

**ANALYTICAL STUDY OF EFFECTIVENESS OF
eLEARNING IN ROLE BASED AND WORK &
PERFORMANCE CENTRIC MODEL
FOR EDUCATIONAL PROGRAM
IMPLEMENTED BY MKCL**

A Thesis Submitted to

TILAK MAHARASHTRA VIDYAPEETH, PUNE

For the Degree of Doctor of Philosophy (Ph. D.)

In Education

Under the Board of Education Studies

By

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Under the Guidance of

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August - 2016

DECLARATION

I hereby declare that the thesis entitled “**Analytical study of effectiveness of eLearning in Role based and Work & Performance Centric model for educational program implemented by MKCL**” completed and written by me has not previously formed the basis for the award of any Degree or other similar title upon me of this or any other University or examining body.

Place: Pune

Date: / / 2016

Revati Namjoshi

Certificate

This is to certify that the thesis entitled “**Analytical study of effectiveness of eLearning in Role based and Work & Performance Centric model for educational program implemented by MKCL**” which is being submitted herewith for the award of the Degree of Vidyavachaspati (Ph.D.) in Education of Tilak Maharashtra Vidyapeeth, Pune is the result of original research work completed by **Ms. Revati Prasad Namjoshi** under my supervision and guidance. To the best of my knowledge and belief the work incorporated in this thesis has not formed the basis for the award of any Degree or similar title of this or any other University or examining body upon her.

Place : Pune

Dr. Dattatreya Tapkeer

Date : / / 2016

Research Guide

Acknowledgement

At this moment of completion of my Ph.D. thesis, I am highly indebted to all those who guided my efforts for this research.

With a grateful heart I take an opportunity to express my sincere thanks to all those who have directly or indirectly helped me in completing this work.

I consider myself fortunate enough for getting an opportunity to work under the expert and valuable guidance of Dr. Dattatreya Tapkeer. I sincerely express my gratitude for his support, guidance, feedback and motivation. Without such support this thesis would not have been a success.

I owe this research work to my mentor Mr. Vivek Sawant, MD & CEO, Maharashtra Knowledge Corporation Ltd (MKCL). It is him who believed that I can strive for research in Education and encouraged me to pursue. The quests in form of real challenges at workplace he posed before me in last 14 years, have been my strengths throughout the research process. I am obliged for the opportunity to get involved in implementation of the unique educational model envisaged by him. Furthermore, it is because of him that my real life work environment got converted into a learning environment and I could enjoy the research process thoroughly. It is hard to find words to thank him enough.

I take this opportunity to thank Maharashtra Knowledge Corporation Limited (MKCL), an organization which is a wonderland of innovations, for allowing me to conduct the research on one of the key programs being implemented by them.

I wish to record my cordial and sincere thanks to my colleagues and friends at MKCL who have been instrumental directly as well as indirectly for implementation of the degree program under study. I thank all my senior colleagues who believed in me and encouraged me to pursue the research.

I thank all the students of the degree program under study who have been sharing their concerns, as well as achievements with me openly that helped me understand them better.

I am grateful to Prof. Ram Takwale, Ex. Vice Chancellor, Pune University, IGNOU and YCMOU, under whose guidance I have been learning to bring concepts into reality.

I express my sincere thanks to the head and the staff members of Department of Education and Department of Ph.D. of Tilak Maharashtra Vidyapeeth for their continuous support during this research.

I express my sincere thanks to Hon. Vice-Chancellor and Hon. Registrar for their continuous support during completion of this research work.

I owe special gratitude to my parents. It's because of their unconditional support for everything, I could complete this work. I also wish to thank my sister, my family, and my friends for their encouragement and moral support.

I must take this opportunity to thank my friend and husband Dr. Prasad Namjoshi who kept tremendous patience with me and supported and encouraged me during this whole process of research. His logical and focused approach, appropriate support and intelligent suggestions helped me be on the track and bring this research work into existence.

I also thank my daughter Raavi, who in spite of her little age showed lots of patience and sanity towards this process of research throughout the time, which otherwise was due to her.

For any errors or inadequacies that may remain in this work, the responsibility is entirely my own.

At the end I sincerely thank this research process itself which made me more humble today than the day I started this research work.

Place: Pune

Date: / / 2016

Revati Namjoshi

Abstract

Analytical study of effectiveness of eLearning in Role based and Work & Performance Centric model for educational program implemented by MKCL

- **Introduction:**

This research closely inspects an educational model devised and implemented by Maharashtra Knowledge Corporation Limited (MKCL) with a potential to transform education for skill development in India.

It is *Role Based and Work & Performance Centric* model of education being implemented by MKCL in form of a degree program for Service Sector Industry in collaboration with Yashwantrao Chavan Maharashtra Open University and Industry partner companies.

- **Background:**

According to the 2007-08 Economic Survey 64.8% of India's population would be in the working age of 15-64 years in 2026. That means this latent talent pool of young population shall necessarily demand skills relevant to work place. In this context, there are certain key challenges to be addressed.

The challenges are for:

Students: How to acquire relevant skills, knowledge and attitude for workplace? How to build a career that would lead to self-growth and happiness through socially useful learning?

Industry: How to reduce attrition rate? How to develop workforce by continuous training and re-training?

University: How to design and implement degree programs to match industry requirements?

Government and Society: How to reduce youth unemployment?

For addressing these challenges simultaneously, a platform for strong industry- academia linkages is required.

- **About MKCL and Purpose of the research**

Maharashtra Knowledge Corporation Ltd – MKCL, is a public limited company promoted by the Government of Maharashtra, India for propagation of the new education paradigm based on universalization and integration of Information Technology in education.

MKCL aims to develop a high quality skilled manpower in niche areas/sectors through diversified degree and post-graduate degree programs to meet the requirements of the industries in various sectors and to instill self-employment skills in people and make them employable through a large number of role based and work & performance centric courses.

MKCL, therefore, under its program, **MKCL Finishing Schools** is imparting series of ***Role Based and Work & Performance Centric*** distance education degree and post-graduate degree programs to address the manpower demands of the industry not just at the differential skill-based entry level but at an integral role-based and directly deployable levels, by forging partnerships with various organizations who can offer real workplaces as a Work Lab for the learners to gain and practice practical skills required at the workplace.

The researcher has been working with MKCL for more than 14 years and has been involved in designing, devising and setting up various eLearning frameworks, educational offerings. In view of the strong potential impact – in terms of education as well as society at large, it is felt essential to study in detail the effectiveness of the unique and innovative Role based and Work & Performance Centric (RoWPeC) Model of education being implemented by MKCL.

Hence the current research has been undertaken wherein the role of the researcher is to implement the aforesaid model of education as an experiment by designing and development processes and tools - academic as well as research tools, required to conduct the same.

- **Educational model and program under study**

The RoWPeC model is designed so as to give an intensive exposure, expertise and experience in an eLearning supported Work Lab in form of real-life work environments of the industries. MKCL is implementing courses by forging partnerships with the Industry Partners having Work Lab opportunities for learners at real life workplace. Courses, and therefore the partnerships, are for different sectors that demand continuous man power and are facing a challenge of attrition. Sectors such as: service sector i.e. Business Process Management (BPM) industry, Hardware and

Networking sector, IT sector, Creative digital arts, livelihoods and sustainable development sector etc., are being addressed and different programs are being designed.

The current research is for the program implemented under RoWPeC viz: B.A.in Services Administration for service sector.

The model is elaborated in Chapter 4: Educational Model and Program under study. The sub chapters cover different aspects of this unique model. They are: Environment for Learning through working: eLearning, Mentoring, Evaluation and Technology.

- **Significance of the research**

The model under study is innovative.

It is an Educational Innovation, as it offers an innovative ‘Learning through working environment’. It presents an upward spiral of work-knowledge-more profound work.

It is a Business Innovation, as it addresses key concerns of industries i.e. attrition, to have trained, committed manpower by ensuring uninterrupted educational association. It encourages partnerships on the basis of strengths.

It is a Technology Innovation, as it requires complex state-of-the-art technology environments catering to the needs of monitoring learning performances in a personalized manner with huge learner analytics, cloud computing.

Moreover, it is a Social Innovation, as it empowers youth at large leading them to identify their strengths and be on their own. It is also a social responsibility for industry in true sense.

Findings, conclusions and recommendations emerged through this research, therefore, may have strong impact on policies of higher education programs for skill development, transforming-humanizing industry environment, technology development in terms of its wider accessibility and reach, policies related to empowerment of youth and social responsibility of industries.

It is in this context of potential transformation in different aspects of education and its impact on various sections of society, this research has a strong significance.

- **Review of literature**

Current research touches various aspects of Education. Hence an extensive review of literature is carried out. Chapter 2 presents review in detail.

Areas/ aspects of review include

- Work based learning
- Nai Talim
- Role based learning
- Curriculum
- Situated learning
- Scaffolding
- Constructivism
- Mentoring
- Evaluation
- Technology in Education
- Policy
- Apprenticeship
- Education

- **Hypothesis**

H₁:

eLearning is effective for learning in Work Lab as per Role based and Performance Centric model for educational program, in terms of skill attainment and theoretical knowledge gain with 60 percent mastery by 60 percent students.

Null hypothesis: H₀:

eLearning *is not effective* for learning in Work Lab as per Role based and Performance Centric model for educational program, in terms of skill attainment and theoretical knowledge gain with 60 percent mastery by 60 percent students.

- **Key operational definitions**

Detailed definitions are explained in Chapter: Introduction. Only key operational definitions related to hypothesis are presented herewith.

1) **Effectiveness:**

- Evidence in form of post test results as acceptable by the certifying authority of program under study, i.e. University proving thereby the objectives set for the research are met.

2) **eLearning:**

The method of presentment of learning resources and enabling opportunities for learning, wherein

- Learning resources are in form of
 - content created by domain experts,
 - content co-created by students through peer interactions and under the guidance of mentors during reflections,
 - content compiled in form of real life work situations from work labs, that is made available to the students of program under study using electronic media and through eLearning frameworks

and

- Learning opportunities are in form of synchronous and asynchronous interaction with mentors, peers, seniors using electronic media and through eLearning frameworks with a record

- **Research Design:**

Detailed research methodology is explained in Chapter 3.

Present research is an experimentation of implementing RoWPeC model of education for degree program under study and it aims to discover, interpret facts in terms of knowledge gain and skills attainment.

Objectives of the research are set for validating the facts against the acceptable standards of the university education system and the industry norms.

Research design, therefore, is as follows:

- Experimental Research – single group – post-test only

(Research Manual for Social Sciences, Research Design – Part II)

Variables:

Independent variable: Learning methodology (comprising of a real workplace, eLearning and mentoring as per RoWPeC model under study)

Dependent variable:

- Skill attainment – Work Ratings
- Knowledge gain –Assignment and Term End Exam scores for selected courses

Sample:

Students of program under study

- Pursuing First Year (FY)
- Pursuing Second Year (SY)
- Pursuing Third Year (TY)

- **Findings and interpretations**

Chapter 5 presents detailed data analysis, findings and interpretation.

Key findings of the research are as follows:

Skill attainment and Knowledge gain – mastery level 60%	Average Percentage of Students scoring more than 60%
	67%

- **Hypothesis testing and inference**

Null hypothesis is rejected.

Hence hypothesis for the current study is accepted.

i.e. eLearning is effective for learning in Work Lab as per Role based and Performance Centric model for educational program, in terms of skill attainment and theoretical knowledge gain with 60 percent mastery by 60 percent students.

- **Conclusions, recommendations and further scope**

Chapter 6 presents conclusions, recommendations and further scope in detail.

Key conclusions stated in brief:

1. Implementation of the model and partnerships
 - The model can be successfully implemented for service sector.
 - Industry – academia linkages could be established for implementing relevant degree programs leading to skill development and benefitting students thereby.
2. Work based learning
 - Work based learning; in an eLearning supported environment enables students to be confident performers at the real workplace with demonstrable and verifiable skill attainment as well as theoretical knowledge gain.
3. eLearning content
 - While the students are working in one domain and have one local context, scenario based eLearning content is helpful to present the global context and theoretical base in terms of conceptual clarity.
4. eLearning framework
 - Frequent and easy access to eLearning framework is essential with multiple deployment modes such as: Workstations/PC/Tablet. It creates a learning environment enabling students to learn individually and in collaboration.
5. Assessment methodology
 - Performance by means of demonstration of skill attainment is in the acceptable range by the work lab. Term End Exam results prove that the theoretical knowledge gain is as per acceptable criteria by University. This leads to conclude that assessment methodology comprising of Work Ratings, Knowledge Ratings is effective.
6. Reflections
 - Students learn to reflect around their actions at workplace and can derive theory out of practice. It is evident from the fact that the discussions during reflection sessions get mapped to the theoretical courses in curriculum.

7. Technology

- Seamless technology for integrating work experiences and eLearning experiences is needed

8. Innovations and impact

- In view of the findings and observations it could be concluded that the model is a multifold innovation in Education, Business, Technology and Social, with a potential of great impact.

Key recommendations stated in brief:

- a. Skill mapping: Performance monitoring criteria used for work ratings could be mapped to skills leading to a sector wise skill matrix
- b. Preparatory programs and diagnostic tests could be designed
- c. Mentoring: Remote mentoring technology could be devised
- d. Technology, eLearning Content: Seamless technology with mobile learning objects and integrated work environments could be designed
- e. Peer assessments could be used more effectively
- f. Partnerships leading to more opportunities at local level are desirable
- g. Advanced learning programs are needed
- h. Special HR policies for implementation of the model on a large scale could be formulated

Contributions to the field of Education

This research has substantial contributions to the field of education.

1. It is a new model of education that offers a new shape and meaning to Open and Distance Learning.
2. It's a new approach for 'earn and learn' paradigm.
3. Nai Talim scheme proposed by Mahatma Gandhi has been reinterpreted by making it applicable to tools of 21st century.
4. A comprehensive way to establish industry-academia linkages at teaching-learning-assessment processes is highlighted.
5. A comprehensive meaning for eLearning, overcoming limitations of conventional use of the terminology is presented.

6. eLearning content with situated learning approach may set a different direction for rapid eContent development by domain experts.
7. Inclusive curriculum designing strategy is presented, ensuring framing of learning objectives for skills, knowledge and attitude.
8. It presents new methods for comprehensive assessment.

Scope for further research

This research opens up new avenues for further research in following areas:

1. Technology research for integrative eLearning technologies
2. Process of reflection in 'learning through working'
3. Assessment methods for 'learning through working'
4. Culture credits- mechanism to capture attitudinal development and ethical behaviour
5. Social impact of Role based and Work and Performance Centric model of education
6. Management research in Innovations in HR policies
7. Applicability of Role based and Work and Performance Centric model of education to other sectors

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Chapter 1: Introduction

1 Chapter 1: Introduction

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1.1 Background

Today, we are on the cusp of a new era. Technology can change the world and empower people and organizations to do amazing things. The next decade will witness an increasingly software powered world, with technology becoming even more cognizant, sentient and ubiquitous – an inextricable part of not only our environment, but ourselves. The changing world brings about changes in the aspirations of individuals in terms of careers, jobs and skills as well.

According to the 2007-08 Economic Survey 64.8% of India's population would be in the working age of 15-64 years in 2026. That means this latent talent pool of young population shall necessarily desire and demand skills relevant to work place.

India has a target of creating 500 million skilled workers by 2022. (National Skill Development Policy Mar 09, Govt of India) At present the capacity of skill development in India is around 3.1 million persons per year. The 11th Five Year Plan envisions an increase in that capacity to 15 million annually.

Large scale designing and implementation of skill development programs is, therefore, an imminent imperative. Various schemes initiated by Ministry of Labor, Ministry of Human Resource Development, Ministry of Skill Development and Entrepreneurship, Government of India, such as National Skill Development Initiative - Skill Development Initiative Scheme (SDIS), Apprenticeship Training Scheme (ATS) etc. clearly indicate the need and significance of skill development programs. (GOI, Ministry of Labour, Government of India), (GOI, Apprenticeship Act), (GOI, Ministry of Human Resource Development, Government of India)

This research closely inspects an educational model devised and implemented by Maharashtra Knowledge Corporation Limited (MKCL) with a potential to transform education in India and can be trend setting for skill development.

It is *Role Based and Work & Performance Centric* model of education being implemented by MKCL in form of a degree program for Service Sector Industry in collaboration with Yashwantrao Chavan Maharashtra Open University and Industry partner companies.

1.2 Challenges

As per National Skill Development Policy (Government of India, Mar 2009), some of the major challenges for skill development on a mass scale are:

- Large population with various diversities to be addressed
- High quality of relevance and applicability in life and work
- Low cost

In view of key stake holders of higher education, i.e. Students, Industry, University and Government as well as Society, there are certain key challenges that need to be addressed.

