 2014 discusses the problem of the absence of placement activities is also a big concern in the Indian HE system. In her view, University career service should provide a gamut of professional support and guidance to the student. placement cell with full-fledged training placement offices and supportive steps must be compulsorily established to generate and share the labour market knowledge, provide career guidance/counselling, etc. For graduate placement, HE institutions need to consult with SMCs at both local and national levels. But in the case of CUO, as evidenced from the above table, out of six departments, MBA and J&MC department informally connected with placement agencies. Explaining the question in the FGD how placement cell is working in the department, the student replied very poorly. In the department of JMC, students replied, one media industry comes every year for selecting a few students through placement activity. The same question also asked in the direct personal interview with head/teacher, the response came as the university is new, the department is trying level best for inviting industries for the placement activities.

5.2.5.12. Internship/ Field attachment:

The internship program refers to the part of work-integrated learning, which provides enough time to learn from the work environment. Work-integrated learning (WIL) is considered as a panacea for generic ESs of students (Freudenberg, et al. 2011). WIL is a systematic approach to create enterprise culture in the HE to produce work-ready graduates (Smith, 2011). In the practice students are engaged with effective J&MC, the creation of the commercial product, the conduct of research or other disciplines, or profession appropriate means to apply and to learn disciplinary knowledge and skills. In a new evolution framework, the key dimensions of WIL are

authenticity, integrated learning supports (both at University and the workplace), alignment (teaching and learning activities and assessments with integrative learning outcomes), supervisor access, and inductions/preparation practice. Authenticity implies the learning programs most occur in the authentic environment and contacts that will expose the students to the real work environment, fair they most picture authentic activities.

It is observed from the above table that the department of Economics has not compulsory internship program. But, information from focused group discussion reflects a majority of students have completed internships outside in their attempt. In the internship program, students learn skills like organisation behaviour, professionalism, communication, problem-solving, critical thinking, public relationship, networking, etc.

The above table reveals that the department of MBA has a compulsory internship program of 6-8 weeks after completion of 1st year, the student must write a report about what he learned in the field and the assigned work he/she did in the period. A student must submit 2 written documents after completing the internship program. The evaluation of the project report along with related viva voce conduct by a panel consisting of two teachers from the department and one external teacher. According to the procedure of the department, a student must work under two supervisors. One is the academic supervisor and the other is a field supervisor. The student is accountable to the field supervisor daily in the internship program and accountable to the academic supervisor after completion of the field attachment. They complete their internship program at NALCO, HAL, J&K Paper mill under the territory of Koraput district and NALCO, Anugul, and some private industry in Bhubaneshwar. Answering the question in FGD “what skills you learned from field attachment?” student’s replied skills like; communication, problem-solving, flexibility, critical thinking, corporate relationship, professionalism, management, writing skills, etc.

The department of J&MC in its curriculum of 4th-semester added a compulsory internship paper. In the department, a professor is assigned for association with stakeholders in the industry for internships. Student’s choose the area in which he/she want to work. So, the teacher assigns students to the media house as per their choice with a Bonafede letter. All students of the department completed their internship

program at NALCO, Koraput (under Department corporate communication), Hindustan Aeronautics Limited, Samaj office, Koraput, Radio Dhemsa, Jaipur, Central university of Odisha (Department of Public Relation), Nandighosa TV-Electronic Media, Koraput. Students replied to the skills like communication, context editing, corporate speaking, professionalism, real-life experience, professional network, flexibility, group work, etc.

Other departments have not compulsory internship programs. But students have completed their internship in different places outside of the institution. The students are experiencing organised work external to the program of study for the development of practical knowledge as well as their ESs. This may include professional learning, for example continuing professional development, professionalism for academic and non-academic jobs. In each semester, students and going to another university, NGO for the internship program. In the internship, the program student joins the program by taking permission from the head of the department and after completing the program student must report the department about the program. An informal presentation was given by the student about what he/she do in the internship and learn. In this context, while designing the curriculum HE department should take the experience of WIL for better cultivation of ESs that lead to an increase in the likelihood of graduate employment (Fleming, et al. 2009). In the researcher's thought, it can possible when academia staff can map activities and assessments that need according to the expectation of industries. In both, the department of MBA and J&MC provision of the internship program is there and Economics and BCNR students are attending the same in their attempt. While they are returning from the internship, faculty should collect the information related to the labour market for designing curriculum, which leads to a better outcome.

5.2.5.13. Excursion/field visit:

Educational tour is a thoroughly planned organized tour, field visit opportunities, known as the first-hand experience. This type of tour has opened prospects in the right manner. It's a tool for learning as well as success with excitement built up in the ES. Therefore, the educational travel is towards experiential learning practice which the students on an educational journey improve their knowledge of places and works of art they've learned about in the classroom.

The department of Economics has not compulsory field visit program. But the department is organizing a field visit program twice every year. One field visit program

is about data collection from the selected village, it is about two days program and another is one day. One field visit program is about data collection from the selected village, it is about two days program and another is one day's program for industry visit. In the field visit program for data collection, the schedule was made on one topic and after completion of the research methodology program students go for practical orientation. In industry visit program students go to the selected industry for interacting with workers and knowing about industry culture and working environment. It is like an orientation program. Students must submit the field visit report to the department after the field visit.

In the department, the field visit is not compulsory. Those who are writing a report related to primary data, they visit the field for data collection. Both in internship and report writing those who are working related to primary data and information, they have visited. Among all the student's in the department 80 percent have done their report related to primary data and information.

The department of J&MC has field studies that may be conducted in any paper in the course keeping in mind the need. In the field, visit student perform activities like news reporting, information collection, video making, short film making, etc. Many times, students work in a group for making short films on local culture, a socio-economic phenomenon like dowry, domestic violence, early marriage, etc.

A field visit is not compulsory in the syllabus of statistics and mathematics. In the last semester, the course curriculum department of BCNR has a compulsory field visit program. Students are working with some organisations or NGOs working on biodiversity and conservation of natural resources, life science, etc. Under that filed visit, students go to the field with some experts for developing their practical skills. Last time department have arrangement two workshops to Swaminathan Research Foundation, Jaipur for visiting and collecting information about organic farming, another is about Zoological Park, Vizag, Andhra Pradesh for inquiring about flora and fauna.

Section-III

5.3. Glimpse of Focused Group Discussion with Students:

ESs has received much attention in the HE system worldwide, for the last two decades. In India, the last 5 years have witnessed the importance of employability among HE graduates. In the era of globalization, ES is becoming a crucial instrument

for innovative output in academic activities and responsibilities in the world of work. Due to the digitation and modernization the use of Information & Communication (ICT) is being widely accepted. In the same time due to over competition in the labour market multiple skills like (Problem-solving, communication, flexibility, the group working, planning and organizing, self-management, decision making, and leadership skills) with personal competencies like (Integrity and Honesty, Work ethics and morality, self-confidence and positive attitude) are required within the workers for better performance in the workplace and effective outcome.

Consequently, the adoption of technology and skills in academic and non-academic activities emerged in the early 21st century. Concurrently, most of the HE institutions have been the emphasis on the technology and skill-oriented curriculum through embedding soft skills and key skills in the course curriculum. Here a few questions arise, are the implementation of programs in the classroom and work environment is effective? If that is effective how, if the program is not effective, what are the problems associated with it? For inquiring about these phenomena in terms of skill-based curriculum and its implementation, practices, and effectiveness, focused group discussions with students and indirect oral interviews with heads/teachers of the selected departments have conducted. The followings are the important consideration of FGD and indirect oral interview. The following table clarifies students represented from each discipline in their focused group discussion. For focused group discussion, the interested students are selected to get in-depth information about ES development. The student's either or not a respondent for the questionnaire survey, but the student of 2nd year of the concerned departments.

Table 5.6: Number of Participants in the FGD

Departments	**Eco**	**MBA**	**J&MC**	**Math**	**Stat**	**BCNR**
Number of Participants	8	8	9	5	8	10

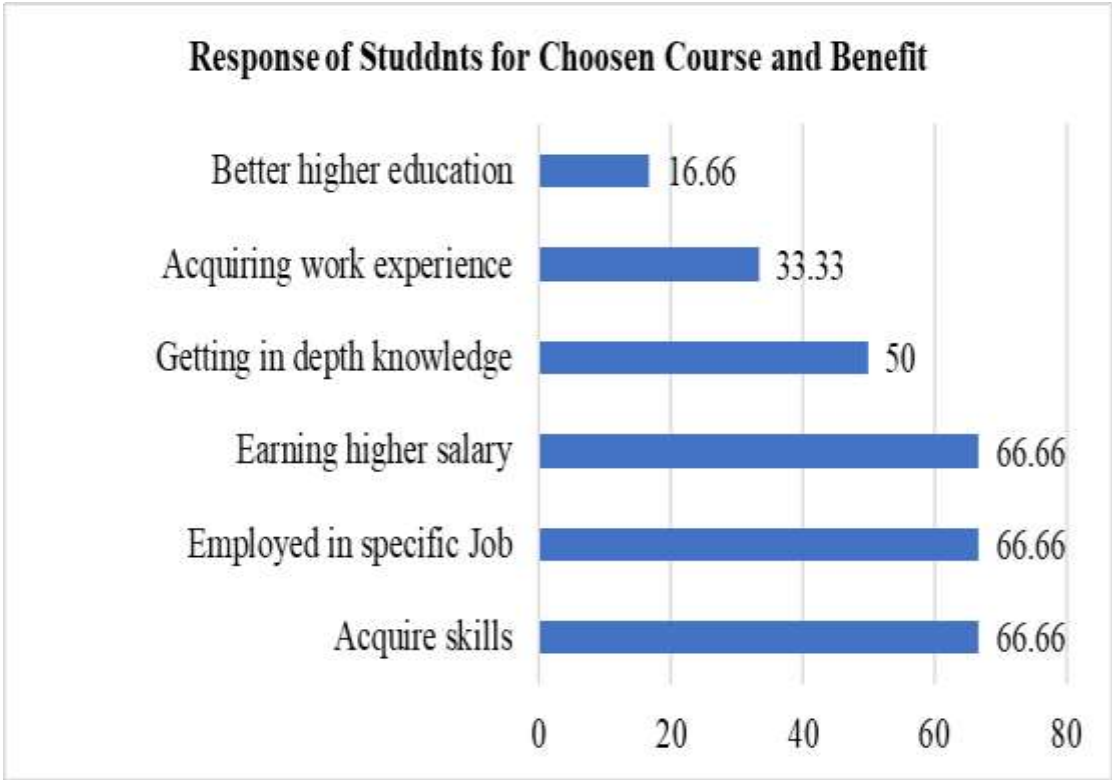
Source: Compiled by Researcher

The above table 5.6 demonstrates that in total there are 48 student participants are presented in 6 FGDs in selected departments. The table also clarifies that in the department of Economics, MBA, J&MC, Statistics, and BCNR the number of participants is up to the required numbers. In the FGD in the mathematics department participant's representation is less concerning the required level, it is due to students

were not so serious. The information collected in the FGD with students of selected disciplines has analyzed through content and thematic analysis. These are as follows;

Figure 5.7: Aspiration to choose this course:

(In Percentage)

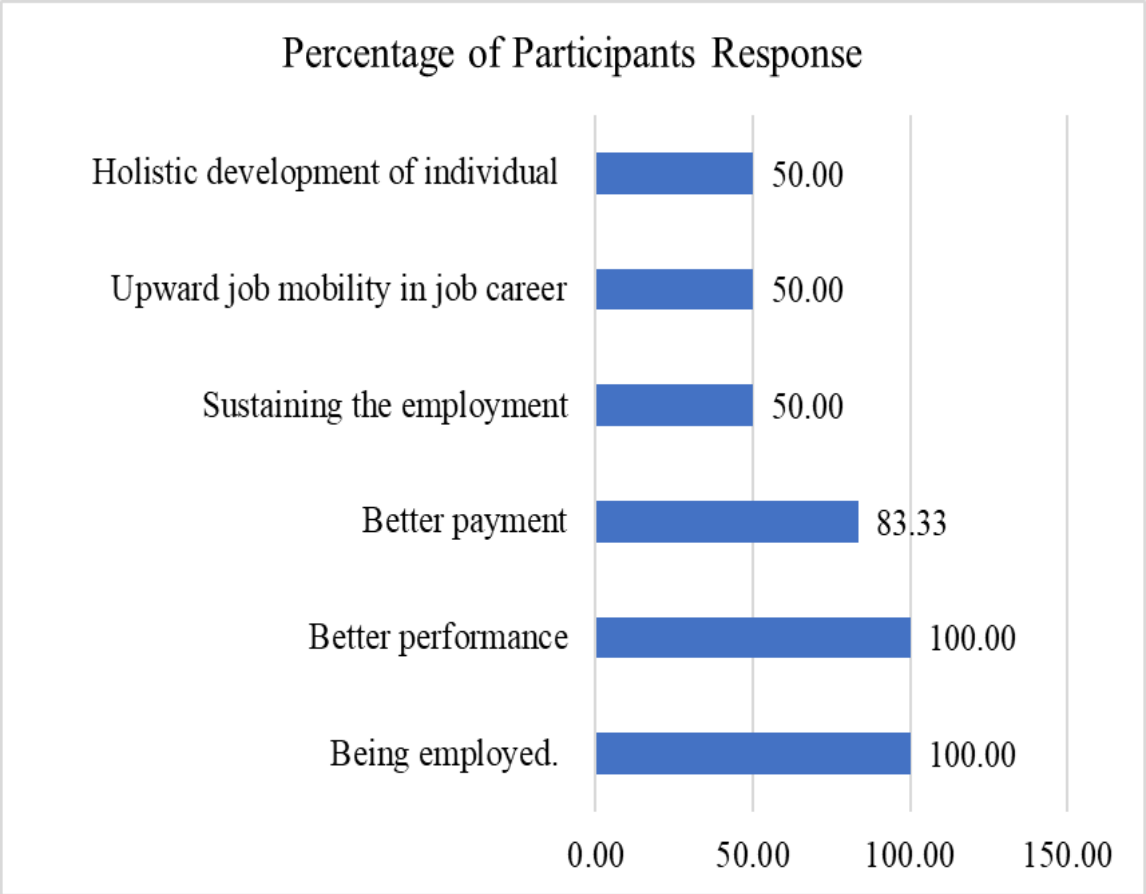


Source: Compiled by Researcher (FGD Data)

The causes for which student's joined the course/discipline was the first question in that discussion. The above figure 5.7 exposes that 66.66 percent of participants in the focus group discussion replied they choose the course for acquiring the skill, engaged in a specific job, and earning a higher salary. It is interesting to note that students felt "in HE, we are being specialized with specific skills, which leads to join in that particular job for getting higher salaries". The figure also pinpoints that 50 percent of respondents choose the course for getting in-depth knowledge, these students are basically from BCNR, Statistics, and Mathematics. Further, 33.33 percent of participants chosen the course for procuring work experience, which is the answer delivered by MBA and Journalism students. Lastly, 16.66 percent of participants believed they have chosen the course from better HE. Hence, it is concluded that the students have diverse aspiration from selected discipline in HE.

Figure 5.8: As a master student, how do you realize the importance of Employability Skills for your future?

(In Percentage)



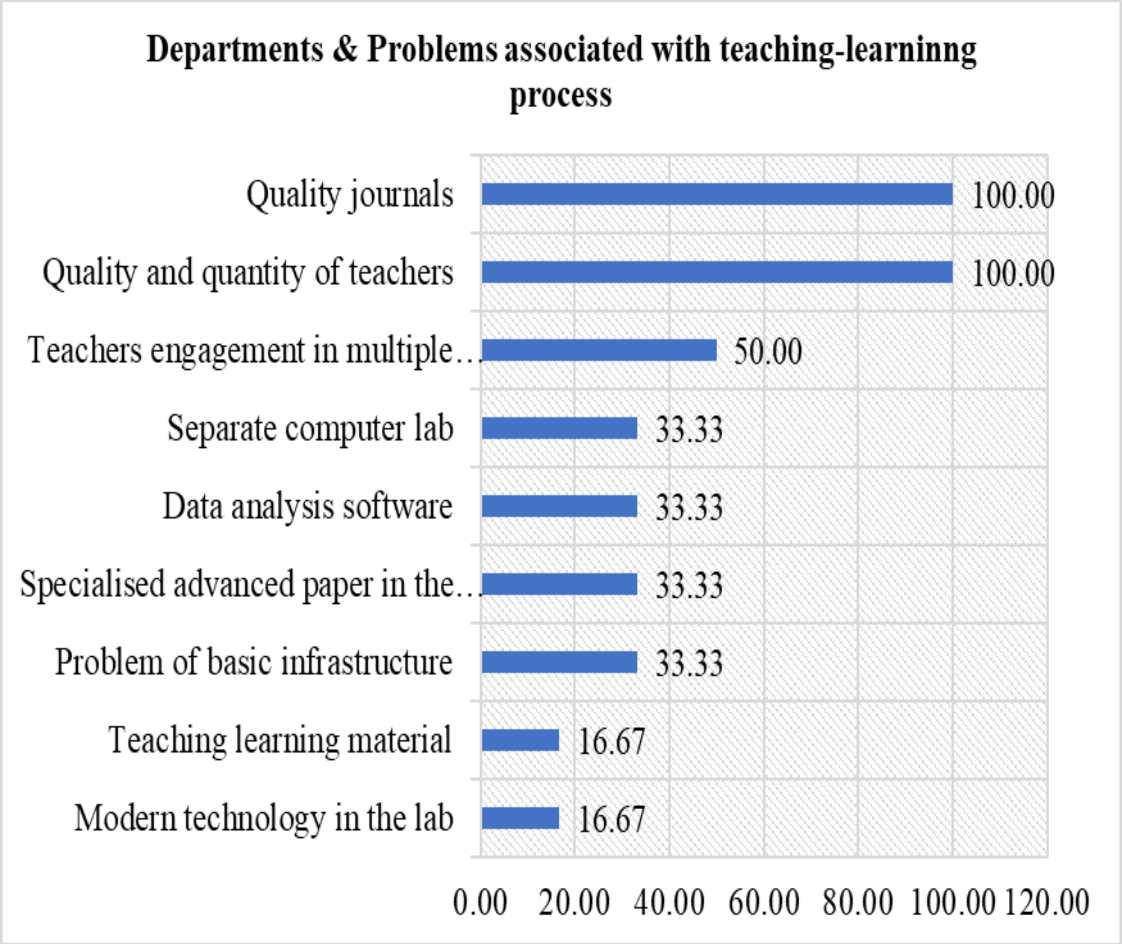
Source: Compiled by Researcher (FGD Data)

It is recognised from the above figure 5.8 that all participants felt ES is important for being employed in the labour market and for better performance in that job. It is worthwhile noting that one student in FGD replied, "without skills if I joined in any job anyhow, if I can't do my duty, then I will be pushed out from the job". Hence, Participants believed that ESs is probably useful not only for being employed in a job but also for performing better in that job for career promotion and better living. One participant in FGD-J&MC answered, "if I am going to be a news reporter, then the skills like public speaking, effective communication, problem-solving, critical thinking, team working skills, etc. needed". Further 83.33 percent replied for getting better payment in that job, as the market wage is also determined by incentives. The table also pinpoints that 50% of participant's response ES is important for sustaining employment, upward job mobility in job careers. ESs are also important for holistic development in

life replied by 50% of participants. Therefore, skills are important for joining in any job and handling the activities effectively for better promotion and salary which lead to a happy life and livelihood.