The concerns or challenges of each of key stake holders has a direct impact in designing of skill development programs, as they are interdependent.

For students the challenges are:

- How to acquire relevant skills, knowledge and attitude for workplace?
- How to build a career that would lead to self-growth and happiness through socially useful learning?

For industry, the challenges are:

- How to reduce attrition rate?
- How to develop workforce by continuous training and re-training?

For University, the challenge is:

- How to design and implement degree programs to match industry requirements?

For Government and Society, the challenge is:

- How to reduce youth unemployment?

In order to address these challenges simultaneously a platform for strong industry- academia linkages is required.

Traditional methods for organizing may not be helpful to achieve this crucial task of addressing these challenges.

1.3 Skill Development through apprenticeships

There have been successful models of Apprenticeships and Traineeships implemented for years' world wide – especially in European countries like Germany.

In India as well, through Industrial Training Institutes - ITI s , apprenticeship models have been implemented, which are governed by Apprenticeship Act. (GOI, Apprenticeship Act). Through these channels, students are being developed for skills related to different trades catering to manufacturing industry such as: welding, electric fittings, plumbing etc.

During first fifteen years of 21st century, however, new sectors have emerged that includes primarily the Service Sector, because of the mega trend of automation.

1.4 Service Industry: Business Process Management Sector

The Strategic Review 2014 document published by National Association of Software and Services Companies (NASSCOM) for the IT – BPM Sector (Business Process Management Sector) in India, states some interesting facts regarding IT-BPM sector.

The last few years have been a challenging period for the technology and services industry. A period of rapid change, technology and business disruptions have created a whirl of uncertainty. Socio economic, business and technology megatrends are disrupting existing opportunities, at the same time creating new ones.

In financial year 2014, the Indian IT-BPM industry is estimated to account for revenues of USD 118 billion, cementing its leadership position in the global sourcing arena, and highlighting its increasing importance in the domestic market. With a large, multicultural and highly aspirational workforce of over 3.1 million employees, the industry today is the largest private sector employer in India.

Domestic IT-BPM services revenue is expected to grow at 9 to 12 per cent in financial year 2015.

As rightly mentioned by R Chandrashekar, President, NASSCOM, germination of new service offerings, shift from a globalized to glocalised delivery model, existence and acceptance of a

differentiated pricing regime, focus on talent quality over quantity, and transformational outsourcing (value, technology, innovation and cost) will drive client spending.

A clear but complex transformative agenda for stake holders is set when the current scenario is connected to future projections.

1.5 Transformative agenda

The traditional teaching – learning methods being followed by ITIs and private vocational institutions to deliver vocational education and training have few limitations. The current process comprise of classroom sessions, print material for reference, hands-on-sessions in the lab followed by apprenticeship or industrial training whichever is applicable depending upon the type of vocation etc.

The limitations to this traditional teaching-learning method are in the form of consistency of quality of teaching across different institutions at different places, availability of world class infrastructure, scope for activities and interactivities, opportunities for attainment of skill by exploration and experimentation, feedbacks, assessments as a learning experience, capacity building for skill upgradation, constraints of local conditions and context, etc.

Appropriate and innovative use of Information Technology can overcome these limitations.

Further, limitations for large scale implementation of skill development programs are in the form of weak or no tie ups between college and industry for internship or apprenticeship opportunities for students, relevant and context specific projects and passive community participation.

Building strong public-private-community partnerships using collaboration platforms can overcome these limitations.

A new model of education that would harness industry – academia linkages is, therefore, needed.

Transformative agenda for industries and students is as follows:

- Industries/enterprises and service sector organizations
- To become Educational Environments by offering internship opportunities to students
- To perform a developmental role

- Students
- To get actual work experience and mentoring
- To contribute to the development of socially useful and productive outputs

It is in this context, current research study has been undertaken wherein an innovative Role Based and Work & Performance Centric model of Education is being implemented by MKCL in form of Work based degree programs in collaboration with industry and University.

1.6 About MKCL and its Role Based and Work & Performance Centric Model

Maharashtra Knowledge Corporation Ltd – MKCL, is a public limited company promoted by the Government of Maharashtra, India for propagation of the new education paradigm based on universalization and integration of Information Technology in Education. A Mass IT Literacy Movement has been successfully propagated by MKCL in the State of Maharashtra by making more than 9 million learners (especially students) IT literate in a self-sustainable manner in a span of about 12 years by creating a self-replicable model based on public-private-community-partnership (PPCP) with the involvement of the Government of Maharashtra, almost all Universities in the State, large number of educational institutions and thousands of small and medium IT enterprises and entrepreneurs.

MKCL aims to develop a high quality skilled manpower in niche areas/sectors through diversified degree and post-graduate degree programs to meet the requirements of the industries in various sectors and to instill self-employment skills in people and make them employable through a large number of role based and work and performance centric courses.

MKCL, therefore, under its program, **MKCL Finishing Schools (MFS)** is now imparting series of ***Role Based and Work and Performance Centric*** distance education degree and post-graduate degree programs to address the manpower demands of the industry not just at the differential skill-based entry level but at an integral role-based and directly deployable levels, by forging partnerships with various organizations having domain expertise and who can offer real workplaces as a Work Lab for the learners to gain and practice practical skills required at the workplace.

MKCL has designed the programs under MKCL Finishing Schools (MFS) so as to give an intensive exposure, expertise and experience in an eLearning supported Work Lab in form of real-life work environments of the industries and set up an innovative learning through working paradigm and thereby attempt to seek a blend of the work environment and learning environment, as a result of which there is a proper match between the skilled manpower required and skilled manpower available. MKCL is implementing courses under MFS by forging partnerships with the Industry Partner / Work Lab Partner (IP/WP) having Work Lab opportunities for learners at real life workplace.

The researcher has been working with MKCL for more than 13 years and has been involved in designing, devising and setting up various eLearning frameworks, educational offerings. In view of the strong potential impact – in terms of education as well as society at large, it is felt essential to study in detail the effectiveness of the unique and innovative Role based and Performance Centric (RoWPeC) Model of education being implemented by MKCL.

Hence the current research has been undertaken wherein the role of the researcher is to implement the aforesaid model of education as an experiment by designing and development processes and tools - academic as well as research tools, required to conduct the same.

1.7 Research Topic

Analytical study of effectiveness of eLearning in Role based and Work & Performance Centric model for educational program implemented by MKCL

1.8 Educational model and program under study

As stated earlier, the RoWPeC model is designed so as to give an intensive exposure, expertise and experience in an eLearning supported Work Lab in form of real-life work environments of the industries and set up an innovative learning through working paradigm and thereby attempt to seek a blend of the work environment and learning environment, as a result of which there is a proper match between the skilled manpower required and skilled manpower available. MKCL is implementing courses under MFS by forging partnerships with the Industry Partner / Work Lab Partner (IP/WP) having Work Lab opportunities for learners at real life workplace.

Courses, and therefore the partnerships, are for different sectors that demand continuous man power and are facing a challenge of attrition. Sectors such as: service sector i.e. Business Process

Management (BPM) industry, Hardware and Networking sector, IT sector, Creative digital arts, livelihoods and sustainable development sector etc., are being addressed and different programs are being designed.

The current research is for the program implemented under RoWPeC viz: B.A. in Services Administration for service sector.

The Role based and Work & Performance Centric model is elaborated in *Chapter 4: Educational Model and Program under study*. The sub chapters cover different aspects of this unique model. They are: Learning Environment (i.e. eLearning), Mentoring, Evaluation and Technology.

1.9 Significance of the research

This research closely inspects an educational model with a potential to transform education in India and can be trend setting. The model under study has a multi-dimensional span of innovation.

It is an Educational Innovation, as it offers an innovative ‘Learning through working environment.’ It presents an upward spiral of work – knowledge – more profound work. It integrates all stakeholders involved in higher education – industry, university, and student.

It is a Business Innovation, as it addresses key concerns of industries - attrition and to have trained and committed manpower, by ensuring uninterrupted educational association. It encourages partnerships on the basis of strengths, wherein Industry has the competitive factor where the performance matters and Education brings in ‘purpose to perform’.

It is a Technology Innovation, as it requires complex state-of-the-art technology environments catering to the needs of monitoring learning performances in a personalized manner with huge learner analytics, cloud computing.

Moreover, it is a Social Innovation, as it empowers youth at large leading them to identify their strengths and be on their own. It is also a social responsibility for industry.

Findings, conclusions and recommendations emerged through this research, therefore, may have strong impact on

- 1) Policies related to strategies of design, development, implementation of higher education programs for skill development

- 2) Transforming and humanizing industry environment (specially service sector industry environment involved in the program under study)
- 3) Technology development in terms of its wider accessibility and reach
- 4) Policies related to empowerment of youth and social responsibility of industries.

It is in this context of potential transformation in different aspects of education and its impact on various sections of society, this research has a strong significance.

Further, as envisioned by MKCL and stated earlier, the model shall be implemented for different sectors such as Hardware and Networking, IT, Creative Digital Arts, Livelihoods and sustainable development etc.

It is, therefore extremely important to ascertain its effectiveness in terms of skill attainment and knowledge gain, at the early stage of its implementation.

Hence, for very first program being implemented under RoWPeC model by MKCL, the research has been undertaken.

1.10 Research objectives

1.10.1 General objective

The educational model under study is unique and innovative. It is therefore required to first finalize and set general objectives that encompass overall probable impact of the research and then fine tune and convert general objectives into specific ones.

General objective of the research is

1. To assess if ‘Learning through Working’ is evident through implementation of Role based and Work & Performance centric model of education
2. To analyze the Role based and Work & Performance centric model of education in terms of its effectiveness for skill attainment by considering different aspects such as: pedagogy based on working through learning paradigm, eLearning component, mentor’s role, relevance of such methodology to address industry issues on one hand and employability issues on the other.

3. To identify areas of improvement and recommend suggestions for effectiveness in terms of eLearning component – instructional designing and learning experience designing, mentor mediation.

1.10.2 Specific Objectives

In line with the general objectives stated above, from the focus of education, specific objectives are framed.

Specific objectives of the research are to analyze critically various processes involved in the Role based and work centric education model.

These are as follows:

1. To analyze effectiveness of eLearning Content (eContent)
2. To study effectiveness of technology (eLearning framework)
3. To study effectiveness of assessment methodology in terms of skill attainment and theoretical knowledge
4. To analyze and assess importance of mentor's role in the learning process

1.11 Hypothesis

MKCL conducts Role Based career oriented diploma programs in collaboration with Yashwantrao Chavan Maharashtra Open University through eLearning. The results of these role based diploma programs are considered as a base for setting research objectives and formulation of hypothesis for current research. Out of randomly selected 1000 students who have passed in final exam for role based diploma programs, it has been observed that more than 60% students have scored more than 60% marks. This forms the basis for forming hypothesis for current research as follows.

H₁:

eLearning is effective for learning in Work Lab as per Role based and Performance Centric model for educational program, in terms of skill attainment and theoretical knowledge gain with 60 percent mastery by 60 percent students.

Null hypothesis: H₀:

eLearning is not effective for learning in Work Lab as per Role based and Performance Centric model for educational program, in terms of skill attainment and theoretical knowledge gain with 60 percent mastery by 60 percent students.

1.12 Assumptions

- Assumptions are in terms of availability of learning environment for implementing Role Based and Work & Performance Centric Model.
1. Students of the program under study get a Work Lab and exposure to real life work situations every day
 2. Students of the program under study get an access to eLearning through eLearning framework
 3. Students of the program under study are associated with mentor and get an opportunity to reflect on their actions at the Work Lab
- Assumptions are also in terms of availability of mechanism ensuring outcome of hypothesis, i.e. skill attainment and theoretical knowledge gain
4. Industry partner company providing Work Lab has a performance appraisal system monitoring performance of the student associated with them

5. University, as an academic authority has stipulated curriculum, conducts interim assignments and term end examination for assessing theoretical knowledge gain and has a passing criteria set

1.13 Scope and delimitation

- This research includes students of work based degree program for service sector implemented by MKCL in collaboration with Yashwantrao Chavan Maharashtra Open University and industry partner companies, viz: B.A. in Services Administration
- The research is delimited to Students of First Year (FY) and Second Year (SY) of the program under study

This innovative program has been launched by MKCL in Academic Year 2013-14. i.e. the first batch of the program under study has begun in Year 2013-14. Hence the students of first batch have passed first and second year for which the University records are available. Students enrolled for batch 2 have passed their first year for which University records are available. Third year of students of batch 1 is ongoing and hence only partial records can be available.

Hence the research is delimited to Students of FY and SY. This has enabled researcher to consider 4 exam events for analysis which is found to be sufficient for testing hypothesis and interpretations for future.

Moreover continuous observations and close interactions with students as well as industry partners have proved to be crucial to arrive at conclusions.

- Out of the entire curriculum prescribed by the University for FY and SY of the program under study, selected courses are considered for testing hypothesis.

Justification for this delimitation is based on two aspects. First is the general objective and second is the assumption stated earlier. The general objective for the current program under study is to assess if 'Learning through Working' is evident through implementation of Role based and Work & Performance centric model of education. This clearly states a pre-

requisite of having a Work Environment available and then the effectiveness of eLearning is to be assessed.

Further, as per hypothesis, eLearning effectiveness is to be assessed in terms of skill attainment and knowledge gain with specific mastery level.

In view of all the above aspects, it is found essential to identify and ensure mapping of work lab domains and courses of curriculum in order to sharpen the scope of the research and to test hypothesis appropriately.

Therefore, it is found appropriate to test hypothesis only for those courses from the curriculum for which the work environment has been made available to the students so that the skill attainment and theoretical knowledge gain can be assessed with specific mastery level.

For example, performance of student can be assessed in ‘Back Office Management’ course in terms of knowledge gain if and only if s/he has got an exposure to Back Office processes at the Work Lab.

On the contrary, performance of the student may not be assessed in a fair manner in ‘Business Communication’ in English, if s/he is not at all required to do business communication in English at the Work Lab.

Detailed mapping of curricular courses and work lab domains is explained in the ***Chapter 4: Educational Model and Program under study*** – Section: Structure of the program under study

This selection of courses is based on following criteria:

- Such courses where the course objectives are related to skill attainment or theoretical knowledge gain **and**
- Such courses for which the exposure to functional skills / domain area is available in real life work place related to respective skill attainment or theoretical knowledge gain.

1.14 Limitations

1. No. of formal instances available for analysis for validating set objectives:

Implementation time of the program and the educational model under study is driven by the University. i.e. the frequency of occurrence of assessment event is limited.

This has limited the current study to analyze limited number of term end exam events required to validate one of the research objectives. Four exam events have been analyzed.

2. Explicit assessment and record of attitudinal transformation beyond professional life

This study does not explicitly reflect on the attitudinal aspect of students' learning through this model. It does implicitly touch upon the change in terms of behavior at Work Lab, with an assumption that it is an integral part of the performance appraisal system of industry partner companies; however, behavioral change/ transformation in personal and social life of the student are not captured explicitly.

3. Natural personalized record of derivation of theory from practice

The ability of group of students to derive theory and knowledge from the practice at work place can be witnessed to some extent through eLearning environment; however individual's capability is not captured in personalized manner at all probable instances naturally.

1.15 Operational definitions

1) Effectiveness:

- Evidence in form of post test results as acceptable by the certifying authority of program under study – University proving thereby the objectives set for the research are met.

2) eLearning: eLearning is operationally defined herewith as:

The method of presentment of learning resources and enabling opportunities for learning, wherein

- Learning resources are in form of
 - content created by domain experts,

- content co-created by students through peer interactions and under the guidance of mentors during reflections,
- content compiled in form of real life work situations from work labs, that is made available to the students of program under study using electronic media and through eLearning frameworks

and

- Learning opportunities are in form of synchronous and asynchronous interaction with mentors, peers, seniors using electronic media and through eLearning frameworks with a record

3) Role based and Work & Performance Centric (RoWPeC) model:

- Role Based and Work & Performance Centric Model, is a model of education implemented by Maharashtra Knowledge Corporation Ltd (MKCL), a public limited company established for transformation of education.

4) MKCL and MFS:

- MKCL Finishing Schools is a program of Maharashtra Knowledge Corporation Limited, offering series of role based and work & performance centric degree programs for various sectors such as Service Sector i.e. BPM – Business Process Management sector, Hardware & Networking i.e. Computer System Administration Sector etc.

5) Educational Program (educational program under study):

- Role Based and Work & Performance Centric Degree Program for service sector i.e. Business Process Management industry viz: B.A. in Services Administration implemented by MKCL in collaboration with Yashwantrao Chavan Maharashtra Open University (YCMOU) and industry partner companies through RoWPeC model.

6) Work Lab:

- It is a necessary aspect of RoWPeC in form of real life workplace being provided by the industry partner company to the students of the program under study.

- It is a place where students are exposed to real life work situations, have to work in capacity of some role and perform as per the norms set by the Work Lab provider company.
- It is a place where students' performance of practical implementation of skills is assessed by appraisers as per the norms set by the Work Lab provider company.

7) **Skills:**

- Demonstrable and verifiable capabilities of an individual required by the industry partner company,(i.e. service sector company associated with MKCL offering Work Lab to the students) using which the individual student can face real life work situations in a specific role

8) **Skill attainment:**

- Demonstrable and verifiable evidence of students' performance at Work Lab i.e. of facing real life work situation in a specific role

9) **Theoretical knowledge:**

- Concepts as prescribed in the curriculum stipulated by the University to be understood by the students of program under study that may be required for performing better practical at Work Lab

10) **eLearning framework:**

- eLearning frameworks designed and developed by MKCL which are deployed for the students of program under study for eLearning. The framework is MKCL's SuperCampus suite comprising of MKCL's ERA (eLearning Revolution for All) with Learning Content Management System, Online Evaluation System, Assignment Management System, Work Forum, Work Update, Situation repository

11) **Mentor:**

- A mentor who is a service industry professional conducting reflection sessions for the students of program under study

12) Reflections:

- Process of expression of individuals under the observation of professional senior around actions performed at the work lab that comprises of opinions, views, significance and non-significance of actions, consequences etc. with an objective of improvement in action

1.16 Chapters

Further chapters of this thesis and their details are as follows:

Chapter 2. Review of related literature

This chapter explains in detail extensive review of literature covering different aspects as follows: Work based learning, Nai Talim, Role based learning, Curriculum, Situated learning, Scaffolding, Constructivism, Mentoring, Evaluation, Technology in Education, Policy, Apprenticeship, and Education.

These aspects have direct as well as indirect impact on different factors of educational model under study.

Chapter 3. Research methodology

This chapter explains the Research Methodology adopted for conducting the current research. It includes

- 3.1 Basis of Research Design
- 3.2 Research Design: Experimental Method
- 3.3 Sample
- 3.4 Variables
- 3.5 Tools used for the study

Chapter 4. Program under study: Role Based and Work & Performance Centric Model of Education by MKCL (RoWPeC)

This chapter is crucial and of utmost importance as it presents entire program under study. The model under study devised and being implemented by MKCL is first presented as stipulated by MKCL, in the first section of the chapter.

Later sections discuss in detail the analysis of different factors of the unique and innovative model from educational perspective, by applying different theories of education – teaching, learning and assessment, in order to validate specific objectives set for the current study.

The sections, i.e. sub chapters are as follows:

Sub Chapter: 4.1: Educational Model at a glance

This chapter presents the model under study. It covers the key challenges addressed, objectives, mechanism, partnerships, academic approach including learning and assessment methodology, structure of the program under study. The analysis of this model is elaborated in later chapters.

Sub Chapter: 4.2: Environment for Learning through Working

The model under study offers a unique environment for Learning through Working. It has different components active in this environment. i.e. eLearning environment comprising of different eLearning frameworks, Work based learning environment in form of real life work place provided in form of Work Lab by industry partner companies. This sub chapter discusses in detail various educational theories applicable to the model under study.

The eLearning content development is also crucial and situated learning theories are discussed and validated in detail for the model under study.

Sub Chapter: 4.3: Mentoring through reflections

‘Reflections sessions’ is one of the key elements of model under study. Hence theories of scaffolding, reflecting practices are discussed and validated for the model under study in this sub chapter.

Sub Chapter: 4.4: Evaluation Methodology

Evaluation methodology has been stipulated by University for the program under study. This methodology involves participation of industry partners for assessing skill attainment as well as University for assessing knowledge gain through online examination conducted by University.

Applications of Blooms taxonomy, performance monitoring criteria at industry workplace are discussed in the sub chapter of Evaluation Methodology.

Sub Chapter: 4.5: Technology Framework

Specific objectives of current research are directly linked to Technology Frameworks being used for conduct of program under study. Hence, this sub chapter presents details of various technology frameworks used for the conduct of program under study. These technology frameworks are designed, developed and deployed by MKCL. Key features along with screen snapshots are presented in this sub chapter.

Chapter 5. Data analysis and interpretations

The chapter, as the title suggests, presents data analysis, findings and interpretations. Graphical analysis is presented along with in detail descriptive interpretations leading to conclusions and recommendations.

Chapter 6. Conclusions, Recommendations and Contribution to the field of education

The last chapter of the thesis presents conclusions from the research and offers recommendations to the model under study. This chapter also elaborates further scope for research. Moreover, it focuses on contribution of this research to the field of education. Deep involvement of the researcher in the program and model implementation itself has got reflected in documentation of multifold conclusions through continuous observations, personalized interactions with the students supported by strong and evident data analysis.

Last section of the thesis includes the following:

- Bibliography
- List of Tables
- List of Figures
- List of Images
- List of Appendices
- Appendices:

Appendices include:

1. Questionnaire: eLearning content and framework
2. Post Test: Performance Monitoring System: Work Ratings
3. Student Daily Worksheet
4. Post Test: TEE
5. Post Test: Assignments
6. Curriculum Details: Courses – Units
7. Prospectus of B.A. in Services Administration published on YCMOU Website
8. No objection certificate for conducting research

Chapter 2: Review of Literature

2 Chapter 2: Literature review

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2.10 Technology in Education.....	
2.11 Policy.....	
2.12 Apprenticeship.....	
2.13 Education.....	
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Background

The educational model under study is unique and innovative. It was therefore quite important to study if similar such models have earlier been implemented nationwide or worldwide. Further, this model touches different aspects of education and is not restricted to only teaching or learning or assessment per say. As a result, it is felt extremely needed that theories related to all aspects of education that are probably applicable to model and program under study are to be digested, analyzed and discussed.

Key aspect of the model under study is: Work Based Learning. There has been a wide range of experiments done at international level regarding Work Based Learning practices. Hence, a review of research papers presenting the findings, conclusions and scope for improvement have found to be crucial for undertaking current research.

Further, as stated earlier in the chapter – introduction, in section – significance of the research, the current research may have a strong impact on strategies, implementation policies as well as design and development of higher education programs. It is in this context, review of literature related to curriculum design and development as well as policy documentation is found necessary.

Moreover, the specific objectives set for the research are related to eLearning content, assessments, eLearning framework (i.e. technology aspect), reflection practices. Hence research papers, articles published in journals on eLearning practices for content development, instructional designing, technology mediation, mentoring are evaluated.

Thus, related literature has been reviewed for different areas associated with education. Area wise review of books, reports, articles is presented in this chapter.

The subjects are as follows:

- 2.1 Work based learning
- 2.2 Nai Talim
- 2.3 Role based learning

- 2.4 Curriculum
- 2.5 Situated learning
- 2.6 Scaffolding
- 2.7 Constructivism
- 2.8 Mentoring
- 2.9 Evaluation
- 2.10 Technology in Education
- 2.11 Policy
- 2.12 Apprenticeship
- 2.13 Education

Literature review at a glance

For above mentioned areas of study / aspects of study following is at a glance picture of review of literature:

Table 1: Literature review at a glance

Aspect (Level)	Review of Literature											Grand Total	
	Research Paper		Concept Paper		Article		Journal		Report/ Document		Book		
	<i>Int</i>	<i>Nat</i>	<i>Int</i>	<i>Nat</i>	<i>Int</i>	<i>Nat</i>	<i>Int</i>	<i>Nat</i>	<i>Int</i>	<i>Nat</i>			
Apprenticeship	2									1	1		4
Assessment	3	1											4
Constructivism	1				2								3
Curriculum												2	2
Education			1	1								4	6
Education, Nai Talim												1	1
Mentoring	3									1		1	5
Nai Talim						3		1				3	7
Policy and reforms											3	1	4
Role based learning	1	1											2
Scaffolding	1											2	3
Situated Learning		1					2					2	5
Technology in Education	3				1					1	1		6
Technology, Nai Talim	1												1
Work based Learning	2				2		3					2	9
Grand Total	17	3	1	1	5	3	5	1	3	5	18	62	

*International – Int, National – Nat

Type wise review at a glance:

Table 2: Type wise: Review of literature Summary

Type	Total
Research Paper	20
Concept Paper	2
Article	8
Journal	6
Report/ Document	8
Book	18
Grand Total	62

Level wise review at a glance:

Table 3: Level wise: Review of literature Summary

Level	Type	Count
International	Research Paper	17
	Concept Paper	1
	Article	5
	Journal	5
	Report/ Document	3
International Total		31
National	Research Paper	3
	Concept Paper	1
	Article	3
	Journal	1
	Report/ Document	5
National Total		13

Type wise and Area of study wise review at a glance:

Table 4: Type wise and Area of study wise: Review of literature Summary

Type	Area/ Aspect of study:	Total
Research Paper	Apprenticeship	2
	Assessment	4
	Constructivism	1
	Mentoring	3
	Role based learning	2
	Scaffolding	1
	Situated Learning	1
	Technology in Education	3
	Technology, Nai Talim	1
	Work based Learning	2
Research Paper Total		20
Concept Paper	Education	2
	Concept Paper Total	
Article	Constructivism	2
	Nai Talim	3
	Technology in Education	1

	Work based Learning	2
Article Total		8
Journal	Nai Talim	1
	Situated Learning	2
	Work based Learning	3
Journal Total		6
Report/ Document	Apprenticeship	2
	Mentoring	1
	Policy and reforms	3
	Technology in Education	2
Report/ Document Total		8
Book	Curriculum	2
	Education	4
	Education, Nai Talim	1
	Mentoring	1
	Nai Talim	3
	Policy and reforms	1
	Scaffolding	2
	Situated Learning	2
	Work based Learning	2
Book Total		18
Grand Total		62

2.1 Work based learning

Table 5: Literature review: Work based learning

Sr. No	Area of study:	Title	Author	Type
1.	Work based Learning	Work - Based Learning	Joseph Raeline	Book
2.	Work based Learning	Workplace pedagogic practices: Participation and learning	Stephen Billet	Research Paper
3.	Work based Learning	Guided learning at work	Stephen Billet	Journal
4.	Work based Learning	Learning in the Workplace	Stephen Billet	
5.	Work based Learning	Learning through work: Workplace affordances and individual engagement	Stephen Billet	Journal
6.	Work based Learning	Workplace learning: its potential and limitations	Stephen Billet	Research Paper
7.	Work based Learning	Assessment Of Learning In The Workplace	Karen Vaughan And Marie Cameron	Article
8.	Work based Learning	New Media and New Literacies: Reconstructing Education for the New Millennium	Douglas Kellner	Article
9.	Work based Learning	Work - Based Learning: Graduating Through The Workplace	Dr. Margaret Linehan	Book

1) Work-based Learning: Bridging Knowledge and Action in the Workplace by Joseph A. Raelin

This book presents a wide spectrum of Work Based learning practices, methods and models. It presents a comprehensive framework to help people learn collectively at workplace through number of unique strategies of action learning, action science and communities of practice. The book not only presents dimensions and theory, it further illustrates different types of work based learning. Key aspects such as role of facilitator, reflections, evaluation of learning are explained in great details with examples.

Relevance to current study:

Current study is for Work Based degree program, and hence the work based learning theories are at its core. The performance centric work environment, exposure to real life work situations, the reflections around actions and reactions at the competitive work environment get directly linked to practices narrated by Prof. Raelin in this book. For example: Facilitation in the Work-based Learning explains utmost need of Facilitator's training as it should not be in form of a lecture but to enable students to reflect freely and derive theory out of practice.

Issues mentioned by Prof. Raelin in this regard are found to be book pictures such as:

- Fallout expected from facilitators in transforming learning from a planned approach, typical in conventional training, to the emergent or reflective basis characterizing work-based learning.
- Facilitators may find it threatening to hand over the responsibility for learning to the learners. For example: without sufficient practice in inquiry processes, some facilitators might use probing to get participants to arrive at pre-planned responses and solutions
- Generally facilitators attend training programs to get answers, not to create questions.
- Facilitators need to be sure that they will have sufficient time to create a team climate for self-examination and self-development.
- Relinquishing control too quickly might expose group members to unproductive anxiety.

Role of Facilitator therefore, has to be as that of a mirror, Need patience in order to permit member skills in insight and inquiry.

Work based learning program applications in the book specifically outlay different models and patterns of implementing the strategies.

2) Workplace pedagogic practices: Participation and learning by Stephen Billet

In the abstract of this extremely important research presentation, Prof. Billet mentions that: the paper offers conceptual base for understanding workplace pedagogic practices, and it does. It proposes that whether arising through everyday work activities or guided learning in workplaces, learning is shaped by workplace participatory practices. This learning is held to be co-participative: the reciprocal process of how the workplace affords participation and therefore learning, and how individuals elect to engage with the work practice. In order to make a space to understand workplaces as learning environments, it is necessary for them to be discussed and conceptualized on their own terms.

Prof. Billet, explains here the concept of ‘Learning through Work’.

Workplace experiences (activities and interactions) are, therefore, not ‘ad hoc’ or ‘informal’, they are a product of the historical, cultural and situational factors that constitute the work practices and its enactment, and individuals’ engagement in those practices, he mentions. These factors shape the activities, goals and interactions afforded by the work practice and how individuals construe and learn through them.

Relating it to current study, the model of education being implemented, accepts work environments as they are, in a factual manner and on their own terms, to the extent to which the evaluation of students exposed to real life work experiences at the work places is accepted as per the set norms of the workplaces.

Further Prof. Billet mentions that:

Learning is not reserved exclusively for or peculiar to particular experiences. However, particular kinds of experiences (e.g. routine or non-routine activities) are likely to have particular kinds of learning consequences.

The appropriation of individuals’ knowledge through workplace practices needs to be seen in terms of its worth and adaptability, not just its salience at time and place of learning.

With this explanation, this paper discusses themes of participation; learning and the kinds of learning that arises from learning in the work place. This presents the development of workplace pedagogy. For example: engagement in routine work activities may reinforce and refine existing knowledge, whereas engaging in new tasks may develop new knowledge. Also, the access to guidance by more experienced co-workers is likely to be important for the development of understanding and procedures that would otherwise not easily learnt alone.

It gets directly mapped to the model under study.

The research paper highlights the engagement and contribution of the workplaces for ensuring learning through working. It also emphasizes key aspects of intersubjectivity, appropriation and extending knowledge at the workplace.

Insights on these aspects are critical for current study.

3) Guided learning at work by Stephen Billet

Prof. Stephen Billet has presented fundamental breakthrough concepts of Work Based learning in his writings. In his paper: Guided learning at work, he discusses the findings of an investigation that examined the efficacy of guided learning in the workplace.

Principles investigated include: (i) questioning dialogues; (ii) the use of diagrams and; (iii) analogies, within an approach to workplace learning emphasising (iv) modelling and (v) coaching.

It is mentioned by Prof. Billet that ‘Throughout the investigation, critical incident interviews were conducted to identify the contributions to learning that had occurred during these periods, including those provided by the guided learning. As anticipated, it was found that participation in everyday work activities (the learning curriculum) was most valued and reported as making the effective contributions to learning in the workplace. However, there was also correlation between the reports of the frequency of guided learning interactions and their efficacy in resolving novel workplace tasks, and therefore learning.’

Guided learning, as referred in the paper is to a more experienced co-worker (the mentor) using techniques and strategies to guide and monitor the development of the knowledge of those who

are less skillful (the mentees). This approach places the onus on the learner to engage in the thinking and acting required for rich learning. That is, the learners are encouraged and pressed into knowledge constructing and reinforcing activities by the more experienced coworker.

Program under study has ‘mentoring’ by more experienced co-worker, i.e. senior at the industry workplace helping the student reflect on actions for more profound practice at the workplace. The investigations presented by Prof. Billet, are therefore, set a direction for analyzing the model under study.

4) Learning in the Workplace: Stephen Billet

In his very important book, Prof. Billet presents a fundamentally new pedagogy of Work Based Learning with a strong theoretical basis.

A comprehensive book of more than 240 pages, is a master piece that touches almost every aspect of learning at workplace. Right from basic premise, the engagement, the comparison with traditional learning, understanding of workplaces as a learning environment including probable apprehensions to the implementation practices. In one of the major sections, the book explains the curriculum design including a model curriculum design approach.

It presents a learning pathway worksheet that can be filled up by the student and his/ her appraiser at the workplace. This not only creates evidence of learning, but also sets a target with a consensus with the appraiser for the student to achieve, in addition to the skill attainment.