Figure 5.9: Problems associated with the teaching-learning practice: (FGD Student)

(In Percentage)



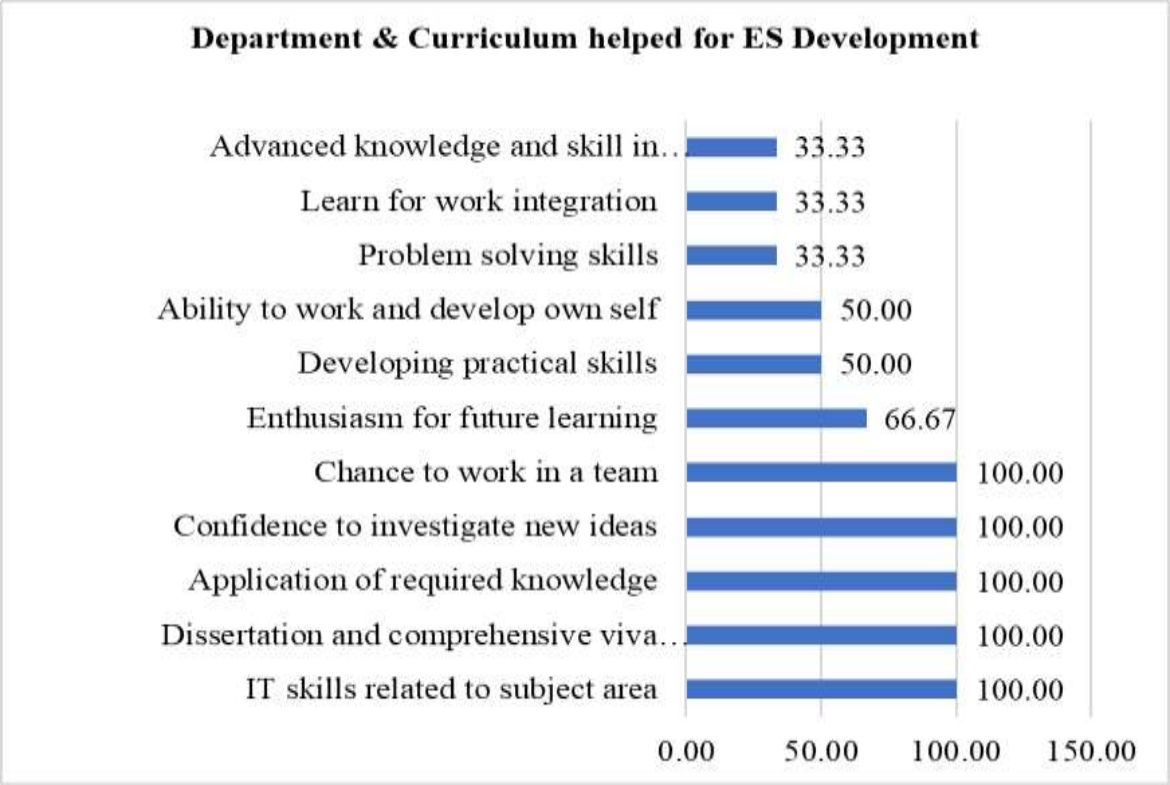
Source: Compiled by Researcher (FGD Data)

The above figure 5.9 depicts problems associated with the teaching-learning practice at the departmental level. It was asked in the FGD at selected departmental level. Answering the question the participants replied lack of quality journals (Jstor, Science Direct, Taylor and Francis, Nature, Economic, and Political Weekly, etc.), quality, and quantity of teachers in the department are the important problem. Department is grappling with the quality and quantity of teacher shortage. Only three teachers are teaching us, and among them, two are in the contractual position. It is inevitable to mention that for teaching specialisation subject teachers are not enough and not well trained. Again, teachers are engaged with multiple works in the

department. Consequently, teacher shortage affects other programs like; project, workshop, seminars, etc. 50 percent of respondent replied teacher's engagement in multiple works negatively affect the practice of teaching-learning. 33.33 percent of participants answered the problem of the separate computer lab, the problem of data analysis software in the systems, specialised advance paper in the curriculum, basic infrastructure have a certain impact on teaching-learning practice. It should be noted that "Curriculum is not equipped with advanced skills in Economics like commercial and business awareness papers, IT for Economics, and so on". Further, 16.67 percent of participants thought that problem of teaching-learning material and lack of modern technology in the laboratory effects teaching-learning negatively. It is worthwhile noting that "The required equipment; teaching-learning materials, equipment for practical classes, etc. are shortage with the poor curriculum. As the department provides media education, equipment like digital camera, video camera, microphone, storage device, etc. are needed". When all the problems associated with teaching-learning practice in the departments, it is very difficult to expect the quality outcomes introduction to ES.

Figure 5.10: How your course curriculum helped you in the development of ES?

(In Percentage)

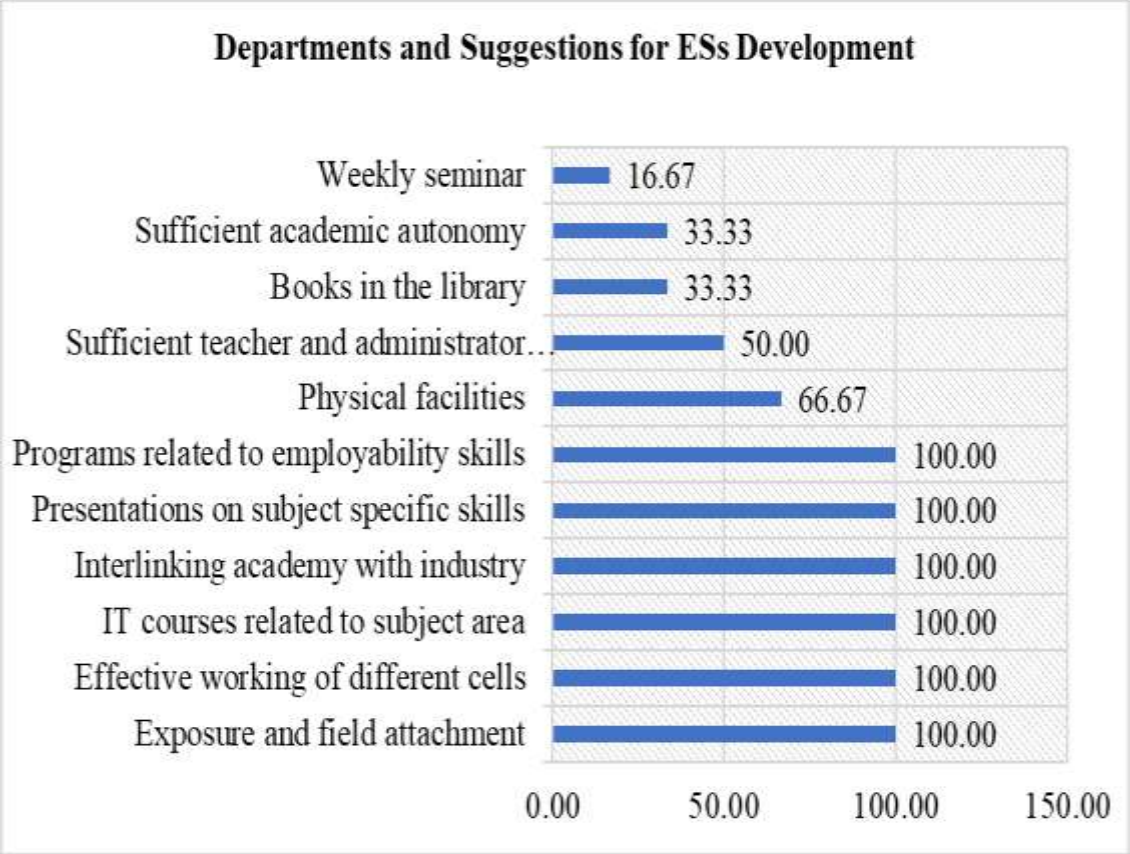


Source: Compiled by Researcher (FGD Data)

The above figure 5.10 illustrates how your course curriculum helped you in the development of ES It is also asked in the group discussion that "how the course curriculum is relevant for the development of ES?" 100 percent of participants responded course curriculum provides the opportunity to work in a team, confidence to investigate new ideas, application of required knowledge, dissertation/project and comprehensive viva voce, IT skills related to the subject area. During the FGD with MBA students, one student replied knowledge-in-practice has become so important and prospective that it involves learning in a different way i.e. "learning through doing", "sinking and swimming", "trial and fire". This type of activity is not there in the classroom experience. It is important to quote the response of J&MC student participants that "the practical such as; copywriting: elements and stages, attributes of a copywriter, preparing ads for various media; magazine, radio, and TV, outdoor advertising, news presentation, news reading; news bulletin; talk shows, live shows, debate, and discussion; advertisements, TV documentaries, etc have a greater impact on ESs". 66.67 percent of participants replied curriculum helps them in creating enthusiastic thoughts for future learning. The curriculum is designed in such a way that it develops theoretical understanding, practical knowledge through lab attachment, field attachment, community attachment, attending the seminar, workshop, internship, etc. The summer internship program enables us to learn from the direct field, which is beneficial for us. In addition to that dissertation and comprehensive viva-voce help us in developing many skills. 50 percent of participant replied it helps in developing practical skills and ability to work and develop own self. Lastly, 33.33 percent of participant replied it helps in developing problem-solving skills, learning for work integration, advance knowledge, and skills in the subject area.

Figure 5.11: Suggestions for better enhancement of Employability Skills? (FGD Student):

(In Percentage)



Source: Compiled by Researcher (FGD Data)

Suggestions for better enhancement of ESs at departmental level also collected through FGD, which is depict in the above figure 5.11. It is the general suggestions from all the participants that curriculum should involve program related to ESs, presentation on subject-specific skills and generic skills, and interlinking academy with industry, IT courses in the curriculum, effective working of different cells like IQAC, CCC, PC, etc. Exposure and field assessment programs are essential activities for the development of ES in the HE department. The department should contact the industry/farm for internship/workshop etc for student's exposure, which may develop the ideas of the real-world work situation. The government should not open a new course like bio-diversity, which would not be helpful for a student in finding a job in India. There should be a way to discuss the problems with placement cell, career counselling cell, and internal quality assurance cell. The student must concern and awareness for their future and must participate in the internship programs and carrier counseling program. Courses to improve soft skills like student talk/show, seminars, workshops, group discussions, professional programs, etc.

University should provide some IT courses to the students for their skills development and training. Frequent job environment exposure through the firm visit, study tour, etc. needed. 66.67 percent of participants said that the availability of the physical facilities department level should be there. 50.00 percent of respondents felt adequate teachers with enough skills regarding how to teach the essential element of enhancing student knowledge and skill in the HE. 33.33 percent replied it is important to provide books in the library in both paper and soft form. Provision of minimum facilities for activities like teachers, classrooms, equipment, library, journals, and statistical software facilities, etc. Enough academic autonomy and departmental level should be provided for the implementation of different programs, designing and redesigning course curriculum according to the need of the labour market. Only 16.67 percent of respondent reply weekly seminar is necessary for enhancing ES among HE graduates. The government should provide the immediate policy for breaking the problem of unemployment through ES development. Appoint permanent faculty, an arrangement of extra classes by inviting resource persons, the weekly seminar for the improvement of communication skills, critical thinking skills, problem solving and team working skills, etc.

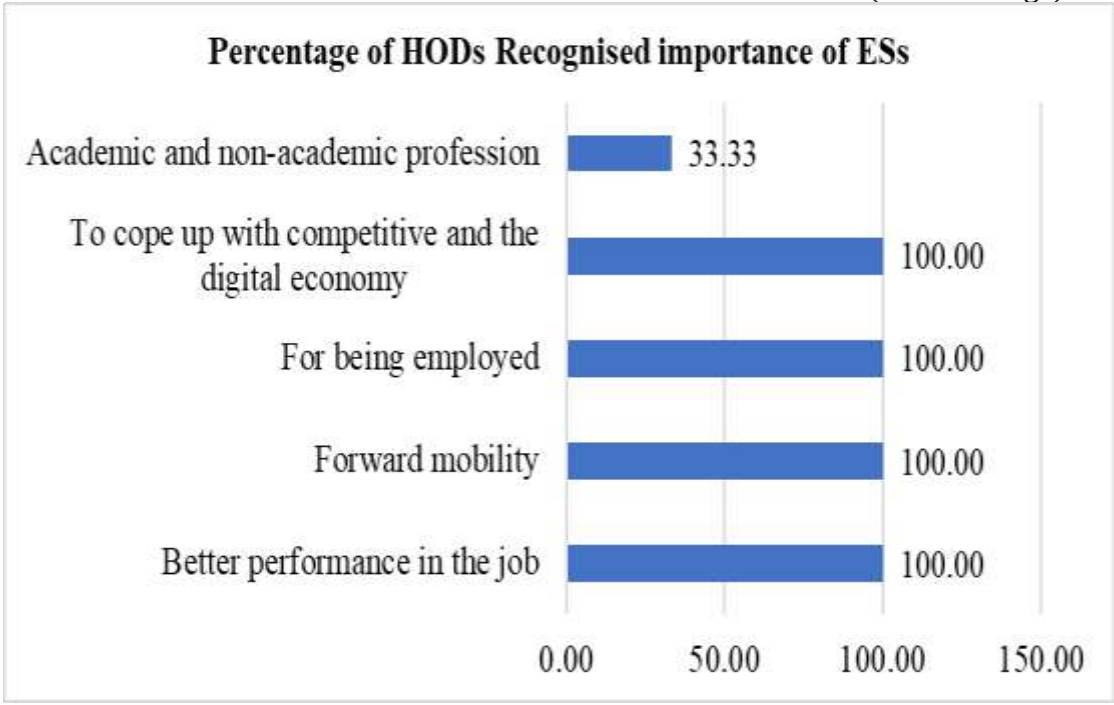
Section IV

5.4. HODs/Teachers Response in Direct Personal Interview:

An attempt has been made for the deepen understanding the ES development in CUO through direct person interview with HODs/Teachers. The department where HODs were not available, teachers were interviewed. Let's discuss the interview in the details below, the information collected from the DPIs is analysed through content and thematic analysis.

Figure 5.12: Is Employability Skills being Important for master student's?