Student workbook used in current model under study makes concordance with this and such formats.

5) Learning through work: Workplace affordances and individual engagement by Stephen Billet

6) Workplace learning: its potential and limitations by Stephen Billet -Research Paper

In series of research papers and milestone books regarding Workplace learning, Prof. Billet has published two important research papers that highlight 1) Individual engagement while learning at the workplace and 2) potential and limitations of workplace learning.

It is found that these two presentations are correlated in the sense that while the individual engagement is to required and is the aim of work based learning, it does have some limitations, which if not taken into account may lead to limited success in terms of learning.

Prof. Billet in the abstract of this paper mentions: ‘This paper identifies factors that shape how learning proceeds in workplaces. It focuses on the dual bases of how workplaces afford opportunities for learning and how individuals elect to engage in work activities and with the guidance provided by the workplace. The readiness of the workplace to afford opportunities for individuals to engage in work activities and access direct and indirect support is a key determinant of the quality of learning in workplaces. This readiness can promote individual’s engagement. However, this engagement remains dependent upon the degree by which individuals wish to engage purposefully in the workplace.’

Through the paper the participatory practices that could be followed for ensuring engagement are presented and concept of ‘degrees of relatedness’ is presented.

Relating it to program under study, it is found that full time-part time differences are not relevant; however, degrees of relatedness and how to extend these further are applicable.

Key component that has direct impact on the program under study is in terms of involvement and willingness of the workplaces to actively participate in the learning process. Alienation / less involvement may result into less engagement of the learning having negative impact on learning.

The paper on potentials and limitations presents case studies of three vocational studies implemented by work based learning models. It highlights different attributes of learning in terms of exposure to tasks, experts and instructions. In the later section, it clearly describes factors limiting the efficacy of workplace learning.

It is interesting to note that similar factors limiting the efficacy of work place learning in terms of learner’s satisfaction about his/her own learning are observed from the current study.

**7) Assessment of Learning In The Workplace, Karen Vaughan And Marie Cameron:
Article**

This is a report that has been prepared as part of the Industry Training Federation Research Network's ITO Workplace Assessment Structures project. The report presents overview of the approach of assessing performance of an individual at the workplace.

In case of current program under study, workplaces are not expected to change the way they assess performance of their employees – since it's a performance based degree program. Hence the ideas and pathways presented in this report and also similar reports on workplace assessment are not directly applicable. However, inputs are picked up from this paper for appraisers' orientation program, who actually award ratings to the students of program under study.

**8) New Media and New Literacies: Reconstructing Education for the New Millennium,
Douglas Kellner: Article**

This is a very interesting and fact stating article by Prof. Douglas Kellner, projecting the need of new media and new literacies necessary for 21st century. While it does not directly speak about work based learning as such, the new literacies and the genre of the technological reform we are living in are directly connected to understand the work place ethos.

**9) Work - Based Learning: Graduating Through The Workplace, Dr. Margaret Linehan:
Book**

This is a comprehensive book, found to be very much relevant for the program under study as it has in its title: graduating through the workplace.

This book is actually a report on an initiative 'education in employment' with a similar agenda set for program under study.

Learning strategies, assessment methods and importantly academic industry partnerships models are presented through this comprehensive report.

The model presented here, expects more flexible learning cum working environment for the student, that enables him/her to derive his/her own learning path matching the objectives of the partner institution. It happens to be the current project of the student. As per the need of the

project decided, instead of a fixed curriculum for all students, students can choose /opt for specific modular courses.

Use of web learning tools, ePortfolios are similar strategies suggested in the report, as being used by program under study.

2.2 Nai Talim

Table 6: Literature review: Nai Talim

Sr.No	Area of study	Title	Author	Type
10.	Nai Talim	THE STORY OF NAI TALIM	Marjorie Sykes	Book
11.	Nai Talim	Shikshanache Jadubhare Bet (Marathi)	Dr. Abhay Bang	Article
12.	Nai Talim	Basic Education	Mahatma Gandhi	Book
13.	Nai Talim	Educational Philosophy of Mahatma Gandhi with special reference to Basic education: An overview	Srikanta Nandi, Tanmoy Pandit, Dr. Pankaj Kumar Paul	Article
14.	Nai Talim	NAI TALIM SPECIAL	NCRI Newsletter	Journal
15.	Nai Talim	Rethinking Nai Talim	Sujit Sinha	Article

It is essential to review Nai Talim principles for critical analysis of current program under study. Crux of Nai Talim that forms the foundation for educational model and the program under study is the Socially useful and productive work – a vehicle for learning. Eminent writers have reflected on the Nai Talim scheme explained by Mahatma Gandhi which is a fundamental breakthrough in Education.

10) The Story of Nai Talim, Marjorie Sykes

Marjorie Sykes presets articulate expression about Nai Talim. In her wonderful ‘story book’ she gives us a panoramic review of Nai Talim, from the time when Mahatma Gandhi in South Africa began to think about education and to make efforts to give content and substance to his ideas. She discusses the many vicissitudes of the Na Talim idea in India, both during Gandhiji's life-time and after his death, concentrating mainly on the work done in Sevagram. Her own participation in the process has been close and intimate, in association with Gandhiji himself and with teams of devoted fellow teachers.

The story of nai talim sets the background in which the need for a different talim – new education was needed. It gives incidences of adaptations by Gandhiji in Tolstoy farm. He believes of having education with family (i.e. not away from family), education in mother tongue and through work by hand. These principles led to wholesome education of body, mind and soul, as explained by Gandhiji.

It is in this book we come across a sharp statement that sets the clear direction for understanding the base of basic education. As quoted by Sykes: “J.B. Kripalani was quick to point out, in reference to the second resolution, that the real "medium of instruction" in Basic Education is work, not language; the mother tongue is a medium of communication, not of instruction. It was recognized equally quickly, by those who drew up the detailed plans for the school programme, that there are rich resources for education not only in the "scientific" practice of a craft, but in the child's natural environment and in the social relationships of which he is a part.”

Sustainability, productivity and social relationships are well highlighted by Sykes, a teacher of Nai Talim at Sevagram School.

As a part of this review, it is important to mention very important remarks by Dr. Zakir Husen during a conference on basic education, narrated almost verbatim by Sykes. “Dr. Zakir Hussain's thoughtful address on the place of work in education. "Work has its own ideals," he said. "It is not an amusement or a sport, it is activity quickened by a purpose. There must be in it a desire to do full justice to that purpose, and therefore a willingness to submit to the natural discipline of materials, methods and tools. It demands self-criticism that is unsparring, but it holds out the promise of a joy that none other can excel. "To be educative for mind and body, work must be planned and the materials and tools prepared; it must be executed and evaluated. Skill will result, but personal skill is not the end. Even self-discipline may be selfish in intention. Work must serve values higher than mere personal ends, values which we acknowledge and respect.

"A work-school is a society working for a common end. In its cooperative pattern of labour the mistake of one may mar the work of the rest. The quick will not be able to leave the slow behind. It teaches its members how to cooperate in spite of their differences of ability and temperament, it teaches them to accept responsibility for their social duties. But the school, like the individual,

must work for something more than itself, or it will merely substitute corporate greed for individual greed. The small society of the school must serve the larger society around it."

11) Shikshanache Jadubhare Bet (Marathi), Dr. Abhay Bang

While Sykes presents an extensive picture of Nai Talim, with social context pre and post-independence, its strategic standing, etc. a short book in form of a long article in Marathi by Dr. Abhay Bang give us an exposure to student's perceptions and experiences of Nai Talim!

He writes: Nai Talim (New Education) school was the most amazing school – almost magical. The education was imparted not mainly in classroom and through books but by actual living and doing. The life was spent in rhythm with the nature and culture during which the science and arts were taught.

In this article Dr. Bang shares his process of learning literature, botany, zoology, mathematics and science through activities aligned with the environment and real life work. The school used to have three hours of compulsory involvement in socially useful and productive work. It had to its base Gandhiji's thought of self-reliant education as well as Vinoba Bhave's thoughts of socially useful skill attainment and scientific knowledge gain.

It is therefore to be interpreted that the process of education aims persistence of knowledge and attainment of skill through real life work / socially useful work that with teacher mediation for revealing scientific aspects involved in it.

For the program under study, this interpretation is crucial.

12) Basic Education, Mahatma Gandhi

Basic Education, portrays fundamentals of education in basic simple forms, which eventually prove complex to digest and perhaps implement as well. In fact, it is to be admitted that writing the review itself is not so easy task.

Hence the key points noted down while studying and are directly / indirectly applicable for analyzing current program under study are compiled hereunder.

- 'Education is that which liberates' – सा विद्या या विमुक्तये।

- Useful manual labour, intelligently performed is the means par excellence for developing the intellect. A balanced intellect presupposes a harmonious growth of body, mind and soul... an intellect that is developed through the medium of socially useful labour will be an instrument for service and will not easily be led astray or fall into devious paths
- Craft, art, health and education should all be integrated into one scheme. Nai Talim is beautiful blend of all the four and covers the whole education of the individual.. Instead of regarding craft and industry as different from education, I will regard the former as the medium for the latter.
- Nai Talim leads to development of mind, body and soul.
- The teacher and the pupil have to produce in the very act of teaching and learning.
- Vocations that would fit for being taught to children in urban areas
- The utterly false idea that intelligence can be developed only through book-reading should give place to the truth that the quickest development of the mind can be achieved by artisan's work being learnt in a scientific manner. True development of the mind commences immediately the apprentice is taught at every step why a particular manipulation of the hand or a tool is required. The problem of the unemployment of students can be solved without difficulty, if they rank themselves among the common labourers.
- You have to train the boys in one occupation or another. Round this special occupation, you will train up his mind, his body, his handwriting, his artistic sense, and so on.

**13) Educational Philosophy of Mahatma Gandhi with special reference to Basic education:
An overview, Srikanta Nandi, Tanmoy Pandit, Dr. Pankaj Kumar Paul**

This scholarly article presents a study of relevance of Gandhian educational philosophy.

This paper tries to examine general merits and demerits of basic education and its relevance in modern society with the help of scientific outlook and states a conclusion that the failure / limited success to Basic Education implementation was caused by its mechanical application. It is not fault of theory of Nai Talim.

14) NAI TALIM SPECIAL, NCRI Newsletter

This is a compilation of articles of eminent writers and thinkers on Nai Talim. Includes

- Philosophical Reflections on Nai Talim by Prof Douglas Allen
 - Highlights *Satya* and *Ahimsa* principles central to Nai Talim, as interpreted by Prof. Allen.
- A perspective of Nai Talim in Higher Education By Dr Vikram Singh Amarawat
 - In view of the need to reform higher education to become more comprehensive, the author presents a thought of how Nai Talim principles can cater to rural as well as city students.
- Nai Talim, as we believe By Prasad Dasgupta
 - Author attempts to elaborate understanding of difference between ‘being taught’ and ‘learning’ in the context of Nai Talim.
- Understanding education strategy for robotic individuals Vs. self-ruled individuals By Vasudev Vora
 - Article with interesting title presents thought of importance for the basic education to allow the day-to-day challenges of life find its support for facing them rightly.
- ‘Let’s put life in Education with Nai Talim’ By Jyothibhai Desai

- Article is a transcript of question – answer session between a teacher and a Nai Talim Educator. Focuses on learning, examinations, school concept.

15) ‘Rethinking Nai Talim, Sujit Sinha

Sujit Sinha in his article analyses Nai Talim for adaptation by Universities. Quoting inferences by Krishna Kumar (What is worth teaching) , Sandip Bandopadhyay (Sriniketan), Prof. Sinha highlights need to connect universities to work.

Through this review of literature related to Nai Talim, it is observed that while the Nai Talim model has been envisaged by Mahatma Gandhi in pre-independence period of India to transform the educational system being enforced by British rule, its relevance even today is undoubted. For the current program under study and the current educational model under study, Nai Talim forms strong foundation. Specifically in terms of relating education to work and inculcation or attainment of skills in local as well as global– i.e. ‘glocal’ context, Nai Talim is directly significant.

2.3 Role based learning

Table 7: Literature review: Role based learning

Sr.No	Area of study:	Title	Author	Type
16.	Role based learning	A Constructivist Model of Teacher Training for e Learning in Knowledge Based Connected Society: I-CONSENT Initiative	Martand Deshmukh, Veena Deshmukh	Research Paper
17.	Role based learning	Role-Based Learning: Considering Identity And Practice In Instructional Design	Bryan Schulze McClarey	Doctoral thesis

The mode under study is Role Based and Work & Performance Centric education. Hence it is imperative to evaluate different approaches adopted by researchers for defining ‘role based’ and its implementation. Also, insights in practicing role based learning are crucial for analysis of current model under study. Limited and selected relevant research papers and reports are reviewed herewith.

16) A Constructivist Model of Teacher Training for e Learning in Knowledge Based Connected Society: I-CONSENT Initiative by Martand Deshmukh, Veena Deshmukh

In one of the path breaking projects of teacher education, role based approach has been implemented at a pilot level. The research paper by Prof. M and Prof. V Deshmukh present critical analysis of role based approach.

As mentioned by professors, role based approach has an impact on different aspects of program designing such as: curriculum framework, learning content design and development, assessment content design and development, evaluation methodology etc.

It is mentioned categorically that the role based approach is initiated right from naming the courses and setting up its objectives. Keeping in view various roles a teacher requires to perform

with the advent of technology mediated learning; the courses are planned such as: Teacher as a networker, Teacher as a eLearning specialist etc. further the learning content is presented in form of various real life scenarios and situations for the particular role.

This is, specially, an important input for learning content design for the program under study.

17) Role-Based Learning: Considering Identity And Practice In Instructional Design by Bryan Schulze McClarey

This paper seeks to integrate a view of learning as transforming identity and practice through experience reified by reflection and participation along a trajectory of role change in a community of practice, as mentioned by the writer in the abstract.

It explores how people define themselves in relation to their professional practice when they learn a new role. How people think about themselves as practitioners and about what they do is the central focus of the investigation. The paper very well defines concept of a 'role' in terms of its usage at professional, personal life.

2.4 Curriculum

Table 8: Literature review: Curriculum

Sr. No	Area of study:	Title	Author	Type
18.	Curriculum	WHAT IS WORTH TEACHING?	Krishna Kumar	Book
19.	Curriculum	The Outcome-Based Curriculum	Charlotte Danelson	Book

For the program under study, the curriculum is stipulated by the University. The analysis must consider its relevance in terms of its objectives – i.e. skills as well as knowledge, since it's a curriculum for Work Based Degree program.

Two important books in curriculum defining are reviewed that have proven to be significant in deciding parameters for analyzing the curriculum set for program under study.

18) What Is Worth Teaching? Krishna Kumar

A classic book by distinguished educationist Krishna Kumar, poses in great detail analysis of what is worth teaching. It is interesting and convincing to read how in different ways the prescription for teaching can be shaped - from students' point of view as well as for the sake of acquiring knowledge. Relation and importance of text books in our education system is analyzed effectively. The teachers, the curriculum and the text books with a strong bond many times restrict student's learning. An interpretation could be drawn on these lines from Prof. Krishna Kumar's thoughts.

The colonial practices, implications on Indian education system, adaptation of Gandhiji's Nai Talim are amongst the important aspects he discusses in this book. one of the main sections of the book discusses what happened to education in India after independence. It sets historical context in terms of examinations and its linkage to curriculum.

This book sets a strong background and deep insight in implementation of curricular educational program, role of teachers and the way students would desire to learn.

Especially, for the program under study, the demystification of examinations is one of the core agenda, which is reinforced by having read the purpose behind the current examination system. The book also proves helpful for giving insights on Nai Talim, as it critically discusses and quotes failures or little success for implementation of Nai Talim in the country. One can analyze from these discussions that the spirit of Nai Talim, or the principles of Nai Talim are still quite relevant, however the means for implementation need to be at par with the tools, requirements relevant to 21st century. Interpreted it further, it can be inferred that charkha could be replaced with the tool / technique that generates employment in the current age and that is information technology.

This is linked to the sectors for which the role based and work & performance centric model is being implemented (i.e. service sector / IT ES sector).

19) The Outcome-Based Curriculum - Charlotte Danelson

A practitioner's implementation handbook: the Outcome based curriculum is a classic book for curriculum development. It presents a theoretical process of curriculum definition such as definition, steps involved in defining outcome based curriculum, objectives and units, alignment with instructions, assessment standards to be followed etc.

The entire handbook is based on outcome based education method that is a system for the delivery and organization of educational program in elementary and secondary schools which assures success for every student. The basic premise here is all students can learn and succeed.

Though this premise has been considered for primary school children, it is worth considering the principle behind it at higher education as well. Further, in order to achieve mastery at basic minimum level, the curriculum design is crucial and the book has elaborated it in great details.

Review of literature for the curriculum aspect has helped to arrive at certain parameters for analyzing the curriculum for the program under study such as: learning outcomes in terms of skill attainment and theoretical knowledge gain, inclusion of local and global context in terms of its scope.

2.5 Situated learning

Table 9: Literature review: Situated learning

Sr.No	Area of study:	Title	Author	Type
20.	Situated Learning	Experience & Education	John Dewey	Book
21.	Situated Learning	Situating Learning In Communities Of Practice	Jean Lave	Book
22.	Situated Learning	Cognitive and Situated Learning Perspectives in Theory and Practice	Paul Cobb; Janet Bowers	Journal
23.	Situated Learning	Digital Natives, Digital Immigrants	Marc Prensky	Journal
24.	Situated Learning	Situated Learning Design for e-B.Ed. Course of I-CONSENT: Practitioners' Perspective	Veena Deshmukh Savita Manchekar Gauri Hardikar	Research Paper

Situated learning, is one of the key areas of study for current analysis of program under study. It is linked to the way current program under study is implemented – i.e. at the work lab which is a constant and dynamic ground of ever changing situations. This forms the local context / situation where the student acquires skills.

Secondly, it is also linked to the way the learning content is designed and developed, since it again has to be situation based presenting different global situations which the student would empathize with for knowledge gain.

It is in this context various books, journals and research papers are reviewed for situated learning.

20) Experience & Education, John Dewey

This is all time classic in education.

In the preface of the book it has been mentioned that Experience and Education is the best concise statement on education ever published by John Dewey, the man acknowledged to be the pre-eminent educational theorist of the twentieth century. Written more than two decades after Democracy and Education (Dewey's most comprehensive statement of his position in educational philosophy), this book demonstrates how Dewey reformulated his ideas as a result of his intervening experience with the progressive schools and in the light of the criticisms his theories had received .

Instead of writing the review in terms of what is covered by Prof. Dewey in this well-known book, it is felt appropriate to list down the relevant aspects in terms of current program under study.

- The main purpose or objective is to prepare the young for future responsibilities and for success in life, by means of acquisition of the organized bodies of information and prepared forms of skill, which comprehend the material of instruction.
- There is an intimate and necessary relation between the processes of actual experience and education. If this be true, then a positive and constructive development of its own basic idea depends upon having a correct idea of experience.
- Principle of the continuity of experience or what may be called the experiential continuum.
- Every experience is a moving force. Its value can be judged only on the ground of what it moves toward and into. The greater maturity of experience which should belong to the adult as educator puts him in a position to evaluate each experience of the young in a way in which the one having the less mature experience cannot do. It is then the business of the educator to see in what direction an experience is heading.
- Interaction assigns equal rights to both factors in experience-objective and internal conditions. Any normal experience is interplay of these two sets of conditions. Taken together, or in their interaction, they form what we call a situation.

- The statement that individuals live in a world means, in the concrete, that they live in a series of situations.
- The conceptions of situation and of interaction are inseparable from each other. An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment,
- The environment, in other words, is whatever conditions interact with personal needs, desires, purposes, and capacities to create the experience which is had. Even when a person builds a castle in the air he is interacting with the objects which he constructs in fancy.
- Progressive organization of subject matter
- Experience is the mean and goal of education

21) Situating Learning in Communities of Practice, Jean Lave

Chapter Situating Learning in Communities of Practice is a complex one. It touches upon complex areas of how learning happens while practicing. Since its directly linked to the model under study, close examination of this theoretical discussion is unavoidable.

This book is not just important to understand situated learning, but it discusses various aspects of apprenticeship forms in great details.

However, this being a well-known and must read kind of a book on education, instead of section wise review, important notes taken are enlisted herewith.

- learning is not a process of socially shared cognition that results in the end in the internalization of knowledge by individuals, but as a process of becoming a member of a sustained community of practice
- Developing an identity as a member of a community and becoming **knowledgably skillful** are part of the same process
- Evaluation of apprentices' progress is intrinsic to their participation in ongoing work practices. Hence, apprenticeship usually involves no external tests and little praise or blame, progress being visible to the learner and others in the process of work itself.

- There are resources other than teaching through which newcomers grow into old-timers' knowledge and skill.
- Contemporary social world can be described in the terms just proposed, involving the alienation of knowledgeable skill from the construction of identity. It might be useful to examine settings in which these effects are, arguably, most concentrated: contemporary workplaces and schools.

This has a strong significance of relevance to current program under study.

22) Cognitive and Situated Learning Perspectives in Theory and Practice, Paul Cobb; Janet Bowers

This is a theoretical paper presenting perspectives of cognitive and situated learning. It has been published in Educational Researcher. This paper persay does not help directly to analyze situated learning approach for current study, but it does help delimit the research to its set objectives.

23) Digital Natives, Digital Immigrants, Marc Prensky

This paper presents concept of digital natives in view of changing scenario of gadgetry world. This is not directly linked to the situation based learning and also in that context to the program under study. However, it is felt important to take into account the changing situations for analyzing current program under study – particularly the learning content presented, the situations selected for developing content and the way the content is presented.

Eventually the age group of the students getting enrolled for the program under study is going to decrease and the concepts presented by Prof. Prensky shall be applicable in that case. However, there is still an inhibition while making this statement in general that this might be applicable. This inhibition is from the indian context and the target audience being looked at for the program under study. While the students may be aware of generic terms as they perhaps would find a place in their colloquial language, they may not be aware of the theory/ default practice.

**24) Situated Learning Design for e-B.Ed. Course of I-CONSENT: Practitioners’
Perspective, Veena Deshmukh, Savita Manchekar, Gauri Hardikar**

This paper describes the experiences and insights of the group of educators gained while designing, developing and implementing the role based courses of the online teacher education program for e-learning, using Constructivist Pedagogy and Situated Learning Design and who acted as course designers/courseware writers/mentor/tutors and assessors while deploying the program. The program is examined in these five perspectives and students’ viewpoint.

This faculty group was trained in Situated Learning Design and in developing scenarios and using ICT tools. The same group was entrusted with the delivery of the course on-line, monitoring and evaluating all student activities, interacting as mentors and tutors, challenging learners to reflect for solving problems contributing to the development of the local community.

The paper further discusses the issues involved such as pedagogy transition from behaviorist to constructivist pedagogy, familiarity/unfamiliarity of the technology platform, mindset change, complexities of the developmental goals set forth for the course activities etc. and interaction with learners.

For the current program under study, situated learning approach has been adopted for development of situation based learning content in order to give exposure to global scenarios. Detailed analysis of situation based learning content development is presented in chapter 4, sub chapter 4.2: Environment of Learning through Working.

2.6 Scaffolding

Table 10: Literature review: Scaffolding

Sr. No	Area of study:	Title	Author	Type
25.	Scaffolding	Interaction between learning and development	Lev S. Vygotsky	Book
26.	Scaffolding	The Role of Tutoring in Problem Solving	David Wood, Jerom Bruner, Gale Ross	Book
27.	Scaffolding	Tools for Scaffolding Students in a Complex Learning Environment: What Have We Gained and What Have We Missed?	Sadhana Puntambekar, Roland Hübscher	Research Paper

For the program under study real life workplace is the learning environment for the students and real situations in their own dynamic, complex nature are expected to be faced by the students. With this basic model design it is obviously evident that enables to make students ready to face the situations are critical.

Studying scaffolding and review of literature in this area is therefore pertinent for analyzing the model under study.

While great books by Lev Vygotsky, Bruner and Ross have been studied, it is felt appropriate again, to list down important relevant points.

25) Interaction between learning and development, Lev S. Vygotsky

- Zone of proximal development (ZPD): distance between child's actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.

26) The Role of Tutoring in Problem Solving, David Wood, Jerom Bruner, Gale Ross

This paper is concerned with the nature of the tutorial process; the means whereby an adult or "expert" helps somebody who is less adult or less expert.

- Discussions of problem solving or skill acquisition are usually premised on the assumption that the learner is alone and unassisted. But the intervention of a tutor may involve much more than this.
- It involves a kind of "scaffolding" process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts. This scaffolding consists essentially of the adult "controlling" those elements of the task that are initially beyond the learner's capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence. The task thus proceeds to a successful conclusion.
- Comprehension of the solution must precede production. That is to say, the learner must be able to recognize a solution to a particular class of problems before he is himself able to produce the steps leading to it without assistance.
- Paper further demonstrates step by step tutoring procedure followed for young children through 'blocks' experiment

The whole concept of tutoring at the workplace gets linked and mapped to this research of tutoring for problem solving.

27) Tools for Scaffolding Students in a Complex Learning Environment: What Have We Gained and What Have We Missed? Sadhana Puntambekar, Roland Hübscher

There have been ways and methods of scaffolding as per original concept of Vygotsky, Bruner. This interesting and pertinent research paper presents different methods that have come into existence under the term – scaffolding.

In a complex learning environment, not just human resource, but the learning material / any other form of instruction could prove as a scaffolding tool.

Hence critical analysis presented in the research paper by Prof. Sadhana P and Prof. Roland H proves significant for current study.

Current model under study has a key component of mentoring through reflection sessions where scaffolding is directly applicable. Detailed analysis is presented in chapter 4: sub chapter 4.3: Mentoring.

2.7 Constructivism

Table 11: Literature review: Constructivism

Sr. No	Area of study:	Title	Author	Type
28.	Constructivism	Constructivism in Education	Steffe, L. P.; Gale, J	Book Review
29.	Constructivism	Constructivism in Classroom	Debra Sprague, Christofer Dede	Article
30.	Constructivism	Constructivism and Computer-Mediated Communication in Distance Education	David Jonassen, Mark Davidson, Mauri Collins, John Campbell, and Brenda Bannan Haag	Research Paper

28) Constructivism in Education, Steffe, L. P.; Gale, J

This book on constructivism in education is helpful for deep understanding of constructivism. It covers

- Radical Constructivism and Social Constructionism
- Information Processing Constructivism and Cybernetic Systems
- Social Constructivism and Sociocultural Approaches

29) Constructivism in Classroom, Debra Sprague, Christofer Dede

This short feature presents teaching methods based on constructivism in an interesting manner.

In a constructivist classroom, students are more actively involved than in a traditional classroom. They are sharing ideas, asking questions, discussing concepts, and revising their ideas and misconceptions.

The feature focuses on role of teachers desirous to practice constructivism in the classroom. It concludes with a remark as follows:

Teachers who believe that learning should be interesting and meaningful for students need to move past their concern that constructivist instruction is “not teaching.”

By being willing to challenge that model through their own practice, they can begin to educate other teachers and administrators to the power of student-centered learning enhanced by the appropriate use of educational technologies.

Relating it to current program under study, the challenge foreseen is the implementation of constructivism model by mentors in distance education mode and also design and development of learning content on the basis of constructivism.

**30) Constructivism and Computer-Mediated Communication in Distance Education,
David Jonassen, Mark Davidson, Mauri Collins, John Campbell, and Brenda Bannan
Haag**

In the abstract of the research paper, the writers mention that amidst a scientific revolution in the field of learning technologies and instructional designing, philosophical foundations are being replaced by a constructivist approach. The article describes assumptions of a constructivist approach, contrasts them with objectivist assumptions, and then describes instructional systems that can support constructive learning in a distance education mode.

As rightly mentioned in the abstract the paper discusses different aspects of constructivism, instructional methods for implementing constructivism and that too in the context of distance education programs.

For the program under study, various points of relevance are identified, which are as follows:

- A good learning experience is one in which a student can "master new knowledge and skills, critically examine assumptions and beliefs, and engage in an invigorating, collaborative quest for wisdom and personal, holistic development"
- Technology used in distance education should facilitate these "good learning experiences" in an "extended classroom model" rather than broadcast teacher-centered lectures and demonstrations
- Constructivists believe that our personal world is constructed in our minds and that these personal constructions define our personal realities. Constructivism is that knowledge which is a function of how the individual creates meaning from his or her experiences; it is not a function of what someone else says is true.
- Making, according to constructivists, is the goal of learning processes; it requires articulation and reflection on what we know.
- *Construction* of knowledge is the result of an active process of articulation and reflection within a context.
- A constructivist approach to knowledge construction and learning, can be well supported in distance education settings through a variety of technologies. Technology- supported environments -computer-mediated communication, computer-supported collaborative work, case-based learning environments, and computer-based cognitive tools, for example- can offer the field of distance education alternative approaches to facilitating learning.

2.8 Mentoring

Table 12: Literature review: Mentoring

Sr.No	Area of study:	Title	Author	Type
31.	Mentoring	Learning to learn through reflection – an experiential learning perspective	Viljo Kohonen	Research Paper
32.	Mentoring	The Roles of Mentors in Electronic Learning Environments	SHUJEN L. CHANG	Research Paper
33.	Mentoring	Scaffolding Online Learning: The ART of Mentoring	Priscilla Norton	Research Paper
34.	Mentoring	Instructional Scaffolding to Improve Learning	Northern Illinois University, Faculty Development and Instructional Design Center	Report
35.	Mentoring	The reflective practitioner	Donald A. Schön	Book

Learning methodology implemented for the program under study has one of the key components of ‘mentoring’. Reflection process, that is believed to be effective in the process of learning, is catered. It is in this context the literature is reviewed so as to validate best practices followed for mentoring, the theoretical basis for reflection processes, role of the mentor in face to face as well as online learning environment (as both could be the cases in program under study) etc.

31) Learning to learn through reflection – an experiential learning perspective Viljo Kohonen

While mentor’s role is crucial in the process of reflection, it is important on student’s part as well to have realization of his/her own learning process of reflection. The research paper gives insights on how one can learn to learn through reflection practices.

It highlights importance of experiential learning with a specific context of language learning pedagogy.

Key takeaway from the paper in relation to the study is the model of experiential learning.

32) The Roles of Mentors in Electronic Learning Environments SHUJEN L. CHANG

33) Scaffolding Online Learning: The ART of Mentoring Priscilla Nortoned

Both the above mentioned articles deal with role of mentor and the way of mentoring in online environments, which is directly related to the program under study.

The articles highlight known limitations in a systematic manner such as: eLearning barriers, unmet students' expectations, faculty time limitations etc that lead to importance of having mentors. Role of mentors is also discussed that comprises of assisting instructions, initiating social connectedness etc.

Very categorically, while discussing art of mentoring, the characteristics of mentor are mentioned such as: a good motivator, people oriented, patient, supportive etc.

These aspects are found invariant for face to face mentoring as well.

**34) Instructional Scaffolding to Improve Learning , Northern Illinois University,
Faculty Development and Instructional Design Center**

This report presents a systematic approach for instructional scaffolding. Different forms of scaffolds are discussed such as advance organizers, hints, clue cards, question cards etc.

Further it also states an illustrative model for implementing instructional scaffolding in a classroom environment.

This is not directly applicable to the model under study; however, the take away is in form of inputs for learning content design and development.

35) The reflective practitioner, Donald A. Schön

A worth reading book: Reflective practitioner is unique in its kind. It focuses on how one can reflect at the workplace and improve performance at the workplace.

A major take away from this book is a finding about reflective practitioner: It is mentioned that A practitioner who reflects-in-action tends to question the definition of his task, the theories-in-action that he brings to it, and the measures of performance by which he is controlled. And as he questions these things, he also questions elements of the organizational knowledge structure in which his functions are embedded.

2.9 Evaluation

Table 13: Literature review: Evaluation

Sr. No	Area of study:	Title	Author	Type
36.	Assessment	Bloom's Taxonomy	Mary Forehand	Research Paper
37.	Assessment	Assessment in Education in India	Dr Tapas Kumar Sarkar	Research Paper
38.	Assessment	Inside the Black Box: Raising Standards Through Classroom Assessment	Paul Black and Dylan Wiliam	Research Paper
39.	Assessment	Formative and Summative Confidence-Based Assessment	A.R. Gardner-Medwin and M. Gahan	Research Paper

36) Bloom's Taxonomy, Mary Forehand

Bloom's taxonomy is at the heart of implementing any educational process that needs to be assessed through formative as well as summative evaluation strategies. Furthermore, it is not just related and can be restricted to deciding evaluation strategy but it has a strong impact on the overall design strategy of the educational program.

While there are lots of resources available on internet on Bloom's taxonomy, a need is felt to understand with deeper insight the purpose of using the same with exposure to its historic background.

In comprehensive book: 'Fifty thinkers on Education', one gets exposure to Bloom's work quite aptly. Additionally, a quick insight proves helpful. Mary Forehand's paper presents details about all aspects of Bloom's taxonomy. Original and revised taxonomy, Structural changes, why to use it etc are covered.