(In Percentage)



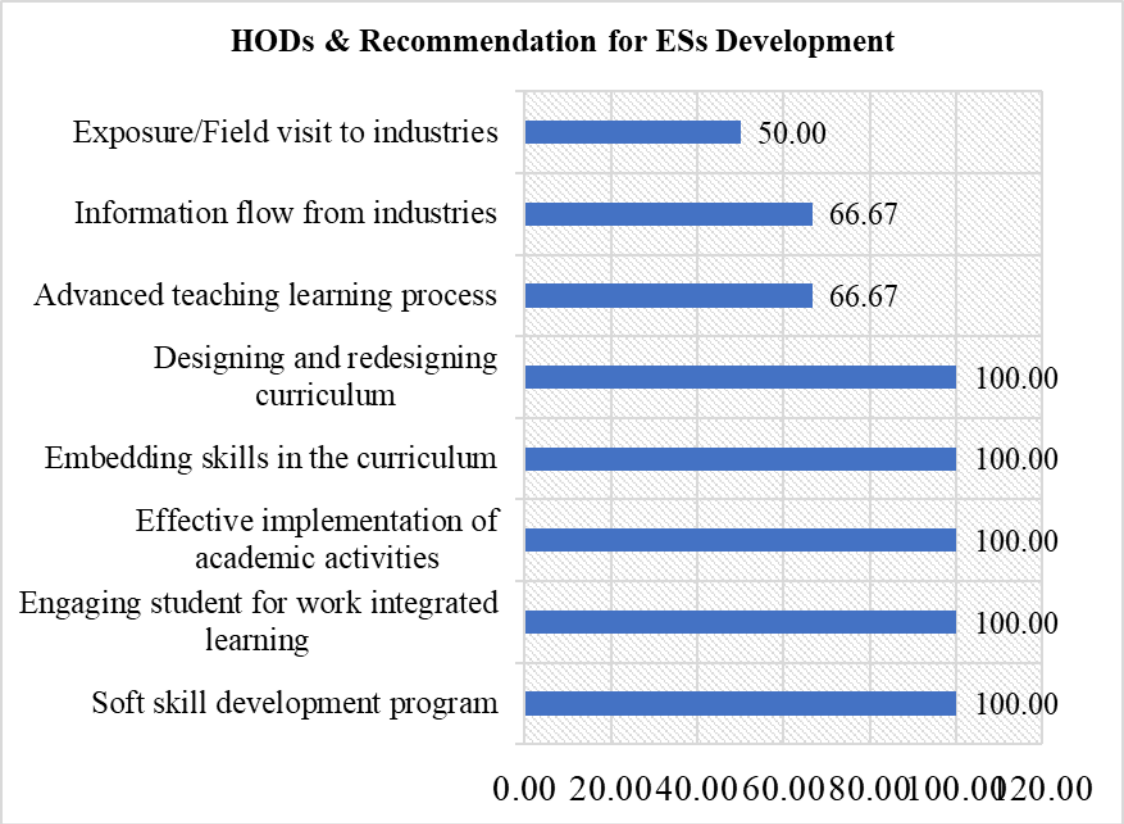
Source: Compiled by Researcher (FGD Data)

All the respondents viewed after completion of the Master program, to be employed a student certainly need ESs. Nonetheless, skills crucially important in the competitive and digital economy. Being a part of a professional course like the master of MBA and J&MC ESs is immensely important for being employed, sustaining employment, and if necessary, looking for new employment. The ESs maybe for being able to work in the academic, and non-academic professions. Again, the century is going to be dominated by technology and even the job markets will demand faster performance in the competition world therefore until unless the master students are having those skills pertain to the job it will be difficult for them to learn and then execute the same as soon as they join. These skills can help him/her continue in the job in the

highly competitive world, otherwise, even if he/she gets a job, he/she will be pushed out.

Figure 5.13: How to develop Employability Skills?

(In Percentage)



Source: Compiled by Researcher (FGD Data)

ESs can be developed by designing and redesigning curriculum regularly according to the need of the labour market. In this practice information flow should be coming from both HE and the labour market. After getting information university should embedded soft skills, other essential skills in the course curriculum focusing on specific course and need of the labour market. Common programmes recommended by all heads are; embedding skills program in the course curriculum, providing sufficient human and physical resources, giving autonomy to make the program effective implementation and assessing the program outcome. In addition to that skills program like; soft skills, internship and field visit to industry, workshop, lectures and practical class by experts from industries, etc. is needed for better skills development. Specific Programmes for student's belongs to different disciplines like field work related to media communication, photoshop, community engagement, editing, effective collaboration, client management, etc. for **J&MC** student's, adopting more soft skills and computational skills program for **Mathematics** student's, arranging field visit,

workshop related to R, SPSS, STATA, etc. for student's of **statistics**, engaging student's in different real-field research, visiting program to industry, soft skills development Program for **Economics student's**, workshop, internship, industry visit program, etc. for **MBA** student's and Industry-Academia linkages, more numbers of exposure visits and soft skill development programs for **BCNR** student's. workshop related to ESs in each semester. Model for ES development is as follows

5.4.1.1. In 21st century is student's really serious about their study and employment?

Answering to this question, all heads replied no, students are not really serious about their study and carrier. Near about 20 to 30 percent of students are serious about their studies. A large section of student's not yet know, what is their aim and ambition in life. Those who know, jobs are became more competitive for that they are more serious about employment rather studies. As MBA and J&MC are professional courses maximum students are really serious about job, very few realizing studies are more important to get a job in the competitive world. Most of the student's don't give much interest in basic/fundamental of any course thus they know how to perform a particular task but they don't know when/why to do that. However, a large section who has come to this stage through struggles of life certainly are serious.

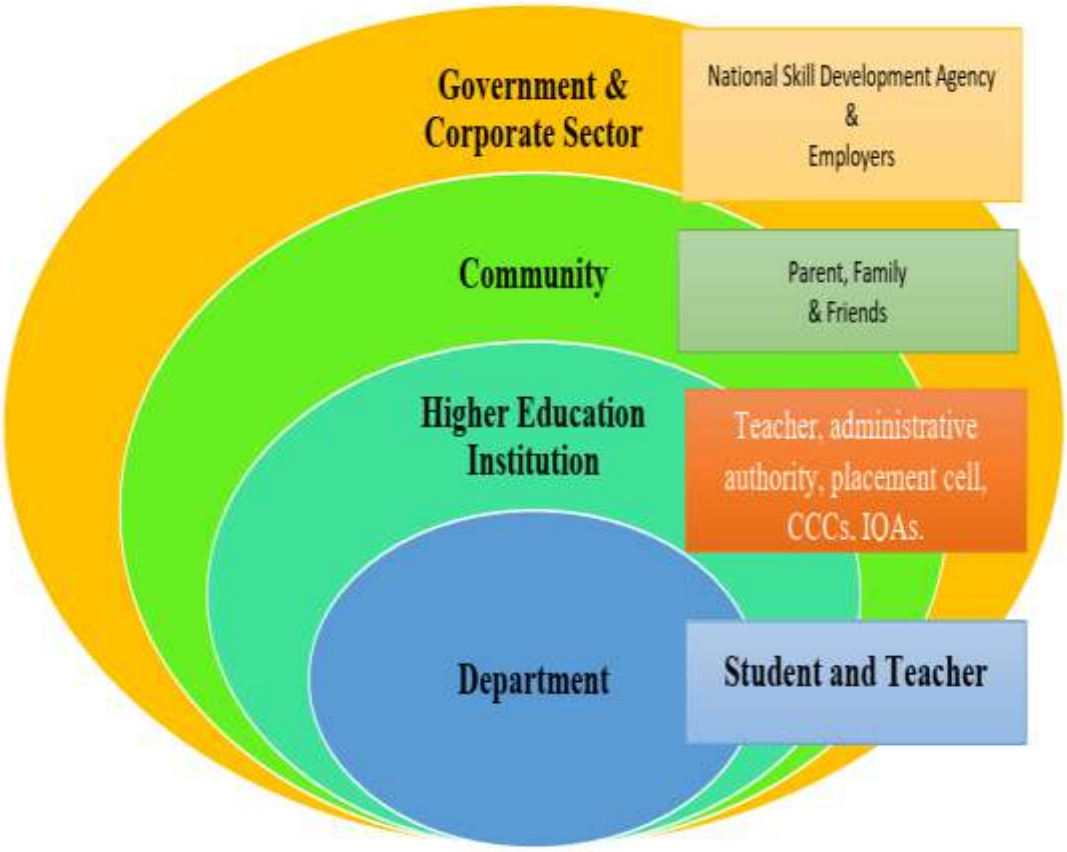
5.4.1.2. Stakeholders/agencies responsible for ESs development?

All the HODs/Teacher responded student is the important stakeholder for the ES improvement. If the student is not serious, what could be arranged for them? In addition to them, auxiliary stakeholders like; teacher, administrative officers, placement cell, carrier counselling development cell, internal quality assurance cell, etc. are responsible at the university level. Yet again, they replayed at community level parents and family, peer groups are responsible for enabling them with behavior, honesty, integrity, self-confidence, positive attitude, and morality which is also coming under the macro domain of ES. In addition to them, the government and corporate sector play crucial role for creating an enabling environment at a different level. Presently National Skills Development Agency (NSDA) is spearheading skills development related to employability. Technical institutions are also involved in this, which should be enhanced for general HE.

Therefore, different agencies like; department at HE institution, Cells for quality and excellence, and placement in HE institution, community, government, and

corporate sectors should work hand-to-hand for the development of ESs. The below figure portrays about stakeholders responsible for ES development.

Figure 5.14: Stakeholders Responsible for ES Development



Source: Compiled by Researcher

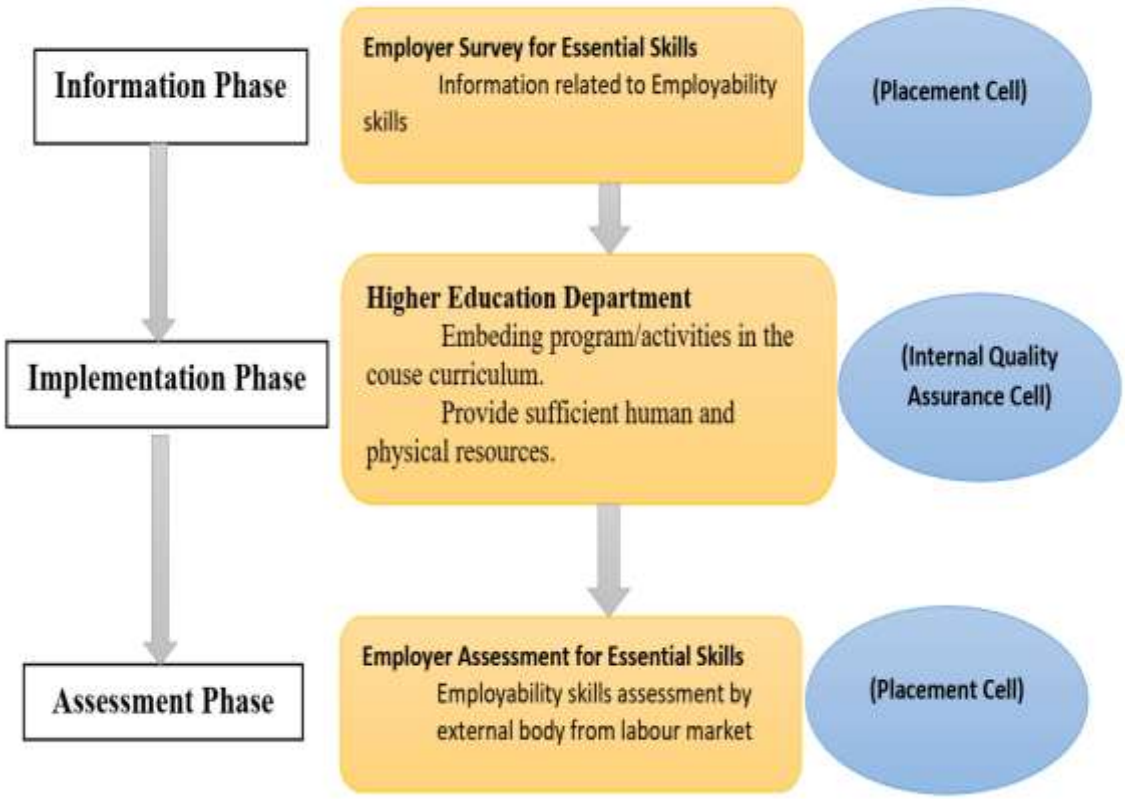
The above figure clarifies that there are different stakeholders responsible for ESs development among master students. First of all, the student is the important stakeholder for ES development backed by the target for an effective livelihood. Further, the teacher is another important stakeholder at the department level for coordinating students in different activities and showing them the right path for skill development and engagement in the workplace through field attachment. In the HE (university) level stakeholders like placement cell, career counselling cell, internal quality assurance cell are professional bodies should join for working and facilitating teaching-learning practice for the better transition of graduates to the labour market. Placement cell is a professional body incorporated in the university campus for the better linkage between graduates and the local the labour market. It searches the quality and quantity of jobs available in the labour market and through the campus interview graduates are places in a different job position. For instance, the common goals of

training and placement cell of Vivekananda College of Engineering for Women are for personality development program conduct communication skills program, group discussion practice, entrepreneurship development program, mock interview sessions, in-plant training, conducting industry to institute convergence expert interaction sessions, conducting different language course, public sector competitive exams training, industry internship programs, etc.[27]. Likewise, the role of career counselling cell is to advise on how to develop a career plan, advice on interview and job skills, provide students with internet access and books relating to career options, help to select an institute that offers a degree or training program that best meets the career goals and financial needs of the student's, provides counselling to explore their potentialities and motivate them about their employment prospects, etc.

Again, in relation to employability enhancement, the role of IQAC is to channelize and systematize the efforts and measures towards academic excellence through curriculums, courses, faculty, and facilities enable students to pursue their academic goals by adopting student-centric approach with the better and ICT facility. The cell also ensures the adequacy, timely maintenance, and smooth functioning of the support structure to build an association with stakeholders and to stimulate Social Responsibility, etc (IQAC, CUJ[28]). Integrated learning support can possible through an explicit recommendation in curriculum designing. In this practice students typically need not engage in their host University but also in the workplace. It is also needed to evaluate the support system in both at University and work placements which may help for the provision to alleviate stress and improve learning practice etc.

[27] Training and Placement cell, Vivekananda College of Engineering for Women, retrieved on the date 1st march, 2020 from http://vcenggw.ac.in/placement.html
[28] Internal Quality Assurance Cell, Central University of Jharkhand, retrieved on the date 1st march, 2020 from http://cuj.ac.in/IQAC.php

Figure 5.15: Stakeholders Responsible for Employability Skills Development at Higher Education



Source: Compiled by Researcher

The above figure 5.15 illustrates the clear pathway to achieve ESs among HE graduates. There are three phases in the model. Firstly, in the information phase, the placement cell in the university should collect information related to the labour market need of ESs keeping disciplines specific and generic skills into consideration. The quality and quantity parameters in the labour market should be known by the placement cell. Then this information should be passed to internal quality assurance cells, for matching the academic activities and the structure of the curriculum is up to date with the labour market need or not. If not, IQAC should step necessary steps. After that, the academic activities should be provided in the enabling environment, after completion of the course in each semester student's ESs should be assessed by the external committee constituted by the experts from the labour market. But the problem is that in India, as the labour market is mainly informal, it is difficult to collect information in some areas. Therefore, an alternative model is given in the below figure:

5.4.1.3. Relationship between academia (Educational Institution) and industry (Farm/Production house) related to Employability Skills:

Academia (Educational Institution) and industry (Farm/Production house) related to ESs are interdependent. The relationship between industry and academia is to create employable graduates through training, curriculum development, and giving information to HE related to the required the labour force. A resource person should come to giving lectures and providing information about the real skills needed in the labour market. Again, in the globalized, modernized, digitalized world, academic institutions and industry need to interconnect through Academia-Industry interface related to employability be skills.

5.4.1.4. Departmental Activity for ESs Development:

Common activities at the departmental level for generating ESs are seminar presentation, group discussion, dissertation, assignments on student's oral and pictorial presentation, writing report and seminar paper, team work/group work/group discussion, lectures from external resource persons, student talk/show/debate/quiz etc. In addition to that specific programme taken by **Economics department** related to student's generic ESs is one day industry visiting program, one day field visit, departmental seminar per semester, software program, one day workshop on national as well as international economic phenomenon, data analysis work, etc. In addition to that department of Economics provides opportunities to collect data by student's for different agencies for student's practical skills. Department of MBA have specially four weeks internship program, workshop and field visit program, soft skills development program, etc. Due to lack of human and physical resources the department is not able to arrange other programmes related to ESs. Department of J&MC have arranged workshop on photoshop, internship, field visit, etc. No specific program for ESs in the department of Mathematics has found. But student's' performance is better in terms of ESs performance as they are under M. Sc integrated program. Department of Statistics have arranged practical classes on R, STATA, SPSS, Pantheon, etc. Department of BCNR is providing a forum to students to develop practical skills from field visit, workshop relate to subject-specific ESs, internship program, and laboratory works, etc.

5.4.1.5. Inviting resource person from other educational institution is insufficient?

Head of all the selected departments responded, inviting resource persons only from other educational institutions is inadequate. For subject-specific knowledge and generic skills, we should invite intellectuals to form industry for lectures and seminars. Department of MBA, as a professional course, there is the provision to invite resource persons from NALCO and HAL like macro producing public sector units. Department of J&MC is trying to invite resource persons to form different media industry for student's practical knowledge.

5.4.1.6. Activities/programmes not embedded in the curriculum for ESs

Programs and activities like; workshop, excursion, and field study, internship/ field attachment, specific course for communication skills/ ICT skills development, carrier counselling and related seminars are not in the course curriculum in the department of Economics. Similarly, in the J&MC department workshop, carrier counselling and related seminars, placement activities, etc. are not in the part of the course curriculum. In the department of mathematics workshop, excursion and field study, internship/ field attachment, etc. are not in the course structure. In statistics department course curriculum is not embedded with workshop, excursion and field study, internship/ Field attachment, Gymnasium activities), specific course for communication skills/ ICT skills development, carrier counselling, and related seminars, etc. The course curriculum of the BCNR department is not embedded with communication skills/ ICT skills development, carrier counselling and related seminars.