37) Assessment in Education in India

This is a paper that gives overview of assessment in education in India. It portrays elaborate picture of education system in india with statistics at the time of paper presentation. This is a comprehensive document that lists all the information about various bodies involved in educational policies and implementation in india.

Not having impact on the model, but for having complete overview and factual information, this document is of key importance. Hence has been included in the review of literature.

38) Inside the Black Box: Raising Standards Through Classroom Assessment Paul Black and Dylan Wiliam

With a term related to aeronautics and later to software technology testing, the 'black box' has been introduced related to evaluation and assessment in education.

The case study is from a college in London where, the national priority is set to be having interactive teaching – learning and empowering teacher as well as learners with the progress of the later. This paper poses three important questions as:

- Is there evidence that improving formative assessment raises standards?
- Is there evidence that there is room for improvement?
- Is there evidence about how to improve formative assessment?

Extensive review of literature for this and surveys carried out have been mentioned by Prof. Black and Prof. William. It is proven statistically that answers to these questions are positive.

39) Formative and Summative Confidence-Based Assessment, A.R. Gardner-Medwin and M. Gahan

The title of the research paper: confidence based assessment is pertinent in terms of its relevance to program under study. In the abstract prof. Gardner mentions:

Confidence-based assessment, in which a student's rating of his/her confidence in an answer is taken into account in the marking of the answer, has several substantial merits. It has been in use at UCL with medical and biomedical students for several years, primarily for computer-based formative assessment and study, using several answer formats. The paper mentions practice of using this strategy in summative exams with multiple true/false questions.

This paper addresses some key issues: the rationale for simple marking scheme (1,2 or 3 marks for correct answers and 0,-2,-6 marks for wrong answers according to confidence level), student reaction and performance, gender and personality issues, comparison with other marking schemes in relation to motivation for accurate reporting of confidence, and issues of reliability and validity for summative assessment.

Similar strategies could be directly applied to evaluation frameworks being used for current program under study.

2.10 Technology in Education

Table 14: Literature review: Technology in Education

Sr. No	Area of study:	Title	Author	Type
40.	Technology in Education	<i>Program Evaluation Findings Report, MIT OpenCourseWare</i>		Report
41.	Technology in Education	<i>Exploring mobile technology as a sustainable literacy education</i>	<i>Kim, P., Miranda, T., & Olaciregui, C.</i>	Blog
42.	Technology in Education	Vocational NET PEDADOGY	<i>Pekka Ihanainen</i>	Research Paper
43.	Technology in Education	<i>Australia and India: Facing the twenty-first century skills challenge</i>	<i>Beddie F</i>	Research Paper
44.	Technology in Education	Open Vocational Education of NOS		Report
45.	Technology in Education	<i>Minimally Invasive Education, MIE</i>	Sugata Mitra	Research Paper
46.	Technology, Nai Talim	<i>Nai Talim</i>	Ram Takwale	Research Paper

It has been over a decade when technology started playing role in teaching – learning process. While the debate of ‘whether technology would replace teachers’ still continues at local level, the policy makers worldwide have no doubt about technology to complement and thereby enhance the teaching-learning process inside and outside the classroom.

With the advent of open and distance learning approach practiced worldwide by leading universities such as UK Open University, MIT Boston, USA, IGNOU, India, use of technology to take education to masses has been exemplified.

Use of technology in education, eLearning implementations, challenges in skill attainment relevant to industry, effectiveness of technology based learning, etc have been the key areas of research in the education field.

Enlisted below is the literature review: national and international level, in the context of the proposed study.

40) Open CourseWare (OCW)

The statistics of beneficiaries of OpenCourse Ware (OCW) by MIT Boston represent the acceptance of instructional approach followed by technology mediated learning. (*2005 Program Evaluation Findings Report, MIT OpenCourseWare, June 2006*). The impact analysis shows that the video based and animated content has been widely accessed in addition to the lecture notes and it satisfies the objectives set for learning.

41) *Exploring mobile technology as a sustainable literacy education*

Recent researches at School of Education at Stanford University, USA, illustrate use of mobile learning methods for language learning. (*Kim, P., Miranda, T., & Olaciregui, C. 2007, Blog on Pocket school: Exploring mobile technology as a sustainable literacy education*)

42) Vocational NET PEDADOGY

Vocational NET PEDADOGY specially termed to represent internet based pedagogy has been used for delivering vocational education and training in Finland. (*Pekka Ihanainen, Finland, 2009*). This concept paper presents an approach and competencies required by the student and the teacher involved in the process of vocational education and training. The basic skills mentioned involve – use of mobile tools for producing and sharing multimedia, ability to operate web based platforms, and ease to interact using these tools.

43) Australia and India: Facing the twenty-first century skills challenge (Beddie F, August 2009),

A research paper titled: *Australia and India: Facing the twenty-first century skills challenge (Beddie F, August 2009)*, presents a comparative understanding of challenges in vocational

education and training. It highlights necessity of quality teacher education, involvement of small businesses, flexible learning models harnessing technology and strong teaching skills for vocational education and training.

These give an idea of the current trends of technology getting involved in the delivery of education, and the imminent challenges from Indian perspective.

In Indian context, there have been notable practices of use of technology in Education. The IITs in India have offered the lectures of the IIT faculty on CDs for the training of engineers in other engineering colleges. The Indira Gandhi National Open University and the country-wide classroom are other examples of technology mediated distance learning to provide good quality training inputs on a large scale.

44) Open Vocational Education of National Open School (NOS)

Open Vocational Education of NOS has practiced eLearning methods to deliver vocational education courses in India. The report from NOS draws conclusion that there is no doubt about eLearning becoming predominant for the spread of VET. (*Mrs. Rita Rajkhowa, Joint Director (Vocational), National Open School, 2006*)

45) Hole in the Wall' experiment by Prof. Sugata Mitra

The famous 'Hole in the Wall' experiment by Prof. Sugata Mitra (*Minimally Invasive Education, MIE, Mitra, 2003*) demonstrates effectiveness of 'child driven education' and strengthens the necessity of using technology for learning. (*Mitra,S, Video on Ted Talks, 2006*)

46) Essentials of the Nai Talim for decentralised and autonomous system of education

In India, fortunately, the concept of work centric education system has been put forth many years ago by Mahatma Gandhi. It's believed that many of the basic concepts of Nai Talim can now be adapted for skill development programs. The essentials of the Nai Talim for decentralised and autonomous system of education are now getting available in the connected society with Information Communication Technology (ICT) sweeping the whole world with communication revolution. (*Takawale, 2009*)

Therefore, it can be inferred that a generic model for imparting skills relevant to work place has to be devised, that would

- satisfy all the pedagogic challenges involved in the learning process
- have appropriate use of latest technology
- involve and cherish public private partnerships for delivering learning respecting the local context

2.11 Policy

Table 15: Literature review: Policy

Sr.No	Area of study:	Title	Author	Type
47.	Policy and reforms	Education commission and after	J.P.Naik	Book
48.	Policy and reforms	Course Curricula for Short Term Courses based on Modular Employable Skills in ICT Sector	Directorate General of Employment and Training, Ministry of Labour and Employment, Government of India	Document
49.	Policy and reforms	LEARNING WITHOUT BURDEN	Yashpal committee	Report
50.	Policy and reforms	ASER 2014	Facilitated by Pratham	Report

Reviewing literature related to policy formation does not establish direct relevance to the program under study. Reason behind this is obvious - the program under study is pre-designed and implemented by university as approved by University Grants Commission. Further the study is of the type of analysis of implemented program in terms of its innovative model.

However, having a perspective of policies and reforms which have been implemented in the past, at national level, addressing key challenges faced by Indian education system is of utmost

importance, as it sets historic context for close scrutiny of the model. Also it helps better grasping of the model.

Current model under study has a strong potential of scale up addressing issues of unemployability, strong linkages of industry and academia in a unique way. Hypothesis set for the study, that the learning is effective, if proven, shall put forth rich potential for mega scale up and fundamental breakthrough in partnership models for implementing educational programs.

The policy related literature referred above brings insight by having exposure to historic events in Indian education system. On the other hand, report like Annual Status of Education Report (ASER) gives an outlook of current status of education.

2.12 Apprenticeship

Table 16: Literature review: Apprenticeship

Sr.No	Area of study:	Title	Author	Type
51.	Apprenticeship	Apprenticeship and Traineeship Schemes in EU27: Key Success Factors A Guidebook for Policy Planners and Practitioners		Guidebook
52.	Apprenticeship	Technological Change and Skill Obsolescence: The Case of German Apprenticeship Training	Doris Blenchinger, Friedhelm Pfiffer	Research Paper
53.	Apprenticeship	Contemporary challenges to the German vocational training system	Kathleen Thelen	Research Paper
54.	Apprenticeship	Indian Apprenticeship Act 1961, Amendment act 2014	GOI	Act

Training under master craftsman has been tradition in India for many traditional vocations. With more focus on text book based learning leading to written examination, the weightage given to vocational education is found to be limited to one or two subjects in a standard in current education system. Moreover, a low preference to vocational education is seen. With a separate branch of vocational education, it is evident that learning through working, deriving theory out of practice at the workplace, deriving meaning out of practicing skills related to a particular vocation, is not a main stream education.

In European countries, especially Germany, apprenticeship and traineeship schemes have been implemented for years together and have gained worldwide acclaim in terms of their effectiveness.

In India as well, under Apprenticeship act, scheme of ITI is in place and many students are pursuing vocational education through this channel.

In order to analyze the new model of education being implemented which is based on the basic principles of apprenticeship – as a learning methodology, it is imperative to study German apprentice scheme along with literature review that poses frankly the challenges faced and probable solutions to it.

51) Apprenticeship and Traineeship Schemes in EU27: Key Success Factors A Guidebook for Policy Planners and Practitioners

As the title suggests, the document lists key success factors to be considered by policy planners and practitioners. A comprehensive guide book runs through 133 pages including summary of apprenticeship schemes implemented by European countries.

Key features of apprenticeship as mentioned in the guidebook are as follows:

Apprenticeships are in general much more clearly and consistently defined across the EU than traineeships. In most Member States there is a generally or formally recognized definition. These definitions highlight some of the key distinctive features of apprenticeships.

1. They are a component of a formal education and training programme, typically at upper secondary level.

2. They provide systematic, long-term training by combining practical work-related training at the workplace (either company- or school-based) with theoretical education in an educational institution or training center. Based on a pre-defined training plan, their pedagogical content seeks to help learners acquire over time the full set of knowledge, skills and competences required for a specific occupation.
3. All aspects of apprenticeships (e.g. occupational profile duration, skills and competences to be acquired, terms and conditions) are often explicitly defined in the apprenticeship contract. This legally-binding document, which is typically a fixed-term employment contract, is concluded either directly between the apprentice and the employer, or via the educational institution.
4. Linked to this, apprentices typically obtain the status of an employee or a contracted/employed apprentice. As such, they receive remuneration, the precise amount of which is either collectively negotiated or set by law.
5. Apprentices who successfully complete the scheme are awarded accredited initial vocational education and training (IVET) qualifications or certificates which, in turn, qualify them to work in a specific occupation or group of occupations.
6. Apprenticeships are more tightly regulated and monitored than other forms of alternance-based education, often with relevant provisions included in education and training-related legislation or regulations.
7. The involvement of social partners in apprenticeships is, in many cases, extensive.

Traineeships are distinguished in two ways:

- Traineeships associated with educational programmes: traineeships which form an optional or compulsory part of study curricula, typically in upper secondary and tertiary IVET. However, they are also increasingly integrated into the curricula of general/academic studies in both secondary and tertiary education;
- Traineeships associated with Active Labour Market Policies (ALMP): traineeships increasingly form part of ALMPs and are targeted at unemployed young people with the explicit aim of facilitating their labour market transition by helping them acquire work experience.

The handbook explicitly mentions the objectives behind the design of the schemes.

A particular type of traineeship is that associated with mandatory professional training for certain professions, typically undertaken either in the final years of undergraduate studies or just after graduation for example in medicine/nursing, law, education/teaching or architecture/engineering. Both these types of traineeships are well-defined and tightly regulated with clearly specified learning content and quality assurance procedures.

These traineeships are often tightly regulated, well-structured and closely supervised.

In contrast, traineeships undertaken after graduation are typically less regulated. A growing number of young people undertake such schemes.

Specifically, these are commonly targeted at: (i) unemployed young people whose numbers are rising due to the recession and its aftermath; (ii) early school leavers and low skilled or unqualified young people who face considerable difficulties in entering the labour market; (iii) disadvantaged young people at risk of social exclusion (e.g. young people from migrant and/or ethnic minority backgrounds, those from socially and economically disadvantaged backgrounds, young people living in deprived and/or remote areas, young people with physical and/or learning disabilities, etc.); (iv) young graduates who have also been hit particularly hard by the crisis.

This discussion is a key input for analysis of current program under study. The target audience that the program is expecting does belong to category (iii) to some extent.

Definition of traineeship as per the document is:

Traineeships can be described as work practice (either as part of a study curriculum or not) including an educational/training component which is limited in time. They allow to document practical work experience as part of the individual CV and/or as requested in educational curricula or to gain work practice for the purpose of facilitating the transition from education and training to the labour market. They are predominantly short- to middle-term (a few weeks up to 6 months, in certain cases one year).

It can be inferred that the current program under study has some key features of apprenticeship.

For reference, the comparison table in the policy is reproduced herewith:

Source (adapted): European Commission (2012). *Study on a Comprehensive Overview on Traineeship Arrangements in Member States*, Final Synthesis Report, May

Differences between Apprenticeships and Traineeships	Apprenticeship	Traineeship
Scope	Full qualifying professional or vocational education and training profile	Complementing educational programme or individual CV
Goal	Professional profile/qualification	Documented practical experience
Educational level	Usually EQF level 3-5	Traineeships can be found as part of programmes on all EQF levels – common forms in (pre) vocational education, in higher education and after graduation (sometimes compulsory)
Content	Acquisition of the full set of knowledge, skills and competences of an occupation	Vocational &/or work/career orientation, acquisition of parts of knowledge, skills and competences of an occupation or a profession
On-the-job learning	Equally important to coursework	Usually complementing coursework or optional extra
Length	Determined, middle- to long-term	Varying, short- to middle-term
	Usually up to four years	Usually less than one year
Employment status	Typically employee status	Student/trainee often based on an agreement with employer or school; sometimes volunteer

		status or not clearly defined status
	Often contracted/employed apprentice	Student/trainee often based on an agreement with employer or school
Compensation	Typically remunerated – amount collectively negotiated or set by law	Varying remuneration, often unpaid
	Apprenticeship allowance which takes into account net costs and benefits for the individual and the employer	Unregulated financial compensation
Governance	Strongly regulated, often on a tripartite basis	Unregulated or partly regulated
Actors	Often social partners, training providers	Individuals, companies, state, educational institutions

52) Indian Apprenticeship Act 1961, Amendment act 2014

The Indian apprenticeship act along with its schedules and amendment has been reviewed for

- Trades included under apprenticeship scheme in India
- Duration / period of apprenticeship

It has been observed that service sector has not been covered under this act.

2.13 Education

Table 17: Literature review: Education

Sr.No	Area of study:	Title	Author	Type
55.	Education	Shikshan Vichar	Vinoba Bhave	Book
56.	Education	New Brain	Richard Restak	Book
57.	Nai Talim	PIONEER IN EDUCATION - RABINDRANATH TAGORE	L.K. Elmhirst	Book
58.	Education, Nai Talim	Sriniketan	Sandeep Bandopadhyay	Book
59.	Education	Diwaswapna	Gijubhai Badheka	Book
60.	Education	Parivartanshil Shikshan	Leela Patil	Book
61.	Education	Education at Zero marginal cost	Ram Takwale	Concept Paper
62.	Education	Shikshanatil Navonmeshachya Disha (Innovations in education)	Vivek Sawant	Concept Paper

During the study for last few years, many classic books in education have been read, referred and re-referred for analyzing current program under study. Few of them have been listed above as a representation. While it may be difficult to quote / map one or many particular thoughts from these books which are found to be relevant for analyzing current program under study, these books have had a great lasting impact as a student of new education as well as technology.

It has been an enriching experience of interpreting the experiments done with limited resources which have a great potential of replication today with perhaps a better target of effectiveness with appropriate use of technology. On one hand books like Sriniketan, Diwaswapna set a

background for ‘learning environment’ and teacher’s new role, on the other hand, the book like ‘New Brain’ really stimulates brain and mind with high appreciation for technology advancement that can have impact on setting up learning environment and facilitating teachers.