5.4.1.7. Insufficient human and physical resources at departmental level:

University is grappling with the shortage of quality and quantity of teachers at the departmental level. Department of Economics is suffering from teacher shortage for organizing workshops, excursion, and field study, internship/ field attachment, specific course for communication skills/ ICT skills development, carrier counselling, and related seminars. The Department of MBA is facing teacher shortage as a department has only two lecturers. Though all the programs are in the course curriculum, effectiveness is very low due to the shortage of teachers and other essential equipment**.** J&MC departments are facing problems related to the arrangement of the

workshop, carrier counselling, and related seminars, workshops, excursions, and field study, internship/field attachment due to shortage of practical equipment. Department of statistics is facing problems related to teacher and equipment shortage. Similarly, department of BCNR is managing teachers and equipment for all programs, particularly for workshop, excursion and field study, internship/ field attachment, etc.

5.4.1.8. What could be done at department level for better ESs development:

The department of Economics should conduct special training and workshop by industry experts, data analysis software package training, practical classes on business and marketing, etc. More industrial visits and internships in industries should be encouraged. Entrepreneurship and innovative activities should be encouraged. The department of MBA should conduct special training and workshop by industry experts, data analysis software package training, practical classes on business and marketing, etc. In addition to that skills related to entrepreneurship and innovative activities should be given through arranging seminars and workshops. Department of J&MC is trying to more visit media industries and internships in industries should be encouraged. Now a day's department of J&MC is managing the available resource, without equipment how could develop ESs, which is directly linked with practical knowledge. Department of Mathematics should arrange more workshops, one day lecture by experts from other universities and industries, ICT facility with software packages for better ESs development. In addition to that, personality development programs should be part of the curriculum. For department Statistics practical based problem-solving skills, communication skills need to be improved through specific programs and activities. The BCNR students need to be exposed to subject related ESs which is possible through Industry-Academia linkages, more numbers of exposure visits and soft skills development should be implanted in the curriculum.

Hence, it is concluded from the interview with HODs/Teachers that, there is a need for effective intervention for the provision, practice related to teaching-learning curriculum and field attachment, etc. Which lead to a better product in the HE. Heads of the department and teachers also realize the importance of ES, due to lack of facilities departments are grappling with multiple problems, the administration needs to be serious for eradicating the problem. To make a graduate more employable HE

institutions need to interact with industry for job placement and work integration through internship, etc.

5.5. Chapter Summary:

One of the biggest challenges facing education institutions and the labour market is the skill gap. First, it is due to the poor connection between HE and the labour market firstly in designing the updated curriculum, teaching-learning practices, mode of work integration, etc. The second challenge faced by departments is insufficient academic infrastructure. Thirdly, the departments are facing problems related to the extra workload on teachers, in that department where only two contractual teachers are there. Fourthly, the fact that most of them felt due to lack of support from the university administration, their WIL program become less effective. Participants responded from their experience that field attachment becomes effective and productive for them those visited a small industry and the work under a good supervisor.

Further, it is found that due to unevenness in the course curriculum related to different papers also has a certain impact on ES development. The departments are varying according to the credit distribution caused by curriculum structure. In some departments, more emphasis has been given to core papers, and few departments emphasised on practical paper, internship, and dissertation like practical orientation activities which is much more essential for skill development. It is evident from the literature and the above analysis that, for quality teaching-learning and effective outcome also depends on the available human and physical resources to implement the structured curriculum.

They learn different skills like; team working, confidence to work in a project, problem-solving, corporate communication, professionalization, flexibility, working in a team, etc. Therefore, they replied rather than 2 months of internship, there must be a minimum of 6 months of internship for the effective cultivation of ESs. The finding that more experienced from Economics students FGD is, they felt for them the internship is beneficial in enhancing skills related to data analysis and collection, presentation, report writing, the group working, skill for analysis of data through software, public relation, professionalism, etc.

A consistent view expressed by teachers and students that when students are given a clear role and challenging task their professional skills increased a lot. Students' recommendation implies that through their field experience they become smarter than

before, well communicator, a professional for the corporate world with the key skill of corporate communication, team work, flexibility, time management so and so forth. They also expressed that, "knowledge for practice", basically develops in the classroom, then that is useful for the "knowledge in practice" in their field attachment.

Comparative analysis it is concluded from the HODs/Teachers interview that ES is important for entering into the labour market, perform well in that specific job, upward mobility that sector, and overall, for growing with the modern technology. HODs/Teachers suggested that embedding skill in the curriculum, designing interior designing curriculum according to the need of the labour market, enough academic autonomy at departmental level implementing the course curriculum, engaging students with work-integrated learning, supporting the student with soft skill development programs, etc. There are multi-stakeholders at different level responsible for ES development. Among these stakeholders, teachers and students at the department level, coordinators of IQAC, CC, PC at University administration level, community level, and above all corporate and government level responsible for ESs development. Specifically, the relationship between academia and industry exists in the shaping of the curriculum, the opportunity to integrate classroom learning with the working environment, developing ESs, etc.

The prime responsibility of the teacher to provide theoretical knowledge of what students can apply in the real field for the cultivation of ESs. Students should be seriously engaged in the teaching-learning practice to acquire the knowledge, skills, value, ethics, and competencies which are needed in the transforming the labour market. It is the prime responsibility of the department to support students with physical, human, psychological, social, and economic resources for the cultivation of ESs. Inviting a resource person from the other educational institutions and industry is essential for students to get updated knowledge-in-practice.

Though the university is young, many programs are not embedded in the course curriculum, HODs/teachers responded they are trying their level best to accommodate the facilities at departmental level.

CHAPTER-VI:

6. DISCUSSION & FINDINGS:

In this chapter the findings of the primary data have compared with the related literature keeping the objectives into consideration.

6.1. Discussion on Employability Skill in CUO:

6.1.1. Employability Skill index Value:

- The first set of analysis helped in the construction and calculation of the ES index. From the ES index and two sub-indices named; GES index and SSES index, finding of the study reveals that skill variation persist among students of selected disciplines in CUO. The analysis highlighted that Students from department of Economics, BCNR and J&MC, are performing well in GESs. Similarly, students from MBA, BCNR and J&MC are performing well in SSESs. The most important result found that, students from BCNR, MBA and Economics are performing better in ESs in comparison to other departments.
- It is evidence from the data that the ESs gap (determined by teacher's perception and student's potential) persists among selected departments. More elaborately, the performance of students in department of mathematics is good in the expectation of teachers. All other department student's performance of ESs is not good in the expected level of skills by their teachers. In this sense, all other departments student's performance is lesser than teacher's expectation. In case of mathematics department, the gap is positive in integrity and honesty, self-confidence and positive attitude, work ethics and morality. Lack of inputs from the business world is the major reason for skills miss-match, and business world have recognising the importance of skills (Bowers-Brown & Harvey, 2004).
- In terms of SSES gap the largest difference is found in the department of J&MC, Economics and Statistics. The gap is negative in case of Mathematics department shows student's performance is better than teacher's expectation. In case of BCNR and MBA a smaller gap is found from the above analysis.
- Students of Economics perform well as compared with other departments in communication, problem solving, planning and organising, team working, decision making and leadership, self-confidence and positive attitude. Further, in case of time management and prioritising skills MBA student's performance is well recognised. Students of BCNR performed well in flexibility skill, work

ethics and morality. Another finding reflects self-management skill is very poor in the hands of students from selected departments.

6.1.2. Skills Scored Less in the Generic skills Basket:

- Findings of the study reflect, skills like; integrity and honesty, problem-solving, planning & organizing, work ethics & morality, time management & prioritizing, self-management, etc. are scored less in comparison to other skills in the department of Economics.
- In the hands of students of MBA, skills like; team working, time management & prioritizing, decision making & leadership, problem-solving, planning, and organizing and self-management are lacking in the skilled basket.
- Deficiencies in the skills like; decision making & leadership, flexibility, problem-solving skill, time management & prioritizing, planning & organizing, self-management, etc. have been found in the hands of students of Mathematics.
- Further, in the case of students of the Statistics Department, the deficient skills are communication, problem-solving, decision making & leadership, planning and organizing, time management & prioritizing, and self-management, etc.
- Likewise, skills related to self-confidence and positive attitude, problem-solving, flexibility, time management & prioritizing, decision making & leadership and planning & organizing, etc. have found less in the department of J&MC.
- The skills like; planning & organizing, problem-solving, time management & prioritising, decision making & leadership, and self-management, etc. have found poor in the hands of students of BCNR.

6.1.3. Causes Responsible for Skill Variation among Departments:

In the mean-time, three Cs- Campus, Curriculum, and Connect (industry, community, local, and Global) are necessary for solving the problem of poor graduate employability (Khare, 2019). For the study, causes responsible for the difference in ESs have identified through the PPP (Provision-Practice-Product) model by considering curriculum design, availability, and accessibility of human and physical resources, academic activities related to ES development. The study found there is a significant variation in PPP variables in the CUO. All departments have facilities of the computer lab, smart classroom, and smart library for the effective ESs cultivation. Student's from

departments like; MBA and J&MC suffer a lot from different types of deficiencies for the development of professionalism.

6.1.4. Curricular Structure:

- A significant impact of course curriculum on the ESs development has been recognised in past literature. Keeping in mind, the study found the impact of embedding skills in the course curriculum is recognised as an important cause of variation in skill development. More essentially larger the percentage of practical work in the curriculum greater the ESs value. In addition to that, the adequacy for skill development also lies in the practice of skills in the teaching-learning and how pedagogy and andragogy dealt with the ESs formation West (2000). From the analysis, it is found that the difference in ESs is due to different curricular designs based on professional preparation, disciplinary importance, and market-oriented subjects, etc. The skill agenda provides knowledge of understanding the complexity of post-graduation trajectories, with the skill required and skill possessed only when we have a better understanding of this, then we shall able to engage in evidence-based curriculum development and made of the transaction for quality high education in respect of employability (Holmes, 2001).
- Developing ESs at the HEI level depends on target curriculum (in terms of goals, teaching methods, assessment techniques, and the related learning outcomes) and the established curriculum (what students learn and how the content is delivered and reflected on the assigned assignments, textbooks, and teaching environment) (Precision, 2007). It is also found that the departments in which credit is distributed by giving priority to both theoretical knowledge and practical orientation, ESs are high and vice-versa, assuming adequacy of physical and human resources. It is found that those departments having academic activities (like projects, seminars, summer internships, dissertations, and project writing) in the curriculum with a special time frame, the performance on ESs is greater in comparison to others.
- The concept of ESs in the changing structure of the economy is due to rapid technological change, automation, digitalization, etc. (Knight and Yorke, 2002). Unfortunately, the study found departments are not linked with work contracts with job and placement agencies. In context of SSESs development, special

provisions for the development of SSESs have been taken to cope up with the structural changes in the labour market. In case of practices, through regular assignments, oral and pictorial presentations, lab testing, practical classes departments are developing ESs among students. The department of MBA, and J&MC have given more importance for the development of SSESs, as firstly the curriculum is embedded with subject-specific theoretical knowledge and secondly through innovative teaching-learning practices. BCNR department have a different set up for the development of theoretical as well as practical knowledge. Consequently, these department's performance is better in SSESs index in compared to other three selected departments.

6.1.5. Access to physical and Human Resources:

- It appears from the data that excluding MBA and Economics all the departments are equipped with computer lab facilities. In addition to that software related to SSESs development facility are there in all departments. Despite these facilities, data analysis software; SPSS, STATA, MATLAB, R, NVIVO, Atlas-ti, Adobe pro, Power director, Photoshop, Quark Express, InDesign, etc Modern equipment like projectors, computers, printing, and photocopy machines, etc. are available in all the departments.
- There is a problem related to access to computers, printing & photocopy machines, and projectors, by the students due to insufficiency. Facilities of smart classrooms is there with projectors, digital whiteboards, and essential equipment, etc. Library facilities are available for all the students in selected departments. The library provides books, journals, magazines, and few facilities for accessing online journals coming under the UGC care list. Arrangement of high-quality journals like; SAGE, Taylor & Francis, EPW, Nature and Nature Communication, etc. are not there. The department and administration do not have arrangements to access quality publishers like; JSTOR, ScienceDirect, Springer, and Scopus, etc. providing high-quality journals.
- Departments are not formal contracts with job and placement agencies. Department of J&MC and MBA arranged the provision in their own attempt. Both the department arranges one-day placement activity, in which two-three local industries come for selecting students. Nonetheless, training and placement cell is not there on the University campus. Though the Department

of Management and Department of J&MC provides professional education, they are taking necessary steps for the placement activities.

- So far as SSESs development activities in the curriculum are concerned, departments are developing ESs through teaching-learning practice. The departments have the provision of assessment through assignments, dissertations, laboratory works, fieldwork, and dissertation, etc.
- It is the single observation that ESs developed not only depends on the design of the course curriculum, credit assigned to different papers but it depends on the availability of physical and human resources with enough academic autonomy to use those resources efficiently for the development of ESs.
- From the secondary and primary data, it is evident that departments are grappling with a shortage of quality and quantity of teachers. Out of the total teachers in the select departments, one teacher is a reader, all other teachers are lecturer according to academic rank. Maximum teachers have teaching experience within 1-5 years, whereas only a few of them have more than 5 to 10 years. Near about 50% of teachers in all the departments are in the contractual position.

6.1.6. Academic activities in the department:

- Skill plus projects provide a better idea about teaching-learning and assessment criteria and their interlinkages with employability development (Knight & Yorke 2002). Though the practices related to teaching-learning are closely associated with the quality of students, teachers, and the environment, unfortunately, due to lack of teachers, academic resources, and conducive teaching-learning environment, practices are poor. In this backdrop, IQA is a university cell working for enhancement for teaching, but it can also be increased for the development of graduate employability (Martin, 2018). Here the importance of IQAC in the university has emerged for ESs development.
- From the above analysis, it is evident that the curriculum in the departments is embedded with a different number of assignments, workshops, dissertations, and project papers, etc. The department of MBA, Statistics, and J&MC have ICT skills papers in the course curriculum. Due to the diverse nature of academic activities in the departments, the students of different disciplines are cultivated with a diverse level of skills.

- Field attachment programs like an internship, workshop, industry visit, etc. are in the course curriculum of the selected disciplines. Through the practice of all these activities students develop their ESs before joining the labour market. As rightly mentioned, developing ESs is a continuum practice and depends upon academic work, community engagement, social networking, and life experience of a student (Brown & Harvey, 2004). Graduates acquire more job and occupationally specific skills and knowledge through work-based training and experience (Cranmer, 2006). It is observed from the FGD that, the student develops their professional capabilities, communication skill, problem-solving skill, flexibility, working in the team, public speaking, working in the short-term environment, etc. Effective collaboration with industries, other educational institutions are essential to developing soft skills through visit programs, internship programs, field attachment, joined the program, joined the program, project work, etc. (Cimatti, 2016). Students from management and J&MC in their third semester go for an internship program near about 2 months. In that program, students work under two supervisors, the most important stakeholder responsible for skill development in the attached field is field supervisor and for the same students are accountable to field supervisor regularly. Though, the department has not such facilities, near about 80% of students have completed the internship program in their attempt. Further, Ferns & Zegwaard (2014) point out that WIL is deemed to be an essential component of the student experience, ideally embedded across the curriculum to enable scaffolded skill development across a degree program. Students felt the field attachment program have a greater impact on subject-specific and generic ES. Students of Economics replied in the focused group discussion that, not only they learn skills through the hands and work but also, they learn how to perform in the future job. The students also learn new knowledge which enables them up to date in the competition world. Departments of Economics have the special provision of two days industry visit program and a one-day field visit program for data collection.
- Similarly, students from the Department of BCNR have completed their internship and communicated their views on FGD that through internship they develop their practical knowledge related to the subject area, the internship is like hands-on work for them. Students from the department work in many field

visits for better cultivation of skills related to subject areas as well as general, which have a greater impact on ESs. The skill development in the classroom has been attributed to a lack of time as well as the opportunities. Smith (2012) mentioned that WIL is a relatively expensive curriculum compared with standard lecture-plus-tutorial designs. In the same year, Doolan et al. (2019) focused on embedded WIL is a specific model of the WIL program, which enables a better environment for the student to learn from a microcosmic real-world setting. They found that embedded work-integrated learning (EWIL) is an effective pedagogical strategy to enhance student's ESs progress. The EWIL done well also ensures the university's reputation, producing quality graduates, meeting teacher education accreditation objectives, and proving valuable services to industry and community. IQA is a university cell working for enhancement for teaching, but it also can be increased for the development of graduate employability (Martin 2018).

- In the FGDs 66.66 percent of participants replied they choose the course for acquiring the skill, engaged in a specific job, and earning a higher salary, followed by 50 percent of them choose the course for getting in-depth knowledge. Further, 33.33 percent of participants chosen the course for procuring work experience.
- It is recognised from the analysis of FGD that all participants felt ES is important for being employed in the labour market and for better performance in that job. For instance; One participant in FGD-J&MC answered, "if I am going to be a news reporter, then the skills like public speaking, effective communication, problem-solving, critical thinking, team working skills, etc. are crucially important. Another student replied, "without skills if I joined in any job anyhow, if I can't do my duty, then I will be pushed out from the job". overall, 50% of participant's response ES is important for sustaining employment, upward job mobility in job careers.
- Problems associated with teaching-learning practice in CUO are lack of quality journals (Jstor, Science Direct, Taylor and Francis, Nature, Economic, and Political Weekly, etc.), quality, and quantity of teachers in the department, separate computer lab, the problem of data analysis software in the systems, specialized advance paper in the curriculum, basic infrastructure etc.