Shikshan Vichar, a book, that creates a lasting impact, is a classic and a must read for every student of Education. It has helped to have clarity in understanding purpose of education (to some extent at least).

Lastly the most relevant and frequently referred literature is of Innovations in Education – a breakthrough concept presentation. This concept presentation almost touches all the fundamental principles of education and technology. It caters to individual’s learning, group learning, scaffolding, constructivism, use of appropriate technology, innovative assessments, compliance to policies still ensuring effective teaching – learning, learner’s engagement, activation of all brains in a classroom, transformation of traditional classroom to a constructivist classroom, flipped classroom methodology, new role of a teacher, super performance in a natural environment – everything!

This has a strong relevance and impact on the design and development of model under study.

Conclusions from the review

Review of related literature covering all aspects have helped to arrive at following conclusions:

- 1) There have been implementations of innovative concepts of work based learning within India as well as abroad. However, current model under study has an additional important aspect of degree linked to work based learning. This enables students to be in the formal stream of education and become self – independent graduates.
- 2) There have been implementations and cases of role based education. The model under study has interpreted this role based education by mapping the real life roles and ensuring real life work environment enabling students to practice roles in real life.
- 3) Various educational theories – teaching, learning as well as assessment, being practiced in classroom environments are studied. It is observed that the current model under study is a classic blend of how different theories – such as: constructivism, situated learning, role based learning are implemented in real life work environments.

The review has therefore highlighted significance and importance of analytical study of the unique and innovative model of education.

Extensive review of related literature covering all the above mentioned areas has been a wonderful journey for years. It includes direct as well as indirect interactions with eminent experts in the field of education, human resource development, discussing these readings with them and gaining better insights.

Practically, the review of related literature has setup a strong base while performing analytical study of current program and the educational model. This base is in terms of a critical insight to validate theories and probable changes with the mega trends, learnings from history i.e. practices in the past as well as ongoing ones.

Further it has helped to have an open mind not restricting the research to analyze implementation of technology – which is one of the objectives of the research, but to put forth sensitively all the possible contributing factors involved in it so as to have breakthroughs in the field of education and technology.

Chapter 3: Research Methodology

3 Chapter 3: Research Methodology

Contents

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Background

This chapter describes in detail the research methodology followed for the current study.

The study is to analyze the innovative model of education devised and implemented by MKCL in collaboration with Yashwantrao Chavan Maharashtra Open University (YCMOU) and industry partners. The model is: Role based and Work & Performance Centric model implemented in form of a three year degree program. Program under study is: B.A. n Services Administration.

The Educational Model and the Program Under study is explained in detail in Chapter 4.

This chapter, focuses on research methodology adopted for conducting the research so as to meet the specific objectives stated in Chapter 1 – introduction.

This chapter explains the basis for research design, selection of sample, variables, tools used for conducting the study and to test the hypothesis.

3.1 Basis of Research Design

(Wikipedia) Research, as per Wikipedia, comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories.

Research has been defined in a number of different ways. In the context of the present study, definition of research by Merriam-Webster Online Dictionary (dictionary) is worth referring. It defines research as "a studious inquiry or examination; especially : investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws".

Further, another definition given by (Wikipedia) Creswell, is also being referred, that states - "Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue". It consists of three steps: Pose a question, collect data to answer the question, and present an answer to the question.

Present research is an experimentation of implementing Role Based and Work & Performance Centric model of education for undergraduate degree program under study and it aims to discover and interpret facts in terms of knowledge gain and skills attainment.

Objectives of the research are set for validating the facts against the acceptable standards of the university education system and the industry norms.

3.2 Research Design: Experimental Method

The aim of the experimental research is to investigate the possible cause-and-effect relationship by manipulating one independent variable to influence the other variable(s) in the experimental group, and by controlling the other relevant variables, and measuring the effects of the manipulation by some statistical means. By manipulating the independent variable, the researcher can see if the treatment makes a difference on the subjects.

Different types of experimental research are conducted depending on the nature of subjects and the instruments, and the way data are collected and analyzed. (Research Manual for Social Sciences, Research Design – Part II)

Experimental investigations can be conducted on groups or individuals. Accordingly, the structure of the design changes as group experimental design, or single-subject experimental design.

As mentioned above, the present research is an experimentation of implementing Role Based and Work & Performance Centric model of education for undergraduate degree program under study, aiming to discover and interpret facts in terms of knowledge gain and skills attainment of the students enrolled for the undergraduate degree program under study.

Hence this is an Experimental Research.

Since it is being conducted for a group, it is a Group Experimental Design.

The group experimental designs are of different forms.

If there is only one independent variable that can be manipulated, then a single-variable design is used. If there are two or more independent variables, and at least one can be manipulated, then a factorial design is to be chosen.

The present research has one single independent variable and that is the Learning methodology as per the Role Based and Work & Performance Centric model of education, that comprises of a real workplace, eLearning and mentoring.

Hence the experimental design of present research is Single Variable Design.

Further, the single-variable designs are classified under three main headings depending on the degree of control maintained on other variables:

1. Pre-experimental designs (low degree of control)
2. True experimental designs (high degree of control)
3. Quasi-experimental designs (medium degree of control)

(Research Manual for Social Sciences, Research Design – Part II)

Pre-experimental designs are so named because they follow basic experimental steps but fail to include a control group. In other words, a single group is often studied but no comparison between an equivalent non-treatment group is made.

Pre-experimental designs are classified depending on whether there is an involvement of one or two groups, and whether the groups are posttested only, or both are pretested and posttested:

The present research falls under the category of **pre-experimental design**. It is because, the program under study is offered by university and the learning methodology is essentially required to be uniform for all the students enrolled. i.e. there could not be a non-treatment group for study as a comparison.

Further, the students enrolled for the program under study cannot be pre-tested. Hence the research design is: **One-shot case study**.

One-shot case studies is the design where, One group is exposed to the treatment, and only a posttest is given to observe or measure the effect of the treatment on the dependent variable within the experimental group.

In this arrangement, subjects are presented with some type of treatment, such as a semester of college work experience, and then the outcome measure is applied, such as college grades. Like all experimental designs, the goal is to determine if the treatment had any effect on the outcome.

One Shot Case Study

To attempt to explain a consequence by an antecedent.

X O

Ref: (AllPsych: Psych Central's Virtual Psychology Classroom)

As cited above, the chosen group is exposed to the treatment, and then it is tested only once for the purpose of measuring the degree of change on the dependent variable after the treatment.

For the present study the design is applicable as follows:

Step	Procedure (On a single group)	Aim
Step 1	Treatment X	To influence the dependent variable
Step 2	Post Test O	To measure the degree of change on the dependent variable

Ref: (Research Manual for Social Sciences, Research Design – Part II)

To summarize: the research design for present research is

- **Experimental Research**
 - **Group Experimental Design**
 - **Single Variable Design**
 - **Pre-Experimental Design**
 - **One shot case study**

3.3 Sample

Role based and Performance centric model is an innovative model being implemented for the first time in Maharashtra Open University for an undergraduate degree program, wherein students are expected to learn at the industry workplace with eLearning support. This is a first of its kind initiative, with its significance in terms of new approach to address challenges of un-employability.

The model being new, the total population for consideration is limited and is equal to the total number of students getting enrolled for the programs.

Hence entire population has been selected as sample for the study.

Educational Program under study: B.A. in Services Administration – degree program implemented by MKCL Finishing Schools in collaboration with Yashwantrao Chavan Maharashtra Open University and industry partners

(Ref: Research Methodology: Methods and Techniques, C.R.Kothari) (Kothari)

3.3.1 Selection of Research Participants:

All the students enrolled for the educational program are considered as research participants. The selection process and eligibility criteria for enrolling the students to the educational program have been followed as per industry norms and university norms.

Profile of research participants for being eligible to enroll for the educational program under study:

- 12th passed
- Minimum age 18 years
- Basic IT skills (desirable)

Current profile of research participants while the research is ongoing:

- Pursuing First Year (FY) of educational program under study
- Pursuing Second Year (SY) of educational program under study
- Pursuing Third Year (TY) of educational program under study

3.3.2 Sample size

Table 18: Sample size

Year		Sample size
• Academic Year 2013-14	- Students who pursued First Year (FY) of educational program under study	• 26
• Academic Year 2014-15	- Students who pursued First Year (FY) of educational program under study	• 42
	- Students who pursued Second Year (SY) of educational program under study	• 24
• Academic Year 2015-16	- Students pursuing Third Year (TY) of educational program under study	• 24
	Total	116

3.4 Variables

Independent variable— An independent variable can be any factor that varies within the population than can have an effect on the dependent variable. Examples of common independent variables in education research include gender, socioeconomic status, learning disabilities etc.

Dependent (outcome) variable—This is the variable that is impacted by the independent variable(s). In education research, the dependent variable is usually some measure of academic achievement (e.g. reading comprehension, number sense, math achievement).

Ref:(<http://www.mheresearch.com/assets/pdf/Glossary.pdf>)

(Ref: *Experimental Research Methods*, Steven M. Ross, *The University Of Memphis*, Gary R. Morrison, *Wayne State University*) (Steven M. Ross)

Present research has following variables:

Independent variable: Learning methodology

The present research has one single independent variable.

It is the Learning methodology as per the Role Based and Work & Performance Centric model of education, that comprises of a real workplace, eLearning and mentoring.

Dependent variable:

Dependent variables of present study are as follows:

- Skill attainment – Work Ratings
- Knowledge gain –Assignment scores and Term End Exam scores for selected courses

3.5 Internal Validity

As stated earlier, the present research is an experimentation of implementing a new model of education, wherein independent variable is the learning methodology and the dependent variables are knowledge gain and skills attainment.

Internal validity of the research is ensured by means of controlled threats to internal validity.

Prof. Robert S Michael, senior professor, Indiana University, USA, in his presentation, Strategies for Educational Inquiry (Michael) has given elaborate instances of internal validity threats and controls. It is mentioned that for Post-test only design experiments conducted for controlled group various threats to internal validity are controlled. Following figure indicate comparison of various designs. + sign indicates control over threat, - sign indicates no control and possibility of threat, blank indicates that threat is not relevant.

Image 1: Internal Validity

	Post-test Only, Ctrl Group	Pre-Post Test, Ctrl Group	Solomon Four Group
History	+	+	+
Maturation	+	+	+
Testing	+	+	+
Instrumentation	+	+	+
Regression	+	+	+
Selection	+	+	+
Mortality	+	+	+
Contamination	+	+	+

Robert S Michael Internal & External Validity-33

For current program under study, it being post test only experiment the threats are controlled.

Justification is as follows:

- History: The program under study is new and therefore has no history that would act as an external factor
- Maturation: The post tests given are at specific time interval and are linked to their learning process. Hence, there are no changes in the dependent variable – i.e. skill attainment and knowledge gain due to normal developmental processes operating within the students as a function of time.
- Testing: The research design for current study is post test only design. Hence, there is no pre-test that can affect the results of post-tests.
- Instrumentation: The post tests (elaborated later in this chapter in section: Tools for the study) used for the current research are as per the norms of academic authority – University. Hence there has been no change in the way of testing the dependent variable.

- Selection and Mortality: Since it's a single group post test only design, this threat is not applicable.
- Contamination: Since it's a single group post test only design, this threat is not applicable.
- Regression: Statistical regression is a threat to internal validity that is observed in case of two groups. Current design being single group experiment, regression is not applicable.

3.6 Tools used for the study

Research Tools

Present research is an experimentation of implementing an educational model which has technology at its base. i.e. the Learning methodology of Role Based and Work & Performance Centric model of education is based on technology. eLearning is at its core, for expected knowledge gain.

Hence research tools used for the present single group pre-experimental study are as follows:

Table 19: Tools used for the study – Hypothesis Testing

Sr.No		Research Tools	Statistical tools
1.	Skill attainment and theoretical knowledge gain with 60 percent mastery by 60 percent students	Post-test in form of Work Ratings	<ul style="list-style-type: none"> • Passing criteria as stipulated by University i.e. 40% • % of data collected through software framework for testing hypothesis
Post-test in form of Term End Examination			
Post-test in form of Internal Assignment			

Table 20: Tools used for the study - Research Objectives

Sr.No	Research Objective	Research Tools	Statistical tools
1.	eLearning Content (eContent)	Questionnaire for students	• % of data collected through software frameworks for validating research objectives
2.	Technology (eLearning framework)		
3.	Mentor's role in the learning process		

Post Tests

1. Work Ratings

Post test in form Work Ratings is based on the format of assessment stipulated by industry partner companies – i.e. work labs.

Average work ratings for Academic Year (s) are calculated based on the Work Ratings awarded by respective Work Labs.

It is to be noted that for any industry workplace, the work ratings represent the performance ratings and every person working has to perform as per the acceptable criteria.

For students, there has been no alteration in the performance monitoring process and hence Work Ratings awarded by Work Lab are considered as Post Test for assessing Skill Attainment by students necessary to perform at the workplace.

Post test scores are the average work ratings for Academic year (s) awarded by industry partner companies.

Detailed performance monitoring process and award of work ratings is explained in Chapter 4: Program Model under Study, Sub chapter: Evaluation.

2. Term End Examination

Term End Examination is conducted by Academic Authority involved in the implementation of the model under study, i.e. University.

Hence, the applicable norms for evaluation as stipulated by University for the program under study are considered for post test – Term End Examination.

Detailed evaluation pattern is explained in Chapter 4: Program Model under Study, Sub chapter: Evaluation.

Post test scores is the result of Term End Examination for selected courses for Academic Year(s) under the scope.

Detailed curriculum is mentioned in chapter 4s.

Courses under the scope are as follows:

Table 21: Courses under scope of study: TEE

Year	Semester	Courses
1	1	Information Technology Skills - Basics
		Information Technology Skills - Advanced
		Workplace Ethics and Responsibility
		Effective Collaboration and Listening Skills
	2	Finance Literacy
		Digital Citizenship and New Literacies
2	3	Overview of Service Industry: BPO,KPO and LPO and Indian Scenario
		Front Office Customer Services and Management
		Back Office Customer Services and Management
	4	Service designing: Banking, Finance and Insurance
		Service designing: Accounts and Legal
		Service designing: Hotel, Restaurants, Hospitality and Event Management

3. Assignments

Internal Assignments are evaluated by domain experts as per the norms stipulated by University.

Hence, the applicable norms for evaluation as stipulated by University for the program under study are considered for post test – Internal Assignments.

Detailed evaluation pattern is explained in Chapter 4: Program Model under Study, Sub chapter: Evaluation.

Post test scores are result of internal assignments for selected courses for Academic Year(s) under the scope

Detailed curriculum is mentioned in later chapters. Courses under the scope are as follows:

Table 22: Courses under scope of study: Assignments

Year	Semester	Courses
1	1	Information Technology Skills - Basics
		Information Technology Skills - Advanced
		Workplace Ethics and Responsibility
		Effective Collaboration and Listening Skills
	2	Finance Literacy
		Digital Citizenship and New Literacies
2	3	Overview of Service Industry: BPO,KPO and LPO and Indian Scenario
		Front Office Customer Services and Management
		Back Office Customer Services and Management
	4	Service designing: Banking, Finance and Insurance
		Service designing: Accounts and Legal
		Service designing: Hotel, Restaurants, Hospitality and Event Management

Summary

It is therefore, to be noted from above explanation that the current research is a single group experiment research with post test only design.

In order to test the hypothesis and validate the research objectives, the post tests in form of standard norms followed by academic authority – University are used.

i.e. For assessing ‘Knowledge Gain’ part of the hypothesis, Term End Examination scores and Assignment scores are used as post test scores.

For assessing ‘Skill Attainment’ aspect, Work Ratings awarded by industry partner companies, i.e. Work Labs are used as post test scores since these are as per industry norms.

Additionally, questionnaires are used for validating objectives related to effectiveness of eLearning Content, eLearning Framework and Mentoring.

It will be appropriate to understand and take into account details of Program Model under study and descriptive analysis of each component elaborated in Chapter 4, before data analysis is presented.

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Chapter 4:

Educational Model and Program under Study

(MKCL's Role based and Work & Performance Centric (RoWPeC) Model of Education)

4 Chapter 4: Educational Model and Program under Study

Role based and Work & Performance Centric Model of Education of MKCL (RoWPeC)

Contents

Background:	
4.1 Educational Model at a glance	
4.2.Environment for Learning through Working: eLearning.....	
4.3 Mentoring	
4.4 Evaluation Methodology	
4.5.Technology Framework	

Background

This chapter in its first section presents MKCL's Role Based and Work & Performance Centric Model of Education.

Later sections present critical analysis of this model from educational perspective with a focus on validating objectives set for the current research. These aspects cover areas as follows: Environment for Learning through Working: i.e. eLearning, Mentoring, Evaluation and Technology.