- All the participants responded course curriculum provides them opportunity to work in a team, confidence to investigate new ideas, application of learned knowledge, dissertation/project and comprehensive viva voce, IT skills related to the subject area. More importantly, participants from J&MC felt that "the practical such as; copywriting: elements and stages, attributes of a copywriter, preparing ads for various media; magazine, radio, and TV, outdoor advertising, news presentation, news reading; news bulletin; talk shows, live shows, debate, and discussion; advertisements, TV documentaries, etc have a greater impact on ESs".
- It is the general suggestions from all the participants that curriculum should involve program related to ESs, presentation on subject-specific skills and generic skills, and interlinking academy with industry, IT courses in the curriculum, effective working of different cells like IQAC, CCC, PC, etc. In addition to aforementioned facilities, appoint of permanent faculty, an arrangement of extra classes by inviting resource persons, the weekly seminar for the improvement of communication skills, critical thinking skills, problem solving and team working skills, etc. is need of the hour.
- In the technology driven, modernised the labour market and even the job markets ESs is immensely important for being employed, sustaining employment, and if necessary, looking for new employment. For faster performance in the competition world therefore until unless the master students are having those skills pertain to the job it will be difficult for them to learn and then execute the same as soon as they join.
- In addition to students the auxiliary stakeholders like; teacher, administrative officers, placement cell, carrier counselling development cell, internal quality assurance cell, etc. are important stakeholders responsible for ESs development.
- Though the university is young, many programs are not embedded in the course curriculum, HODs/teachers responded that embedding skill in the curriculum, designing interior designing curriculum according to the need of the labour market, enough academic autonomy at departmental level for implementing the course curriculum, engaging students with work-integrated learning, supporting the student with soft skill development programs, etc. are needed for the development of ESs. It is also recognised by HODs/Teachers that more

emphasis has been given to core papers, and few departments emphasised on practical paper, internship, and dissertation like practical orientation activities which is much more essential for skill development.

6.2. Major Findings:

- Employability skills varies among students of selected disciplines in CUO in terms of GESs, SSESs. Which leads to variation in broad ESs.
- Skill gap (student's potential on teacher's expectation) in terms of GESs is highest in J&MC and Statistics department and negative in the department of Mathematics. That clearly shows in the department of Mathematics student's performance is better than teacher's expectation. In case of all other selected departments student's potential on expected GESs is less, and potential is significantly lesser in J&MC and Statistics.
- In case of generic competencies, particularly on work ethics and morality student's potential is lesser than teacher's expectation in J&MC and Economics department. In case of all other competencies student's potential is better than teacher's expectation in Mathematics department, particularly on self - confidence and positive attitude the potential is much better. In case BCNR and Statistics department student's potential on integrity and honesty is better in compared to teacher's expectation, and in all other competencies the potential is less.
- In case of SSES and broad ES, student's potential is better than teacher's expectation in Mathematics department, and for all other selected departments student's potential is not according to the teacher's expectation. In case of J&MC, Economics and J&MC performance of student's is more lesser than expectation of teacher. Though there is a gap persist in the department of BCNR and MBA but the gap is too smaller.
- Searching on causes responsible for employability skill variation among students of selected disciplines, study found number of papers on core and elective subject is correlated with the generation of SSESs among students. Nonetheless, it is importantly found that greater the percentage of credit to practical orientation of students greater the employability skill generation assuming all other factors supporting teaching-learning practices,

- The development of fundamental/theoretical knowledge can be possible by giving importance to core and elective paper is also needed equal importance as skill orientation. Therefore, the curriculum is designed by giving importance to both subject specific knowledge and practical orientation, it benefits in terms of generic as well as subject-specific ESs development.
- It is also found that different levels of accessibility facilities such as; Computer lab / science lab with equipment, modern equipment including projector, computer, printing machine), smart classroom facility, smart library facility, etc. are available in selected departments. Despite these facilities, data analysis software; SPSS, STATA, MATLAB, R, NVIVO, Atlas-ti, Adobe pro, Power director, Photoshop, Quark Express, InDesign, etc. Unfortunately, facilities for quality journals are not available in the University. Departments are not connected with work contracts with job and placement agencies, which is much more essential in 21st century. As professional higher education department MBA and J & MC have been taken steps for internship and work placement in their own attempt at departmental level. There are special provisions for the development of SSES in all departments, specifically in MBA, BCNR and J&MC curriculum is designed for the development of fundamental theoretical knowledge leads to cultivation of SSES through regular workshops and seminars.
- It is found that human resource facilities in the departments are not available according to the rules of UGC. Particularly, the department of MBA and Statistics are suffering from number of teachers. Further, all the departments are suffering from lack of subject specific teachers.
- Focusing on Dissertation/project it is found that Mathematics department have two projects in the 3rd and 4th semester. In all other selected departments dissertations are in 4th semester. More importantly department of BCNR and Economics have only dissertation in the curriculum of 4th semester, that provides better time to invest in the development of practical orientation and being the major determinant of skills development in terms of; data collection and analysis, data retrieve, communication in terms of writing and presenting skill, time management, learning from others, planning and organizing, critical thinking etc.

- In all the selected departments' assignments are varies in terms of number and type. For example; assignments are in the form of report writing, oral and pictorial presentation, group discussion, (Economics) report writing, oral and pictorial presentation, group discussion, case study, elongation, GK competition (MBA), paper presentation, statistical and mathematical software package testing, writing the report (Math and Stat), practice news reporting, preparing ads for the magazine, radio, and TV, outdoor advertising, news presentation. Making short movies, documentaries, etc.
- It is also found from the closer investigation of collected data that, Departments are varying in quality and quantity of academic practices such as; report writing, seminar papers, student's oral and pictorial presentation, group work, etc. in the departmental level.
- Till the date of the survey department of Economics, MBA and J&MC have arranged workshops related to different socio-Economics, business concepts, and contents. Department of J&MC has arranged a workshop on "Communication Media and Photoshop Editing".
- Student talk/show/debate and extracurricular activities are organized two to three times in the department in an academic year. Students are also attending the same out-campus inter-university competition etc.
- Departments are equipped with different types of IT (ICT/Internet research/Information retrieve) courses. For Example; Computer application in Management, IT lab, Communication lab is practicing in the MBA, Database management system (Mathematics), Using C, Using Excel/SPSS, Using R/MATLAB (Statistics), and New media technology, Electronic media, Technology, etc. (Journalism). There is no IT course in the curriculum of the Department of Economics, therefore IT-related practices also not exist in the department. In this paper, students learn about ICT skills, problem-solving skills, planning and organizing skills, creativity and innovation, etc.
- Provision and practice of career counselling seminar, interacting with job placement agencies, and internship/field attachment exists in the academic activities of the MBA and J&MC Department. Especially, a teacher is responsible for the organizing industry departments for placement and intensive activities.

- So far as excursion and field study is concerned department of Economics, MBA, J&MC and BCNR is arranging with the support of department and university administration. Mathematics and Statistics departments have not provided and practice related to field attachment and excursion.
- ESs are immensely important for being employed, sustaining employment, and if necessary, looking for new employment for every master student. Due to the technological upgradation and automation, the job markets demand those skills connect to the job. It will be difficult for them to learn and then execute the same as soon as they join in the labour market.

CHAPTER-VII

7. SUGGESTIONS & CONCLUSION:

This chapter concludes the study by summing up the outcomes of research work with some suggestions. The chapter is an attempt to state the answer to the main research question, make recommendations for future work on the topic, new knowledge that has contributed to the research domain. In addition to that, some suggestions are also given that are derived from the closer investigation on ES skill and its development in the Central University of Odisha.

7.1. Conclusion of the Study:

The purpose of education is to enlighten minds, but those enlightened minds should be beneficial to the society and economy at large. ESs are recognised as a quality parameter in higher education of many developed nations like the UK, Australia, USA, etc. and is becoming the same in developing countries. In addition to that, a number of literatures reflects that ESs of HE graduates is being used for university funding. The study also reflects that ESs among students is essential from the perspective of being capable in the world of work, as it is an ability in the hands of an individual to be employed in the labour market, to perform in the job effectively for upward mobility in the same organisation, and if necessary, getting a new job in the rapidly changing economy. Though the study is based on the literature from several countries, the contextual and conceptual models of the ESs have some relevance to implicate in Indian HE. Even there is a difference in the concept of ESs in the past literature, for the study a set skill under two domains was selected. The study selects the common skills widely used in the previous literature. The developed ESs model can be used for further research, as the validity of the data is highly acceptable backed by the reliability test value of Cronbach α=0.911 for GESs and value of α=0.857 for SSES, that shows the questionnaire and data is up to requited level. It is also found that intercorrelations among test items are highly correlated. With the help of the ES index, study able to find that variations in the ESs among students of selected disciplines.

In depth analysis of the structure of curriculum, particularly the credit assigned to core and elective papers (Fundamental/Theoretical Knowledge development) and to practical class, internship, dissertation/project (Skill Orientation) etc. have great impact on ESs development. For Example; a closer observation at teaching-learning practices shows that some departments of the CUO focus on a variety of fundamental and elective papers (Economics, Mathematics & MBA) for the improvement of theoretical

knowledge, while others focus on practical approaches through internships, dissertations, and practical papers (Statistics, BCNR, and J&MC). The study also finds that due to variation in physical and human resources, teaching-learning practices, work-integrated learning, and assessment criteria, ESs varies among students from selected discipline. During the academic activities, the departments are facing a variety of issues related to the workload on teachers (MBA, Statistics), inadequate academic infrastructure (all the departments) that lead to poor cultivation of ESs among students. The hands-on academic activity that reflects a more positive impact on the development of ES for students is beneficial during the internship, data collection, and analysis, presentation, report writing, group work, and software analysis. Through their field attachment skills like; public relations, professionalism, communication, critical thinking, flexibility, etc. enhanced. Students felt they became more professional than ever before, they also realised that after completing field attachment they became professional for the corporate world with key skills such as; good communication, corporate communication, teamwork, flexibility, time management, etc.

To sum, we may achieve at the conclusion that ESs are directly correlated to the assigned credit and time for skill orientation in the course curriculum, academic activities related to ESs development, and student's own attempt for developing the activities through work-integrated learning. In the CUO due to lack of substantial level of facilities departments are grappling with many problems related to teaching-learning and skills development. Though the administration of the university plays a considerable role in determining, changing, and improving teaching-learning practice. Therefore, the university administration has to take essential action; firstly, for availing the required amount of resources, secondly; for the improvement of teaching and learning and assessment practices which leads to ESs cultivation. For the better development of ES, the department should help students with physical, human, mental, social, and financial resources. Incorporation of skills in the curriculum, planning of curriculum design of courses as per the needs of the labor market, implementation of adequate academic autonomy, integration of students into work-oriented learning are focused areas to work with.

These stakeholders, teachers and students at the departmental level, the coordinator of the IQAC, the CC, the PC administration at the university administration level, family and parents in the community level, and above all the corporate and government agencies are responsible for the development of ESs. All the stakeholders

in the HE and corporate world should come forward to provide the enabling environment for ESs development. It is quite important to recognize ESs are not only important for professional students it is also essential for the students of general higher education. Employability is a much broader concept than it is.

7.2. Suggestions of the Study:

From the in-depth analysis into course curriculum design, and availability of both physical and human resources, and teaching-learning practices, it is decided that departments have different nature and structure of curriculum and academic activities. Due to the difference in provision and practice in selected disciplines, a variation found in the product (ESs of graduates). The departments whose performance is very low in terms of skill development of graduates, need to modify their curriculum structure according to the necessity of the labour market and embedded activities desired for ESs development. The study also suggests that there are two types of curriculum structure and the embedded skills in the HE. In the first curriculum structure, the case of professional HE, students are facilitated with the opportunities to go and work in the field through the short-term field attachment program, where s(he) is finding him practicing the theoretical knowledge in the real world of work. Consequently, through practice, the professional capabilities of students will be developed. In this structure, skills are Bolt-on in the curriculum and academic activities. Secondly, by adopting parallel course type HE, under which the student will get the knowledge from the general HE system and can attend parallel programs related to subject-specific skills and generic skills in their own attempt.

The recommendations for teaching-learning practice are to create an enabling environment consists of physical infrastructure and other facilities, teacher training and orientation, subject-specific teachers to each department, regular seminars & workshops for theoretical knowledge and practical skills etc. The study also recommends that the university should devote many focuses to improve the classroom environment by reducing the lecturer-student ratio and offer incentives to lecturers for their innovative effort and practices.

Therefore, from a macro perspective, it is suggested that the following questions need to be asked to program/course curriculum designers and administrators in the time of establishing a department in the university, designing the course structure, etc. During planning for new department administration should recognize that in the

21**st** century HE is not for the sake of education, but for the sake of livelihood. The followings are some important recommendation for effective ESs development, planners should focus upon;

- Whether the department can provide enable an environment for students according to the need for curriculum and academic activities.
- Whether the department has enough human and physical resources to meet the demand of course curriculum and academic activities.
- whether the teaching-learning and assessment criteria are suitable according to the labour market needs.
- Whether the pedagogy and course curriculum is relevant for ES development.
- Whether the skills development agenda compromises with the knowledge and traditional values related to skills.
- Whether agencies like IQAC, CCC, PC are connecting with the labour market for feedbacks and important policies related to ES.
- Whether agencies like IQAC, CCC, PC are encouraging departments for ES enhancement.
- whether the structure of the university and department encourages a higher level of autonomy for resource utilization for ES enhancement.
- Whether the government is funding sufficiently for ES development, if not what are the steps the university/department is taking for resource mobilization.

In this context, the university should recognize the demand of the labour market and plan accordingly for the provision-practice of the effective teaching-learning process in the university premise for a better product in terms of skilled graduates. For decreasing variation in Employability skills among students of selected discipline department need to redesign the curriculum with both theoretical knowledge and practical orientation. Sufficient physical and human resources for the effective implementation of programs should be provided. Maximum autonomy at the departmental level with strong accountability of stakeholders engaged in providing the service is necessary for better outcomes.

BIBLIOGRAPHY:

Book References:

W. Alex Edmonds & Thomas D. Kennedy**.** (2012). An Applied Guide to Research Designs: Quantitative, Qualitative and Mixed Methods, Second Edition.

Gay, L.R., et al. (2015). Educational Research: Competencies for Analysis and Application". pp 423-447.

Aggarwal, Y.P. (2013). Statistical Methods: Concepts, Application, and Computation. Sterling Pvt. Ltd, New Delhi. ISBN: 9788120720022

Nagar, A.L. & Das, R.K. (1981). Basic Statistics. Oxford University Press. New Delhi.

Noronha, E. & D'Cruz, P. (2017). Critical Perspectives on Work and Employment in Globalizing India. Springer Nature Singapore Pte Ltd. 2017. ISBN: 978-981-10-3491-6 (eBook).

Gay, L.R., Mills, G.E. & Airasian, P.W. (2017). Educational Research: Competencies for Analysis and Application. Pearson Education Limited. ISBN: 978-93-325-4106-1.

Suter, W.N. (2006). Introduction to Educational Research: A Critical Thinking Approach. Sage Publication, California. ISBN: 1-4129-1390-X (cloth).

Ary, D., Jacobs, L.C., Sorensen, C. (1976). Introduction to Research in Education. WADSWORTH CENGAGE Learning. ISBN-13: 978-0-495-60122-7.

Journals:

Adinarayana, J. (2014). Right to Work as a Fundamental Right in India: An Overview. IUP Law Review, 4(4). p7-14.

Agarwal, P. (2006). Higher Education in India: The need for change (No. 180). Working paper.

Agrawal, V., Dasgupta, S. (2018). "Identifying the Key Employability Skills: Evidence from Literature Review". *IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668 PP 85-90*.

Bhaerman, R., & Spill, R. (1988). A dialogue on Employability Skills: How can They be Taught? Journal of Career Development, 15(1), 41-52 Chowdhury, S. R. (2014). "Skill Mismatch in Indian Labour Market: Policy and Priorities & Challenges Ahead". *Indian Journal of Industrial Relations,* Vol. 49, No. 3, Special Issue on Skill Development, pp. 422-438

Bowers-Brown, T., & Harvey, L. (2004). Are There too any Graduates in the UK? A Literature Review and an Analysis of Graduate Employability. Industry and Higher Education, 18(4), 243-254.

Camp, W. G. (2001). Formulating and Evaluating Theoretical Frameworks for Career and Technical Education Research. *Journal of Vocational Educational Research*, 26 (1), 27-39.

Carney, M. (1975). Higher Education and Graduate Employment in India: A summary of three case studies, *IIEP Research Report No. 64, Paris.*

Clarke, M. (2017). Rethinking Graduate Employability: The Role of Capital, Individual Attributes, and Context. *Studies in Higher Education, 43*(11), 1923-1937.

Cranmer, S. (2006). Enhancing Graduate Employability: Best Intentions and Mixed Outcomes. *Studies in Higher Education, 31*(2), 169-184.

Dhar, S. (2012). Employability of Management Student's in India: Some Concerns and Considerations. *AIMA Journal for Management Research, 6*(4/4), 0974-497.

Doolan, M., Piggott, B., Chapman, S., & Rycroft, P. (2019). The Benefits and Challenges of Embedding Work Integrated Learning: A Case Study in a University Education Degree Program. *Australian Journal of Teacher Education (Online), 44*(6), 91.

Ferns, S., & Zegwaard, K. (2014). Critical Assessment Issues in Work-Integrated Learning. Asia-Pacific Journal of Cooperative Education, 15(3), 179-188.

Ferns, S., Campbell, M., & Zegwaard, K. (2014). Work Integrated Learning. In S. Ferns (Ed.), HERDSA Guide Work Integrated Learning in the Curriculum. Milperra: HERDSA.

Fleming, J., Martin, A., Hughes, H., & Zinn, C. (2009). Maximizing Work Integrated Learning Experiences through Identifying Graduate Competencies for Employability: A Case Study of Sport Studies in Higher Education. Asia-Pacific Journal of Cooperative Education, 10(3), 189-201.

Freudenberg, B., Brimble, M., & Cameron, C. (2011). WIL and Generic Skill Development: The Development of Business Student's' Generic Skills through Work-Integrated Learning. Asia-Pacific Journal of Cooperative Education. 12(2), 79-93.

Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A Psycho-Social Construct, its Dimensions, and Applications. *Journal of Vocational Behavior*, *65*(1), 14-38.

Grant, C. & Osanloo,A. (2014). Understanding, Selecting, and Integrating Theoretical Framework in Dissertation Research: Creating the Blueprint for 'House'. Administrative Issues Journal: Connecting Education, *Practice and Research*, Pp. 1 22

Guneratne. (2019). Tracer Study of State Universities Graduates in Sri Lanka (2014-15). Reading Material, *International Seminar on Employment and Employability of Higher Education Graduates*, British Council and CPRHE, NIEPA

Harvey, L. (1996). Transforming Higher Education: Student's as Key Stakeholders', invited keynote at the Swedish National Agency Conference on Quality Assurance Leondahl Castle, Stockholm, September. *September, Stockholm. Available online at: www. uce. ac. uk/crq/publications/leondahl. pdf (accessed 20 February 2003)*.

Harvey, L. (2001). Defining and Measuring Employability. *Quality in Higher Education*, *7*(2), 97-109.

Harvey, L., Harvey, L., Locke, W., & Morey, A. (2002). Enhancing Employability, Recognising Diversity: Making Links Between HE and the World of Work: Main Report. Universities UK.

Hillage, J., & Pollard, E. (1998). *Employability: Developing a Framework for Policy Analysis* (Vol. 107). London: DfEE.

Ilieva-Trichkova, P. (2014). A capability perspective on employability of HE graduates in Bulgaria. *Social Work & Society*, *12*(2).

Jackson, D. (2014). Factors influencing job attainment in recent Bachelor graduates: evidence from Australia. *HE*, *68*(1), 135-153.

Jackson, D. (2015). ES development in work-integrated learning: Barriers and best practice. *Studies in HE*, *40*(2), 350-367.

Khare (2019). Employment and Employability of Higher Education Graduates in India: A Multistakeholder Perspective. *International Seminar on Employment and Employability of Higher Education Graduates*, British Council and CPRHE, NIEPA

Khare, M. (2014). Employment, employability, and HE in India: The missing links. *Higher Education for the Future*, *1*(1), 39-62.

Knight, P. T. (2001). Employability and quality. *Quality in HE*, *7*(2), 93-95.

Knight, P. T., & Yorke, M. (2002). Employability through the curriculum. *Tertiary education and management*, *8*(4), 261-276.

Knight, P. T., & Yorke, M. (2002). Employability through the curriculum. *Tertiary education and management*, *8*(4), 261-276.

Little, B., & Harvey, L. (2006). Learning through work placements and beyond. Manchester: HECSU.

Lizzio, A., & Wilson, K. (2004). First-year students' perceptions of capability. Studies in Higher Education, 29(1), 109-128.

Mandal, S. (2018). Teaching and Learning in Indian HE: Evolution of concept and an attempt towards developing a new tool of analysis. *CPRHE Research Report. New Delhi: CPRHE/ NIEPA.*

Marais, D., & Perkins, J. (2012). Enhancing employability through self-assessment. *Procedia-Social and Behavioral Sciences*, *46*, 4356-4362.

Marais, D., & Perkins, J. (2012). Enhancing employability through self-assessment. Procedia-Social and Behavioral Sciences, 46, 4356-4362.

Marais, D., & Perkins, J. (2012). Enhancing employability through self-assessment. *Procedia-Social and Behavioral Sciences*, *46*, 4356-4362.

Maxwell, G., Scott, B., Macfarlane, D., & Williamson, E. (2009). Employers as stakeholders in postgraduate employability skills development. *International Journal of Management*, 8(2), 1.

McArdle, S., Waters, L., Briscoe, J. P., & Hall, D. T. T. (2007). Employability during unemployment: Adaptability, career identity and human and social capital. *Journal of vocational behavior*, *71*(2), 247-264.

McQuaid, R. W., & Lindsay, C. (2005). The concept of employability. *Urban studies*, *42*(2), 197-219.

Metilda, R. M., & Neena, P. C. (2016). Gap Analysis of ESs of Entry Level Business Graduates Based on Job-Fit Theory. *International Journal of Social Sciences and Management*, *3*(4), 294-299.

Metilda, R. M., & Neena, P. C. (2016). Gap Analysis of ESs of Entry Level Business Graduates Based on Job-Fit Theory. *International Journal of Social Sciences and Management*, *3*(4), 294-299.

Moreau, M. P., & Leathwood, C. (2006). Graduates' employment and the discourse of employability: a critical analysis. *Journal of Education and Work*, *19*(4), 305-324.

Morley, L. (2001). Producing new workers: Quality, equality, and employability in HE. *Quality in HE*, *7*(2), 131-138.

Oliver, D., Freeman, B., Young, C., Yu, S., & Verma, G. (2014). Employer satisfaction survey: Report for the Department of Education, June 2014. Sydney: The University of Sydney.

Orji, N. S. (2013). Assessment of employability skills development opportunities for senior secondary school chemistry students. Journal of Educational Research and Reviews, 1(2), 16-26.

Othman, H., Buntat, Y., Sulaiman, A., Salleh, B. M., & Herawan, T. (2010). Applied mathematics cans enhance ESs through PBL. *Procedia-Social and Behavioral Sciences*, *8*, 332-337.

Panigrahi, J. (2017). "Resource Allocation and Innovative Methods of Financing Higher Education in India". CPRHE Research Paper 6, NIEPA, New Delhi

Peach, D., Ruinard, E., & Webb, F. (2014). Feedback on student performance in the workplace: The role of workplace supervisors. *Asia-Pacific Journal of Cooperative Education,* 15(3), 241-252.

Peshkin, A. (1993). The Goodness of Qualitative Research. *Educational Researcher*, 22(2), 23-29

Pitan, O. S. (2016). Towards enhancing university graduate employability in Nigeria. Journal of Sociology and Social Anthropology, 7(1), 1-11.

Radhakrishnan, M., & Sudha, S. (2015). Analysis of Employability Skills of Undergraduate Engineering Students in View of Employers Perspectives. From the Editor's Desk, 49.

Rani, P.G. (2013). "Exploring Earnings and Education Disparities in India across Region, Caste, Religion and English Language Ability," Artha Vijnana, Gokhale Institute of Politics and Economics, vol. 55(4), pages 402-420.

Rowe, A. D., & Zegwaard, K. E. (2017). Developing graduate ESs and attributes: Curriculum enhancement through work-integrated learning.

Smith, C. (2012). Evaluating the quality of work-integrated learning curricula: A comprehensive framework. Higher Education Research & Development, 31(2), 247-262.

Steur, J. M., Jansen, E. P. W. A., & Hofman, W. H. A. (2012). Graduateness: An empirical examination of the formative function of university education. Higher Education, 64(6), 861-874.

Suleman, F. (2016). ESs of HE graduates: Little consensus on a much-discussed subject. Procedia-Social and Behavioral Sciences, 228, 169-174.

Tilak, J.B.G. (2005). Higher education: A public good or commodity for trade? Commitment to higher education or commitment of higher education to Trade. 2ND Nobel Laureates Meeting in Barcelona

Varghese, N. V. (2015). Challenges of massification of higher education in India. National University of Educational Planning and Administration, New Dehli–India: NIEPA.

Varghese, N. V., Panigrahi, J., & Rohatgi, A. (2018). Concentration of Higher Education Institutions in India.*CPRHE Research Paper 11*, Centre for Policy Research in Higher Education. New Delhi: NIEPA.

Wells, P., Gerbic, P., Kranenburg, I., & Bygrave, J. (2009). Professional skills and capabilities of accounting graduates: The New Zealand expectation gap? *Accounting Education: an international journal*, *18*(4-5), 403-420.

West, J. (2000). HE and employment: opportunities and limitations in the formation of skills in a mass HE system. *Journal of Vocational Education and Training*, *52*(4), 573-588.

Web References:

An Introduction to Content Analysis, Retrieved on 21st September, 2019 from https://writing.colostate.edu/guides/page.cfm?pageid=1305&guideid=61

Bowers-Brown, T., & Harvey, L. (2004). Employability cross-country comparisons. Retrieved on 25th March, 2020 from https://www.qualityresearchinternational.com/Harvey%20papers/Bowers-Brown%20and%20Harvey%202004%20Cross-country%20comparisons.pdf

Central University of Orissa Organises Gender Awareness and Sensitization Workshop, Pragativadinewsservice, Retrieved on 1st January, 2020 from https://pragativadi.com/central-university-of-orissa-organises-gender-awareness-and-sensitization-workshop/

Cronbach's Alpha, Retrieved on 25th February, 2020 from http://www.open.ac.uk/socialsciences/spsstutorial/files/tutorials/cronbachs-alpha.pdf

CUO Organises Workshop on "Sustainable Development & Public Policy: Recent Trend" Pragativadinewsservice, Retrieved on 25th April, 2020 from https://odishabytes.com/workshop-on-sustainable-development-public-policy-recent-trends-organised-at-cuo-sunabeda/

CUO Organises Workshop on "Sustainable Development & Public Policy: Recent Trend" Pragativadinewsservice, Retrieved on 25th April, 2020 from https://odishabytes.com/workshop-on-sustainable-development-public-policy-recent-trends-organised-at-cuo-sunabeda/

Department of Bio-Diversity and Conservation of Natural Resources, Central University of Odisha, Retrieved on 05th January, 2020 from https://cuo.ac.in/Academic_Departments_Natural_Resources.asp?pgid=4&subid=1

Department of Business administrations, Central University of Odisha, Retrieved on 5th January, 2020 from https://cuo.ac.in/Academic_Departments_MBA-d.asp?pgid=4&subid=1

Department of Economics, Central University of Odisha, Retrieved on 5th January, 2020 from https://cuo.ac.in/Academic_Departments_Economics.asp?pgid=4&subid=1

Department of Journalism and Mass Communication, Central University of Odisha, Retrieved on 5th January, 2020 from https://cuo.ac.in/Academic_Departments_Journalism.asp?pgid=4&subid=1

Department of Mathematics, Central University of Odisha, Retrieved on 5th January, 2020 from https://cuo.ac.in/Academic_Departments_Mathematics-d.asp?pgid=4&subid=1

Department of Statistics, Central University of Odisha, Retrieved on the date 5th January, 2020 from https://cuo.ac.in/Academic_Departments_Statistics-d.asp?pgid=4&subid=1

DEST, (2002). Employability skills for the future report. *Canberra: Australian Chamber of Commerce and Industry and the Business Council of Australia for the Department of Education, Science and Training.* Retrieved on 10th February, 2020 from https://www.voced.edu.au/content/ngv%3A12484

Educational Development Index: A Suggestive Framework for Computation, Department of Educational Management Information System, NIEPA, New Delhi. Retrieved on the date 25th February, 2020 from http://dise.in/Downloads/suggestive-framework-for_EDI-compution%202009.pdf

Government of India, UGC. Learning Outcome based Curriculum Framework, Public Notice, 22nd may 2019, Retrieved on 21st April, 2020 from https://www.ugc.ac.in/pdfnews/4598476_LOCF-UG.pdf

Government of India, University Grant Commission, (2019). Learning Outcome based Curriculum Framework. Retrieved on 21st April, 2020 from https://www.ugc.ac.in/pdfnews/4598476_LOCF-UG.pdf

ILO. (2013). Enhancing youth employability: What? Why? and How? Guide to core work skills. Laura Brewer; International Labour Office, Skills and Employability Department. – Geneva. Retrieved on 25th February, 2020 from https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_213452.pdf

Internal Quality Assurance Cell, Central University of Jharkhand. Retrieved on 1st march, 2020 from http://cuj.ac.in/IQAC.php

International Labour Organization. (2020). Employment. Retrieved on 25th January, 2020 from https://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/WCMS_470295/lang--en/index.htm

Martin, M. (2018). Internal Quality Assurance: Enhancing higher education quality and graduate employability. Retrieved on 1st march, 2020 from https://unesdoc.unesco.org/ark:/48223/pf0000261356/PDF/261356eng.pdf.multi

Mehrotra & Parida (2017). India's Employment Crisis: Rising Education Levels and Falling Non-agricultural Job Growth. CSE Working Paper. Retrieved on 1st march, 2020 from https://cse.azimpremjiuniversity.edu.in/wp-content/uploads/2019/10/Mehrotra_Parida_India_Employment_Crisis.pdf

OECD, (2019). Good Jobs for All in a Changing World of Work. Retrieved on 10th January, 2020 from https://www.oecd.org/employment/emp/long%20booklet_EN.pdf

Precision Consultancy. (2007). Employability Skills: From Framework to Practice. *Melbourne: Business, Industry and Higher Education Collaboration Council.* Retrieved on 10th February, 2020 from http://www.fmpllen.com.au/uploads/1/2/9/9/12992035/employability_skills_from_framework_to_practice__an_introductory_guide_for_trainers_and_assessors.pdf

Rees, C, Forbes, P., Kubler, B. (2006). Students Employability Profile: A Guide for Higher Education Practitioner. The Higher Education Academy – September 2006. Retrieved on 15th August, 2019 from http://www.employability.ed.ac.uk/documents/Staff/EmployabilityProfiles/StudentEmployabilityProfiles.pdf

Result, Central University of Odisha. Retrieved on 25th January, 2020 from http://cuo.ac.in/Academic_Results.asp?pgid=4

Shukla, et al. (2019). Explained: Gap between Skill India goals and current status. Retrieved on 30th April, 2020 from https://www.financialexpress.com/opinion/skill-india-why-there-is-a-gap-between-current-status-and-goals-explained/1520633/

Shukla, et al. (2019). Return on skill: The widening earnings gap. Retrieved on 30th April, 2020 from https://mail.google.com/mail/u/1/#inbox/FMfcgxwHNMRZwjBNnFxRwNTRTWdbrmhR?projector=1&messagePartId=0.3

Shukla, et al. (2019). Why internet access is an enabler for high returns on skills. Retrieved on 30th April, 2020 from

https://www.financialexpress.com/opinion/why-internet-access-is-an-enabler-for-high-returns-on-skills/1522838/

Singhi, Parvathy & Khurana (2019). Skill Development Indicators are necessary. Retrieved on 21st February, 2020 from https://www.livemint.com/Opinion/3ZuYYEV9pfj8ktdOk1jMCJ/Skill-development-indicators-are-a-necessity.html

Training and Placement Cell, Vivekananda College of Engineering for Women, retrieved on the date 1st March, 2020 from http://vcenggw.ac.in/placement.html

University Grant Commission, Annual Report on Higher Education (2018-19). Retrieved on 21st February, 2020 from https://www.ugc.ac.in/pdfnews/3060779_UGC-ANNUAL-REPORT--ENGLISH--2018-19.pdf

ANNEXURE

7.3. Questionnaire for Student Survey

DEPARTMENT OF EDUCATIONAL PLANNING
NATIONAL INSTITUTE OF EDUCATIONAL PLANNING AND ADMINISTRATION, NEW DELHI-110016

Schedule for M. Phil work on

"AN INQUIRY INTO EMPLOYABILITY SKILL: A STUDY OF CENTRAL UNIVERSITY OF ODISHA"

Schedule No.			Confidential for Research Purpose Only

Name of the Interviewer: Jnyan Ranjan Sahoo Date of Survey: ____/____/_____

This survey is primarily for collecting information related to the ESs of master students in the scenario of wide existing skill gaps and market demands. It also reflects the quality of manpower/human resources in our country. Nonetheless, the problem of unemployment/ underemployment in the 21st century is yet to be addressed. Thus, this is the first step to know which ESs really persist in the hands of master graduates. Hence, please lend your invaluable support to successfully complete this research.

This questionnaire is divided into 4 sections; the first section is for the personal profile of the student, the second one is for generic ESs. Next, the core/subject-specific ESs are enquired in the third section and the last section is about steps taken by your university/school/department for the enhancement of student ESs.

Please contribute by filling the form and add further to the available literature. The generated information would remain confidential and I shall be ever grateful for these valuable responses and suggestions. Thank You.

(Student Survey)

SECTION-I: PERSONAL PROFILE OF STUDENT

1. Name of the student:	
2. Enrolment No:	
3. Name of the Department:	BCNR and Conservation of Natural Resources
4. Category:	SC/ST/GEN/OBC
5. Gender:	Male/Female/Others
6. Age	22-23, Above 23
7. Religion	Hindu/Muslim/Christian/Sikh
8. Marital Status	Married/Unmarried/Others
9. Area of Permanent Residence:	
10. Level of Father's/ Parent's Education	

11. Level of Mother's Education			
12. Father's/ Parent's Occupation		Father's/ Parent's Income per month (Rs.)	
13. Mother's Occupation		Mother's Income per month (Rs.)	

SECTION-II: QUESTIONS FOR STUDENT GENERIC EMPLOYABILITY SKILLS ASSESSMENT

Please **tick** the option that best describe your level of competence in the following statements.

[4 = Excellently; 3 = Very well; 2 = Somewhat; 1 = Just a little; 0 = Not at all]

Scoring of Soft/ (Core, Personal & Transferable) ES	**Scores**				
1. Communication Skill					
1.1.I can speak and write clearly so that others understand	4	3	2	1	0
1.2.I can read and understand information in words, graphs, diagrams, or charts	4	3	2	1	0
1.3.I can listen and ask questions in order to understand instructions and other people's points of view	4	3	2	1	0
1.4.I have ability to give power point presentation in my study area effectively	4	3	2	1	0
2. Problem Solving Skill					
2.1.I can assess situations, identify problems and prescribe solutions.	4	3	2	1	0
2.2.I can recognize the many dimensions of a problem and can determine a root cause.	4	3	2	1	0
2.3.I cannot afraid to be creative when solving problems and ready to learn from experiences.	4	3	2	1	0
3. Team Working Skill					
3.1.I can work/cooperate well with team leaders and members while working in team.	4	3	2	1	0
3.2.I can lead a team work effectively for the individual as well as aggregate development.	4	3	2	1	0
3.3.I have the skills of negotiating/persuasion.	4	3	2	1	0
3.4.I can remain an active listener and respect others' views while working in teams.	4	3	2	1	0
4. Planning and Organising Skill					
4.1.I can devise programmes/plans appropriate to the needs of present as well as future time.	4	3	2	1	0
4.2.I can take bold initiatives and handhold with associates for the achievement of goals.	4	3	2	1	0
4.3.I can expect difficulties, troubles and prepare backup plans accordingly.	4	3	2	1	0
4.4.I can have the skills of using/organising resources efficiently to get maximum benefit.	4	3	2	1	0
5. ICT Skills					
5.1.I can be familiar with MS word, excel and power point practiceing.	4	3	2	1	0
5.2.I can browse the internet for information for the study and to do assignments.	4	3	2	1	0

5.3.I can be familiar with the use of emails to send and receive messages and information	4	3	2	1	0
6. Self-management skills					
6.1.I can learn very quickly.	4	3	2	1	0
6.2.I have high sense of direction (a person's ability to know without explicit guidance the direction in which they are or should be moving).	4	3	2	1	0
6.3. I have an idea of SOWT analysis for self-management and growth.	4	3	2	1	0
7. Time management/prioritizing Skills					
7.1.I can able to manage time and meet the schedule in my work within timeline.	4	3	2	1	0
7.2.I can prioritise activities among several tasks in one period.	4	3	2	1	0
7.3.I can find alternative to do work for saving time and resources.	4	3	2	1	0
8. Decision making & Leadership Skills					
8.1. I can take important decision in a difficult situation for individual betterment as well as institutional development.	4	3	2	1	0
8.2. I can recognize the problem and can take steps for immediate resolution.	4	3	2	1	0
8.3. I can support and motivate others to work for a common goal.	4	3	2	1	0
8.4. I can give direction and guidance to others while working in team and also follow their ideas.	4	3	2	1	0
8.5. I can communicate ideas to persuade and convince others.	4	3	2	1	0
8.6. I can set shared goals, monitor progress, exhibit self-discipline and take responsibility for the result.	4	3	2	1	0
9. Integrity and Honesty Skills					
9.1. I can deal with people, problems and situations with honesty and integrity.	4	3	2	1	0
9.2. I can value unity and integrity in every step of my work.	4	3	2	1	0
9.3. I can do what is right and ethical that is backed by constitutional laws and orders.	4	3	2	1	0
10. Self-confidence & Positive attitude Skills					
10.1. I can believe in my self-confidence and remain positive of myself.	4	3	2	1	0
10.2. I can believe in my hard work that I can successfully complete a task in any adverse situation.	4	3	2	1	0
10.3. I can believe in my own ability to complete a work successfully within a time frame.	4	3	2	1	0
10.4. I can be optimistic in nature and can see the bright aspects of each and every action.	4	3	2	1	0
11. Flexibility Skills					
11.1. I can adjust and adopt myself in various working environments.	4	3	2	1	0
11.2. I have the ability of lifelong learning and accepting new things.	4	3	2	1	0
11.3. I can accept the changes and adjusts to the changing work environment.	4	3	2	1	0

12. Work Ethics and Morality Skills					
12.1. I can work in the order of my senior officer	4	3	2	1	0
12.2. I can come to office in time.	4	3	2	1	0
12.3. I can't do anything which will negatively affect the working environment.	4	3	2	1	0
12.4. I can congratulate a new initiative taken by colleagues/associates and could move in that direction.	4	3	2	1	0

SECTION-III: CORE/PROFESSIONAL ES FOR STUDENT OF SELECTED DEPARTMENTS

Please **tick** the option that best describes your level of competence in the following statements.

[4 = Very Much Important; 3 =Much Important; 2 = Seldom Important; 1 = Just a little Important; 0 = Not at all Important]

BCNR & CONSERVATION OF NATURAL RESOURCE

Scoring of Generic Employability Skills	Scores				
1. Subject Specific Skills					
1.1. I can have enough knowledge regarding Natural hazards/disasters (e.g. volcanoes, earthquakes, and tsunami).	4	3	2	1	0
1.2. I can apply practical skills including designing, planning, conducting, and reporting on investigations through individual or group projects.	4	3	2	1	0
1.3. I can engage with current developments in the bio-diversity and their applications, and the philosophical and ethical issues involved with them.	4	3	2	1	0
1.4. I have basic knowledge related to natural resources (e.g. water, minerals, and fuels).	4	3	2	1	0
1.5. I have fundamental knowledge related to mining, waste disposal etc.	4	3	2	1	0
1.6. I have an ability of studying issues regarding the exploitation and conservation of these natural resources at small, medium and large-scales irrespective of political boundaries.	4	3	2	1	0
1.7. I can make planning, execution, and evaluation by routinely working in teams in the laboratory, on the desk for research.	4	3	2	1	0
1.8. I have capability of risk assessment, problem solving in I's own area comprehensively.	4	3	2	1	0
1.9. I have capability of well-developed numeracy, graphic and image practiceing skills (including mapping) for interpreting and presenting these multiple data using a range of ICT formats.	4	3	2	1	0
1.10. I can do field-based, real-world Earth Science research in dealing with the unexpected events.	4	3	2	1	0

STATISTICS:

Scoring of Core/Subject Employability Skills	Scores				
1. Subject Specific Skills					
1.1. I have ability to design and conduct experimental and observational studies and to analysis the data resulting from them.	4	3	2	1	0
1.2. I have skills relating to formulate complex problems of optimisation and interpreting the solutions in the original contexts of the problems.	4	3	2	1	0
1.3. I can apply concepts and principles in loosely-defined contexts, showing effective judgement in selecting and applying tools and techniques.	4	3	2	1	0
1.4. I can able to apply statistical theories and methods to solve practical problems in business, engineering, the sciences, or other fields.	4	3	2	1	0
1.5. I can decide what data are needed to answer specific questions or problems.	4	3	2	1	0
1.6. I can determine methods for collecting data, analysing data, and interpreting them.	4	3	2	1	0
1.7. I can design surveys or experiments or opinion polls to collect data.	4	3	2	1	0
1.8. I can collect data or train others to do so.	4	3	2	1	0
1.9. I can analyse and interpret data for better describe of the phenomenon.	4	3	2	1	0
1.10. I can able to make report conclusions from the analyses of a phenomenon.	4	3	2	1	0

MATHEMATICS

Scoring of Core/Subject Employability Skills	Scores				
1. Subject Specific Skills					
1.1. I can demonstrate expected knowledge of key mathematical concepts and topics.	4	3	2	1	0
1.2. I can abstract the essentials of problems and formulate them mathematically and in symbolic form to facilitate their analysis and solution making.	4	3	2	1	0
1.3. I can present mathematical arguments and conclusions from a given problems with accuracy and clarity.	4	3	2	1	0
1.4. I can apply concepts and principles in loosely-defined contexts, showing effective judgement in selecting and applying tools and techniques.	4	3	2	1	0
1.5. I can have skills relating to rigorous argument and solving problems in general.	4	3	2	1	0
1.6. I have a faculty to deal with abstraction including the logical development of formal theories.	4	3	2	1	0
1.7. I have ability to formulate physical theories in mathematical terms, solving the resulting equations analytically and numerically.	4	3	2	1	0

1.8.I can formulate complex problem of optimisation and interpreting the solutions in the original context of the problem.	4	3	2	1	0
1.9.I have high developed numeracy & ICT skills.	4	3	2	1	0
1.10. I have ability to learn independently using various software related to mathematical problems.	4	3	2	1	0

J&MC & MASS COMMUNICATION

Scoring of Core/Subject Specific Employability Skills	Scores				
1. Subject Specific Skills					
1.1.I can initiate, develop, and realize distinctive creative work in writing/oral/visual medium.	4	3	2	1	0
1.2.I can use IT skills including web-based technology or multimedia and develop expected proficiencies in media technologies.	4	3	2	1	0
1.3.I can initiate, develop, and realise distinctive creative work in audio-visual, sound, or other electronic media.	4	3	2	1	0
1.4.I can communicate effectively in interpersonal settings, in writing or in a variety of media like SMS, social networking sites.	4	3	2	1	0
1.5.I can understand communication systems, modes of representations and systems of meaning according to the societies.	4	3	2	1	0
1.6.I can work flexibly, innovatively, and independently with self-discipline, self-direction, and reflexivity.	4	3	2	1	0
1.7.I can use ideas and information to argue cogently in written, oral or in other forms.	4	3	2	1	0
1.8.I can retrieve and generate information and evaluate sources in carrying out research.	4	3	2	1	0
1.9.I have ability to organise and manage and supervise self-directed projects.	4	3	2	1	0
1.10. I can to catch the attention of audiences, clients, consumers, markets, and the like stakeholders.	4	3	2	1	0

ECOMONICS

Scoring of Core/Subject Specific Employability Skills	Scores				
1. Subject Specific Skills					
1.1.I can abstract/brief and articulate the essence of a problem.	4	3	2	1	0
1.2.I can abstract a broader aspect of macro socio-economic phenomena to a micro one.	4	3	2	1	0
1.3.I can analyse and find out important reasons behind the phenomenon at problem.	4	3	2	1	0
2.2.I can approach the problems from different angles and perspectives.	4	3	2	1	0
1.4.I can evidently assimilate structure and analyses quantitative data.	4	3	2	1	0

1.5.I can collect, compile, and find out important statements from qualitative data.	4	3	2	1	0
1.6.I can understand the data base and use the data from different secondary sources by using triangulation method.	4	3	2	1	0
1.7.I can think critically about one phenomenon in a broader socio-politico-economic context.	4	3	2	1	0
1.8.I can draw inferences to recognize the potential constraints in the policy implementation.	4	3	2	1	0
1.9.I can go back to the situation, for identifying key points, analysing the phenomenon from different angles, and making decisions.	4	3	2	1	0

MASTER OF BUSINESS ADMINISTRATION

Scoring of Core/Subject Specific Employability Skills	Scores				
1 Subject Specific Employability Skills					
1.1.I can demonstrate the structure and function of an organisation clearly and concisely.	4	3	2	1	0
1.2.I can locate the external environment in which the organisation operates its potential issues.	4	3	2	1	0
1.3.I can demonstrate the management system and its future needs of the organization.	4	3	2	1	0
1.4.I can have the skills of numeracy and basic calculation	4	3	2	1	0
1.5.I have capability of quantitative data analysis including modelling, interpretation, and exploration of it.	4	3	2	1	0
1.6. I can have an appetite for reflective, adaptive and collaborative learning for personal and professional development	4	3	2	1	0
1.7. I have tendency towards cooperative learning and mutual development	4	3	2	1	0
1.8. I can be effective at listening, negotiating and persuasion.	4	3	2	1	0
1.9.I have a high priority business idea.	4	3	2	1	0
1.10. I have better entrepreneurial skills like; start-up a business, developing in a sustainable manner, making profit effectively and efficiently.	4	3	2	1	0
1.11. I can use existing resources in the entrepreneurial activities.	4	3			0

SECTION-IV: REGARDING SPECIFIC PROGRAMME FOR EMPLOYABILITY SKILLS:

Please respond to the following questions

Is your university/department organizing the following employability activities	Organizing (Yes/No)	How many times	Number of participants
Research projects and assignments			
Workshop			
Excursion and field			
Lectures/ Seminars from internal teachers and external resource persons			

Carrier counselling and related seminars			
Student talk/ show/ debate			
Students oral and pictorial presentation			
Writing report and seminar paper			
Team work/ group work/ group discussion			
Specific course for communication skills/ ICT skills development			
Internship/ Field attachment			
Extracurricular activities like (Sports, Yoga, Gymnasium activities)			
Participation and presentation in or out campus regional/ national/international seminar/ conference			
ICT facility/ Internet research/ information retrieve courses			
Interacting with job/ work placement agencies			

1. Do you have facilities for ICT/Internet lab/information retrieve courses in your curriculum? Yes No
2. Do you have access to modern equipment like projector, computer system, printing machine in your departments? Yes No
3. Do you have access to the computer lab in your departments? Yes No
4. Do you have access to data analysis software like SPSS, STATA, r, NVIVO, Atlas-ti, etc. in your departments? Yes No
5. Do you have access to high priority journals like Jstor, Springer, Scopus, Nature, Nature communication etc. in your departments? Yes No
6. Do you have a smart classroom facility? Yes No
7. Do you have a smart library (including digital journals and books)? Yes No
8. Does your department/school/university have inter-links or work contract(s) with job placement agencies? Yes No
9. Is there a full-fledged training and placement cell functioning in the institution? If yes specify the commencement year? Yes No
10. Are there any specific programmes conducted by your department in the university for enhancing subject-specific ESs among master students? If yes, please mention.
11. Does the university have a campus interview cell for the final year students to get job offers? Yes No
12. If No, how are the training and placement activities conducted?
13. The employability enhancement programmes run by the institution are sponsored by?
    - Government
    - Management
    - Student Sponsored
    - No employability development programme
    - Others, Please Specify

14. Are the existing soft skill programmes enough? Yes No

15. Are the soft skill training programmes _____ in the course curriculum?
    - Credit Course
    - Non-credit Course
16. Since which year the programme has been conducted?
17. What are the possible causes for not attending events related to employability events?
    - Not interested in job hunting until completion of master's course
    - No carrier focusses
    - Not interested to spend extra time
    - Financial barrier
    - They think job is easy to get
    - No ES development programme
18. Any other suggestions/opinions to improve the ESs of the students?

Thanking you!
Dear Student,

Much gratitude for your precious time, patience, and kindness. My best wishes for your bright carrier
ahead. Thank you for greatly helping me to gather these significant inputs.
Thank you again.

With Regards,
Jnyan Ranjan Sahoo,
Research Scholar,
National Institute of Educational Planning and Administration,
New Delhi- 110016

7.4. Questionnaire for Teacher Survey:

DEPARTMENT OF EDUCATIONAL PLANNING
NATIONAL INSTITUTE OF EDUCATIONAL PLANNING AND ADMINISTRATION, NEW DELHI-110016

Schedule for M. Phil work on

"AN INQUIRY INTO EMPLOYABILITY SKILL: A STUDY OF CENTRAL UNIVERSITY OF ODISHA"

Schedule No.					Confidential & For Research Purpose Only

Name of the Interviewer: Jnyan Ranjan Sahoo Date of Survey: ____/____/_____

This survey is primarily for collecting views of teachers on the ESs of master students in the scenario of wide existing skill gaps and market demands. It also reflects the quality of manpower/human resources in our country. Nonetheless, the problem of unemployment/ underemployment in the 21st century is yet to be addressed. Thus this is the first step to know which ESs really persist in the hands of master graduates and what are the skills expected in the views of teachers. Hence, please lend your invaluable support to successfully complete this research.

This questionnaire is divided into 4 sections; the first section is for the personal profile of the teachers, the second one is for generic ESs. Next, the core/subject-specific ESs are enquired in the third section and the last section is about steps taken by your university/school/department for the enhancement of student ESs.

Please contribute by filling the form and add further to the available literature. The generated information would remain confidential and I shall be ever grateful for these valuable responses and suggestions. Thank You.

SECTION-I: PERSONAL PROFILE OF TEACHERS

1. Name of the Teacher:	
2. Designation	
3. Department	Master of Business Administration
4. Subject Specialisation:	
5. Social Category:	SC/ST/OBC/GEN

6. Gender:	Male/Female/Others
7. Age	
8. Religion	Hindu/Muslim/Christian/Sikh
9. Marital Status	Married/Unmarried/Other
10. Area of Permanent Residence:	Rural/Urban
11. Years of Teaching Experience	
12. Nature of Job	Contract/ Regular

SECTION-II: QUESTIONS FOR DETERMINING STUDENT'S EMPLOYABILITY SKILLS AND COMPETENCIES

Please tick the option that could best describes your students' level of competences in the following statements.

[4 = Very Much Important; 3 = Much Important; 2 = Seldom Important; 1 = Just a little Important; 0 = Not at all Important]

Scoring of Soft/ Generic employability skills	Scores				
1. Communication Skills					
1.1.One could speak and write clearly so that others understand.	4	3	2		0
1.2.One could read and understand information in words, graphs, diagrams, or charts.	4	3	2		0
1.3.One could listen and ask questions in order to understand instructions from other's perspective.	4	3	2		0
1.4.One could have ability to give power point presentation in his/her study area effectively.	4	3	2		0
2. Problem Solving Skills					
2.1.One could assess situations, identify problems, and prescribe solutions.	4	3	2		0
2.2.One could recognize many dimensions of a problem and could determine a root cause.	4	3	2		0
2.3.One could not afraid to be creative when solving problems and ready to learn from experiences.	4	3	2		0
3. Team Working Skills					
3.1.One could work/co-operate well with team leaders and its members while working in a team.	4	3	2		0
3.2.One could lead a team work effectively for the individual as well as aggregate development.	4	3	2		0
3.3.One could have the skills of effective negotiation and persuasion.	4	3	2		0
3.4.One could remain active listener and respect others views, while working in teams.	4	3	2		0
4. Planning and Organising Skills					
4.1.One could devise programs/plans appropriate to the needs of present as well as future time.	4	3	2		0

4.2.One could take bold initiatives and handhold with associates for the achievement of goals.	4	3	2		0
4.3.One could expect difficulties, troubles and prepare backup plans accordingly.	4	3	2		0
4.4. One could have the skills of using/organising resources efficiently and allocatively to get maximum benefits.	4	3	2		0
5. ICT Skills					
5.1.One could be familiar with MS word, excel and power point practicing.	4	3	2		0
5.2.One could browse the internet for information for the study and to do assignments.	4	3	2		0
5.3.One could be familiar with the use of emails to send and receive mails.	4	3	2		0
6. Self-management skills					
6.1.One could learn very quickly.	4	3	2		0
6.2.One could have a high sense of direction (a person's ability to know without explicit guidance the direction in which they are or should be moving).	4	3	2		0
6.3.One could have an idea of SWOT analysis for self-management and growth.	4	3	2		0
7. Time management/prioritizing Skills					
7.1.One could able to manage time and meet the schedule in his/her work within deadlines.	4	3	2		0
7.2.One could prioritize activities among several tasks in one period.	4	3	2		0
7.3.One could find alternatives to do a work for saving time and resources.	4	3	2		0
8. Decision making & Leadership Skills					
8.1.One could take important decision in a difficult situation for the individual betterment as well as institutional development.	4	3	2		0
8.2.One could recognize the problem and could take necessary steps for immediate resolution.	4	3	2		0
8.3.One could support and motivate others to reach a common goal.	4	3	2		0
8.4.One could give direction and guidance to others while working in team and follow their ideas.	4	3	2		0
8.5.One could communicate right ideas to persuade and convince others.	4	3	2		0
8.6.One could set shared goals, monitor progress, exhibit self-discipline and take responsibility for the results.	4	3	2		0
9. Integrity and Honesty Competences					
9.1.One who always deal with people, situations, and problems with honest and integrity.	4	3	2		0
9.2.One who always values unity and integrity in every step?	4	3	2		0
9.3.One who always does what is right and ethical that is backed by logical reasoning.	4	3	2		0
10. Self-confidence & Positive attitude Skills					

10.1. One could believe in one's self with confidence and remain positive of him/ herself.	4	3	2		0
10.2. One could believe in one's own hard work that he/she could successfully complete a task in any adverse situation.	4	3	2		0
10.3. One could believe in one's ability to finish a work within a specified time frame.	4	3	2		0
10.4. One could be optimistic in nature and could see the bright aspects of each action.	4	3			0
11. Flexibility Skills					
11.1. One could adjust and adopt herself/himself in various working environment.	4	3	2		0
11.2. One could have an ability of lifelong learning and accepting new things.	4	3	2		0
11.3. One could accept the changes and adjust with the changing work ecosystem.	4	3	2		0
12. Work Ethics and Morality Competences					
12.1. One could work in the order of his/ her senior officer.	4	3	2	1	0
12.2. One could come to office in time.	4	3	2	1	0
12.3. One could not do anything which would negatively affect the working settings.	4	3	2	1	0
12.4. One could congratulate a new initiative taken by colleagues/associates and could move in that direction.	4	3	2	1	0

SECTION-III: CORE/ SUBJECT SPECIFIC ES OF SELECTED DISCIPLINE

Please circle the option that could best describes your student's level of competences in the following statements with regards to broad ESs.
[4 = Very Much Important; 3 = Much Important; 2 = Seldom Important; 1 = Just a little Important; 0 = Not at all Important]

BIODIVERSITY AND CONSERVATION OF NATURAL RESOURCES

Scoring of Core/ Subject specific employability skills	Scores				
1. Subject Specific Skills					
1.1. One could have enough knowledge regarding Natural hazards/disasters (e.g. volcanoes, earthquakes, and tsunami).	4	3	2	1	0
1.2. One could have basic knowledge related to natural resources (e.g. water, minerals, and fuels).	4	3	2	1	0
1.3. One could engage with current developments in the bio-diversity and their applications, and the philosophical and ethical issues involved with them.	4	3	2	1	0
1.4. One could have basic knowledge related to natural resources (e.g. water, minerals, and fuels).	4	3	2	1	0
1.5. One could have fundamental knowledge related to mining, waste disposal etc.	4	3	2	1	0

1.6. One could have an ability of studying issues regarding the exploitation and conservation of these natural resources at small, medium and large-scales irrespective of political boundaries.	4	3	2	1	0
1.7. One could make planning, execution, and evaluation by routinely working in teams in the laboratory, on the desk for research.	4	3	2	1	0
1.8. One could have capability of risk assessment, problem solving in one's own area comprehensively.	4	3	2	1	0
1.9. One could have capability of well-developed numeracy, graphic and image practicing skills (including mapping) for interpreting and presenting these multiple data using a range of ICT formats.	4	3	2	1	0
1.10. One could do field-based, real-world Earth Science research in dealing with the unexpected events.	4	3	2	1	0

STATISTICS

Scoring of Core/ Subject specific employability skills	Scores				
1. Subject Specific Skills					
1.1. One could have ability to focus on statistics that will have skills relating to the design and conduct of experimental and observational studies and the analysis of data resulting from them.	4	3	2	1	0
1.2. One has skills relating to formulate complex problems of optimisation and interpreting the solutions in the original contexts of the problems.	4	3	2	1	0
1.3. One could apply concepts and principles in loosely-defined contexts, showing effective judgement in selecting and applying tools and techniques.	4	3	2	1	0
1.4. One could able to apply statistical theories and methods to solve practical problems in business, engineering, the sciences, or other fields.	4	3	2	1	0
1.5. One could decide what data are needed to answer specific questions or problems	4	3	2	1	0
1.6. One could determine methods for finding or collecting data	4	3	2	1	0
1.7. One could design surveys or experiments or opinion polls to collect data	4	3	2	1	0
1.8. One could collect data or train others to do so	4	3	2	1	0
1.9. One could analyse and interpret data for better describe of the phenomenon	4	3	2	1	0
1.10. One could able to make report conclusions from their analyses	4	3	2	1	0

MATHEMATICS

Scoring of Core/ Subject specific employability skills	Scores				
1.1. One could demonstrate expected knowledge of key mathematical concepts and topics.	4	3	2	1	0

1.2. One could abstract the essentials of problems and formulate them mathematically and in symbolic form to facilitate their analysis and solution making.	4	3	2	1	0
1.3. One could present mathematical arguments and conclusions from them with accuracy and clarity.	4	3	2	1	0
1.4. One could apply concepts and principles in loosely-defined contexts, showing effective judgement in selecting and applying tools and techniques	4	3	2	1	0
1.5. One has skills relating to rigorous argument and solving problems in general.	4	3	2	1	0
1.6. One could have faculty to deal with abstraction including the logical development of formal theories.	4	3	2	1	0
1.7. One could have ability to formulate physical theories in mathematical terms, solving the resulting equations analytically and numerically.	4	3	2	1	0
1.8. One Could formulate complex problem of optimisation and interpreting the solutions in the original context of the problem.	4	3	2	1	0
1.9. I have high developed numeracy & ICT skills.	4	3	2	1	0
1.10. I have ability to learn independently using various software related to mathematical problems.	4	3	2	1	0

J&MC & MASS COMMUNICATION

Scoring of Core/ Subject specific employability skills	Scores				
1 Subject Specific Skills					
1.1 One could initiate, develop, and realize distinctive creative work in writing/oral/visual medium.	4	3	2		0
1.2. One could use IT skills including web-based technology or multimedia and develop expected proficiencies in media technologies.					
1.3. One could initiate, develop, and realise distinctive creative work in audio-visual, sound, or other electronic media.	4	3	2	1	0
1.4. One could communicate effectively in interpersonal settings, in writing or in a variety of media like SMS, social networking sites.					
1.5. One could understand communication systems, modes of representations and systems of meaning according to the societies.	4	3	2	1	0
1.6. One could work flexibly, innovatively, and independently with self-discipline, self-direction, and reflexivity.	4	3	2	1	0
1.7. One could use ideas and information to argue cogently in written, oral or in other forms.	4	3	2	1	0
1.8. One could retrieve and generate information and evaluate sources in carrying out research.	4	3	2	1	0
1.9. One has ability to organise and manage and supervise self-directed projects.	4	3	2		0
1.10. One can catch the attention of audiences, clients, consumers, markets, and the like stakeholders.	4	3	2	1	0

ECONOMICS

Scoring of Core/ Subject specific employability skills	Scores				
1 Subject Specific Skills					
1.1. One could abstract/brief and articulate the essence of a problem.	4	3	2	1	0
1.2. One could abstract a broader aspect of macro socio-economic phenomena to a micro one.	4	3	2	1	0
1.3. One could analyse and find out important reasons behind the phenomenon or in a problem.	4	3	2	1	0
1.4. One could approach the problems from different angles and perspectives for the redressal.					
1.5. One could evidently assimilate structure and analyse quantitative data.	4	3	2	1	0
1.6. One could collect, compile and find out important statements from qualitative data.	4	3	2	1	0
1.7. One could understand the data base and use the data from different secondary sources by using triangulation method.	4	3	2	1	0
1.8. One could think critically about one phenomenon in a broader socio-politico-economic context.	4	3	2	1	0
1.9. One could draw inferences to recognize the potential constraints in any phenomena.	4	3	2	1	0
1.10. One could go back to the situation, for identifying key points, analysing the phenomenon from different angles, and making decisions.	4	3	2	1	0

MASTER OF BUSINESS ADMINISTRATION

Scoring of Core/Subject specific employability skills	Scores				
1 Subject Specific Skills					
1.1. One could demonstrate the structure and function of an organisation clearly and concisely	4	3	2	1	0
1.2. One could locate the external environment in which the organisation operates and its potential issues	4	3	2	1	0
1.3. One could demonstrate the management system and its future needs of the organisation	4	3	2	1	0
1.4. One could have the skills of numeracy and basic calculation	4	3	2	1	0
1.5. One could have capability of quantitative data analysis including modelling, interpretation, and exploration of it.	4	3	2	1	0
1.6. One could have an appetite for reflective, adaptive, and collaborative learning for personal and professional development	4	3	2	1	0
1.7. One could have tendency towards cooperative learning and mutual development	4	3	2	1	0
1.8. One could be effective at listening, negotiating and persuasion.	4	3	2	1	0
1.9. One could have better entrepreneurial skills like; start-up a business, developing in a sustainable manner, making profit effectively and efficiently.	4	3	2	1	0

1.10. One could have the ability to use existing resources in the entrepreneurial activities.	4	3	2	1	0

SECTION-IV: REGARDING SPECIFIC PROGRAMME FOR EMPLOYABILITY SKILLS

Please respond to the following questions

Is your university/department organizing the following employability activities	Organizing (Yes/No)	How many times	Number of participants
Research projects and assignments			
Workshop			
Excursion and field			
Lectures/ Seminars from internal teachers and external resource persons			
Carrier counseling and related seminars			
Student talk/ show/ debate			
Students oral and pictorial presentation			
Writing report and seminar paper			
Team work/ group work/ group discussion			
Specific course for communication skills/ ICT skills development			
Internship/ Field attachment			
Extracurricular activities like (Sports, Yoga, Gymnasium activities)			
Participation and presentation in out campus regional/ national/international seminar/ conference			
ICT facility/ Internet research/ information retrieves courses			
Interacting with job/ work placement agencies			

1. Do your students have facilities for ICT/Internet lab/information retrieve courses in your curriculum? Yes No
2. Do your students have access to modern equipment like projector, computer system, printing machine in your departments? Yes No
3. Do your students have access to the computer lab in your departments? Yes No
4. Do your students have access to data analysis software like SPSS, STATA, r, NVIVO, Atlas-ti, etc. in your departments? Yes No
5. Do your students have access to high priority journals like Jstor, Springer, Scopus, Nature, Nature communication etc. in your departments? Yes No
6. Do your students have a smart classroom facility? Yes No
7. Do your students have a smart library (including digital journals and books)? Yes No
8. Does your department/school/university have inter-links or work contract(s) with job placement agencies? Yes No
9. Is there a full-fledged training and placement cell functioning in the institution? If yes specify the commencement year? Yes No

10. Are there any specific programs conducted by your department in the university for enhancing subject-specific ESs among master students? If yes, please mention.
11. Does the university have a campus interview cell for the final year students to get job offers? Yes No
12. If No, how are the training and placement activities conducted?
13. The employability enhancement program run by the institution are sponsored by?
    - Government
    - Management
    - Student Sponsored
    - No employability development programme
    - Others, Please Specify

14. Are the existing soft skill programs enough? Yes No
15. Is the soft skill training programs _____ in the course curriculum?
    - Credit Course
    - Non-credit Course
16. Since which year the programs have been conducted?
17. Impressions/opinions about the students who do not attain employability events.
    - Not interested in job hunting until completion of master's course
    - No carrier focusses
    - Not interested to spend extra time
    - Financial barrier
    - They think job is easy to get
    - No ES development programme
18. Any other suggestions/opinions to improve the ESs of the students?

Thanking You!
My respected teacher,

Much gratitude for your precious time, patience and kindness. Humble regards to you for greatly helping me to gather these significant inputs.
Thank you again.

With Respect,
Jnyan Ranjan Sahoo,
Research Scholar,
National Institute of Educational Planning and Administration,
New Delhi- 110016

7.5. Direct Personal Interview (Questionnaire):

Direct Personal Interview with Teachers

- Are employability skills being essential for master students? If Yes how? If no, Why?
- In 21st century are students really serious about their study and employment?
- Stakeholders/agencies responsible for employability skills development?
- Is there any relationship between academia (Educational Institution) and industry (Farm/Production house) related to employability skills? If Yes how? If no, Why?
- What are the departmental activities for generic employability skills Development?
- What your department is doing to help students develop subject specific employability skills?
- Do you think, inviting resource person from only educational institution is not sufficient?
- Do the department invite resource persons from industries (Farm/Production house) for reducing?
- The gap between theoretical and practical rationality?
- Better knowledge related to world of work?
- Activities/programmes embedded in the curriculum for employability skills.

Whether these programmes are	Embedded/ Parallel	Effective or ineffective	Do your department have enough infrastructure and faculty
Research projects			
Assignments			
Students oral and pictorial presentation			
Writing report and seminar paper			
Team work/ group work/ group discussion			
Workshop			
Excursion and field study			
Lectures from external resource persons			
Student talk/ show/ debate			
Internship/ Field attachment			
Extracurricular activities like (Sports, Yoga, Gymnasium activities)			
Specific course for communication skills/ ICT skills development			

Carrier counselling and related seminars			

- What could be done at department level for better ESs development?

7.6. Student's Focused Group Discussion Questionnaire

1 What aspired you to choose this subject and what are the benefits?
2 As a master student, how do you realize the importance of employability skills for your future?
3 What are the criteria of assessment of courses in your department? What are the benefits?
4 Do you have enough facilities for academic activities?
5 Does your curriculum have compulsory internship program? If Yes, why it is important? How it is benefited to you?
6 Does your curriculum have dissertation/project paper writing? If yes, why it is important? How it is benefited to you?
7 Does your curriculum have compulsory field visit program? If yes, why it is important? How it is benefited to you?
8 Does your department arrange workshops related to subject matters? If yes, why it is important? How it is benefited to you?
9 Do you all work for any particular assignment in a team? If yes, why it is important? How it is benefited to you?
10 Does the department is connected with placement cell/career counselling cell/internal quality assurance cell in the university? If yes, are the agencies really working for excellence and a better transition of graduates to the labour market?
11 What are the problems associated with the day-to-day teaching-learning practice in your department?
12 What are the steps you are taking individually for better employability skills? Why it is important? How it is benefited to you?
13 How your course curriculum helped you in the development of employability skills?
14 What can you suggest for better enhancement of employability skills at the department and university level?