4.1 Educational Model at a glance

Maharashtra Knowledge Corporation Ltd – MKCL, is a public limited company promoted by the Government of Maharashtra, India for propagation of the new education paradigm based on universalization and integration of Information Technology in education and taking the fruits of IT to the masses at large. A Mass IT Literacy Movement has been successfully propagated by MKCL in the State of Maharashtra by making more than 9 million learners (especially students) IT literate in a self-sustainable manner in a span of about 14 years by creating a self-replicable model based on public-private-community-partnership (PPCP) with the involvement of the Government of Maharashtra, almost all Universities in the State, large number of educational institutions and thousands of small and medium IT enterprises and entrepreneurs.

MKCL aims to develop a high quality skilled manpower in niche areas/sectors through diversified degree and post-graduate degree programs to meet the requirements of the industries in various sectors and to instill self-employment skills in people and make them employable through a large number of role based and work and performance centric courses.

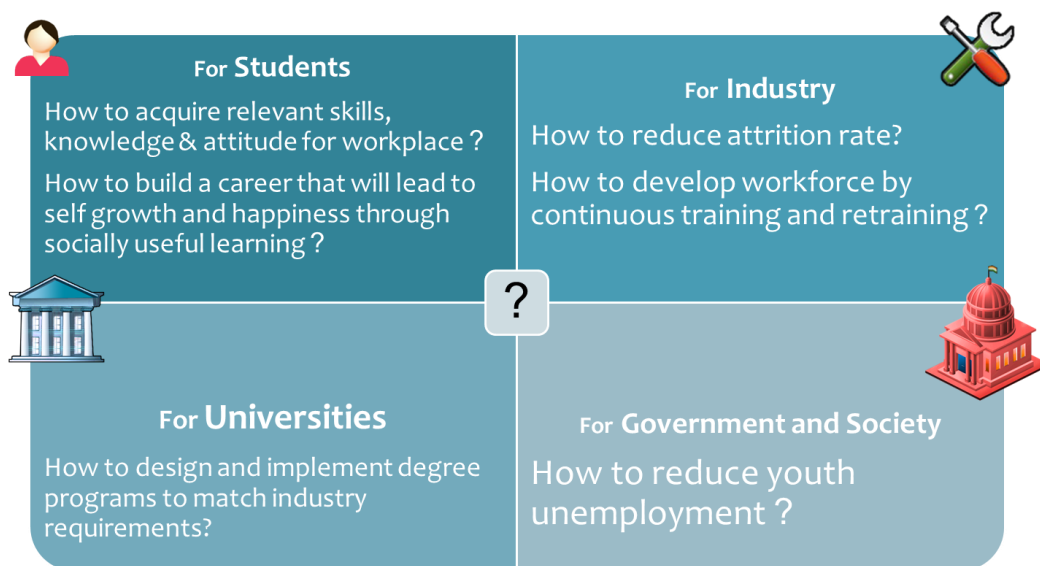
MKCL, therefore, under its program, '**MKCL Finishing Schools**' (hereinafter referred as '**MFS**') is now imparting series of *Role Based and Work and Performance Centric* distance education degree and post-graduate degree programs to address the manpower demands of the industry not just at the differential skill-based entry level but at an integral role-based and directly deployable levels, by forging partnerships with various organizations having domain expertise and who can offer real workplaces as a Work Lab for the learners to gain and practice practical skills required at the workplace.

MKCL has designed the programs under MKCL Finishing Schools (MFS) so as to give an intensive exposure, expertise and experience in an eLearning supported Work Lab in form of real-life work environments of the industries and set up an innovative learning through working paradigm and thereby attempt to seek a blend of the work environment and learning environment, as a result of which there is a proper match between the skilled manpower required and skilled manpower available. MKCL is implementing courses under MFS by forging partnerships with the Industry Partner / Work Lab Partner (IP/WP) having Work Lab opportunities for learners at real life workplace.

4.1.1 Key challenges addressed

The Role Based and Work & Performance Centric Model of Education of MKCL attempts to address following key challenges in terms of higher education

Figure 1: Key challenges



As mentioned in the aforementioned figure, the challenges are for students, industry, university as well as government and society at large.

Students during their higher education are unaware and do face challenge of how to acquire relevant skills, knowledge and attitude for the workplace. It has been a observed and shared across open media on internet / other publishing media that the curriculum and skills acquired during the graduation are not found to be relevant for getting job in industry environment.

Short duration courses related to soft skills or business communication do not always help students to secure a job. Moreover a deeper challenge that is surfaced is of career building. As against a 'job', due to not so relevant learning or education per say the students find it challenging to identify inclination to build his/her own career.

On the other hand, the industry faces a mega challenge of acquiring resources with appropriate skill sets. Initial challenge is to train the resources by bridging the skill gap and make them ready for the workplace. Further, continuous training and retraining is required. Furthermore, the trained resources quit in a very short time leaving industry to initiate the whole cycle afresh. This results into huge burden in terms of cost, resources to be deployed for continuous training and re-training. As per recent reports analysts say that the attrition rate is exceeding 40%. (Watch)

Industry, therefore, requires some solution to address the key challenge of attrition.

There is University perspective as well. Traditional degree programs and curriculum designing methods are not sufficiently catering to the demands of industry and as a result the industry – academia linkage is not meaningful and there is a skill gap.

All these challenges faced by key stake holders of higher education together add up to a bigger challenge faced by Government and society at large. It is in form of unemployment and less productive youth.

It is in this context, MKCL Finishing Schools through Role based and Work & Performance Centric model of education, attempts to offer a new way to address aforesaid key challenges.

4.1.2 Objectives of MKCL Finishing Schools:

Objectives of MKCL Finishing Schools are set

1. To offer **role based and wholesome work centric education** to learners at large leading to wholesome personality development in terms of personal growth and social value & wealth creation
2. To setup and implement transformative agenda for **industries to become working cum learning environment**
3. To enable universities to design and connect degree programs to industry requirements

4. To offer mechanism that will enable government and society to reduce youth unemployment

4.1.3 Mechanism

- To design and establish a platform for collaboration and integration of all stake holders involved in higher education
- To devise a platform for harnessing industry-academic linkages
- To design a technology enabled blended learning method for work centric and role based education

Implementation of MKCL's Role Based and Work & Performance Centric Model of Education (RoWPeC) sets a transformative agenda for different stake holders.

On one hand Industries/enterprises and service sector organizations are expected to become Educational Environments by offering Work Labs and Scholarships to students and to perform a developmental role. On the other hand Students are expected to get actual work experience and mentoring and contribute to the development of socially useful and productive outputs by working in real life work environment. Concept of Socially Useful and Productive work has been linked with use of appropriate tools of 21st century, i.e. tools of information technology.

RoWPeC model is helpful

For *sectors* where

- There is continuous and growing need to train and retrain large number of people for specific roles
- Work Lab opportunities in form of real life work places leading to skill attainment can be created
- Skills required for workplace performance can be learnt by youngsters while working

For *industries*

- Looking for young, fresh and performing people on a large scale
- Who wish to contribute to people development in a meaningful way by offering Work Labs in form of real work places for students leading to a degree on one hand and ensure performance of company on the other
- Who want to address problem of attrition
- Having capacity to generate a pool of mentors

For *Universities*

- Offering distance education program
- With a mission and desire to bridge the gap between curriculum of the degree programs and industry requirements
- Who wish to establish meaningful partnerships – i.e. industry-academia linkages for offering socially relevant degree programs

For *students*

- With a desire and need to work while they learn
- Who are IT literate

4.1.4 Industry / Work Lab Partnership

The Industry Partner / Work Lab Partner (IP/WP) participate in this program so as to -

- get the Students/ Interns who would be associated with the IP/WP for gaining and practicing the practical skills expected in the degree program at the Work Lab provided by the IP in form of real life workplace
- get the appropriate value-adding degree program approved for its students by MKCL from a reputed University under the open-distance-learning mode supporting learning through MKCL's eLearning Platform while working and earning
- get the acceptance of the University by MKCL for the concept of Learning For Work; Learning Through Work and Learning throughout Work, thereby getting improved

quality of output of the learners and getting their higher level of involvement and commitment leading to a greater customer delight

- get a considerable reduction in the attrition rates of the Students / Interns and thereby cutting down re-selection and re-training costs and improving business continuity and bottom-lines
- get the benefit of zero long-term liability of Students/ Interns due to the predictable expiry of their degree program and association with the IP/WP for Work Lab
- enjoy the choice of retaining the high performing Students/ Interns as the well-trained and well-experienced employees
- get the fresh Students every year to replenish the outgoing individuals finishing the degree

It has been recognized that with rapid transformation of societies in social, political, economic, technological, and education spheres, there has been a change in the perspectives on the need for and nature of Education. New challenges have begun to emerge, and old ones to remerge.

As per MKCL's model, (MKCL) imparting such education among the people at large involves access to actionable knowledge resources

- to very large populations with various diversities - ***Bigger***,
- with a high quality of relevance and applicability in life and work -***Better***,
- at an affordable cost - ***Cheaper***,
- within a shortest possible time - ***Faster***,
- with a wide accessibility from metros to villages - ***Wider***,
- in a mass-personalized manner – ***Deeper***.

In addition to the job orientation, however, it has become necessary to attain specific skills necessary to function in a specific role at the work place. It is therefore necessary to give a wide exposure and experience of actual working in the industry or work environment.

4.1.5 Academic Approach

The Academic Approach for MKCL Finishing School (MFS) focuses on “**Role Based**” and “**Work & Performance Centric**” education i.e.

- set a target in terms of a ‘role’ to be performed at the work workplace
- attain skills necessary to perform the desired role by actually performing skills at the workplace
- derive theoretical basis for the skills attained after continuous and profound practice

The ultimate objective is to empower the Learner to attain ‘role’ specific skills for different professions

It aims at leading the learner to his/her rewarding career as well as development of the society by working in the industry.

4.1.6 Learning and Assessment Methodology

- Learners are recruited in the industry for specific position through selection procedure and are simultaneously enrolled for a professional degree program for a university
- Learners undergo an orientation / foundation program at the workplace covering basic skills necessary for the specific position
- Learners are then posted in different teams / tracks / practices to work on real-time tasks
- Learners interact with mentors for reflections on deriving meaning and value out of daily actions performed for completing the work
- Learners are then exposed to **eLearning resources** (eContent, Lectures, Webcasts, Simulations etc...) to
 - understand and explore global and best practices followed for the specific profession and respective role

- appreciate, analyze, synthesize, and evaluate real-life case studies developed by experts
- derive theory out of the skills practiced at the work place
- Learners are equipped with ePlatform to
 - Interact with peers for sharing learning experiences
 - Interact with mentors to ask queries and discuss failures or insufficiencies and corrective measures
 - Participate in meaningful discussions with mentors and/or peers
 - Build ePortfolio for demonstrable and verifiable outputs at the work place.

All these aspects are analyzed in detail in further sections of this chapter.

4.1.7 Assessment methodology

- Learners earn ‘work ratings’ by working in the industry, which are based on performance monitoring process and norms stipulated by industry, which is a combination of cognitive, affective domain
- Learners earn ‘knowledge ratings’ by accessing eLearning resources and solving eAssessments
- Work ratings + knowledge ratings, leads to award of a professional degree by university

Further sections of this chapter explain in detail the key aspects of RoWPeC, i.e. Environment for Learning through Working, Mentoring, Evaluation and Assessment, Technology frameworks for Learning and Assessment in RoWPeC.

4.1.8 Structure of the educational program under study

Structure of the educational program under study implemented by MKCL under its Role based and Performance Centric model

4.1.8.1 Program name: B.A. in Services Administration

4.1.8.2 Duration: 3 years

4.1.8.3 Eligibility

- 12th passed or diploma and

- IT literacy skills / MS-CIT preferable

4.1.8.4 Medium of instruction

Medium of communication: At the **Study Center @ Work Place (SC@WP)**: English / Hindi / Marathi as applicable

Medium of Learning: **eLearning resources**: English

Discussions and interactions with Mentor: English / Hindi/ Marathi whichever is mutually convenient

4.1.8.5 Curriculum:

Table 23: Curriculum of program under study

	Year	Semester	Courses
1	1	1	Information Technology Skills - Basics
2			Information Technology Skills - Advanced
3			Business Communication
4			Workplace Ethics and Responsibility
5			Effective Collaboration and Listening Skills
6		2	Learning and Thinking Skills
7			Presentation, Marketing and Selling Skills
8			Finance Literacy
9			Digital Citizenship and New Literacies
10			Leadership and entrepreneurship
11	2	3	Overview of Service Industry: BPO,KPO and LPO and Indian Scenario
12			Front Office Customer Services and Management
13			Back Office Customer Services and Management
14			MIS and Reporting - Part 1
15			MIS and Reporting - Part 2
16		4	Science of Service

17			Service designing: Banking, Finance and Insurance
18			Service designing: Accounts and Legal
19			Service designing: Travel and Tourism
20			Service designing: Hotel, Restaurants, Hospitality and Event Management
21	3	5	Sector study: eGovernance and Healthcare
22			Sector study: IT Infra Support Services
23			Quality at Workplace
24			Cyber Security
25			Business Communication:Documentation
26		6	Sector study: Media and Communication
27			Sector study: Art, Culture and Entertainment
28			Project
29			
30			

4.1.8.6 Curriculum under the scope of this study:

The following courses are being considered for analysis keeping in view the Work Lab environments and the functions being undertaken by Work Labs currently associated with the program under study.

The courses selected below expect knowledge gain and skill attainment relevant to functions of Work Labs currently associated.

Table 24: Curriculum under scope of study

Year	Semester	Courses
1	1	Information Technology Skills - Basics
		Information Technology Skills - Advanced
		Workplace Ethics and Responsibility
		Effective Collaboration and Listening Skills
	2	Finance Literacy
		Digital Citizenship and New Literacies
2	3	Overview of Service Industry: BPO,KPO and LPO and Indian Scenario
		Front Office Customer Services and Management
		Back Office Customer Services and Management
	4	Service designing: Banking, Finance and Insurance
		Service designing: Accounts and Legal
		Service designing: Hotel, Restaurants, Hospitality and Event Management

4.1.8.7 Courses and units

Detailed chart of course wise units is attached as an appendix.

4.1.8.8 Evaluation pattern

A continuous comprehensive evaluation methodology is followed for B.A. in Services Administration degree program in order to avoid severe asymmetry between short duration examinations and long learning period.

Combination of the following components is used for evaluation:

- **Continuous Comprehensive Assessment** :Continuous Comprehensive assessment will be of two types:

Practical: Work Based Assessment which carry 10 marks through work ratings

Theory: Knowledge Based Assessment which also carry 10 marks through assignments

(Student has to get minimum 8 marks out of 20 marks, with separate passing in Practical and Theory)

- **Term End Examination:** Term End Examination is of Theory: Knowledge Based Assessment which will carry 80 marks
(Student has to get minimum 32 marks out of 80 marks for passing this component).
- **Passing in a Course:** Passing criteria for each assessment type for each assessment method and for each course shall be minimum 40% marks. i.e. It is required to score minimum 40% marks for passing in work based assessment at the Work Lab and knowledge based eAssessments through eLearning. The evaluation of a course shall be done according to the performance of students in the respective components.

4.1.8.9 Award of Degree

A student becomes eligible for award of degree after successful completion of the courses included in the concerned degree programme.

4.1.8.10 Award of Class

The class of certificate, diploma and degree programmes shall be given according to the following table. The class of the degree will be awarded based on the marks obtained in the courses of semester III, IV, V and VI.

Table 25: Percentage and Class

Percentage of Marks	Class Description
75 and above	First Class with Distinction
60 -- 74.99	First Class
50 -- 59.99	Second Class
40 -- 49.99	Pass Class
Less than 40	Fail

4.1.8.11 Work Labs: Industry Partners

Associated industry partners offering Work Lab in form of real life work environment to the students of degree program under study: B.A. in Services Administration

Sr. No	Name of Industry Partner: Work Lab i.e. Study Centre@Workplace	Domains	Location
1.	Maharashtra Knowledge Corporation Limited (MKCL)	Educational BPO – Voice, Non voice, Educational BPM eGovernance BPM	Pune, Navi Mumbai
2.	Tata Business Support Services (TBSS)	Telecom BPO – Voice Hospitality BPO – Voice	Pune
3.	Tech Mahindra Ltd	Telecom BPO – Voice	Pune, Mumbai
4.	WNS Global Services	eGovernance – BPM (Non voice, Domestic)	Pune
5.	Metric Consultancy Ltd	Telecom BPO – Voice Marketing Research Content Management	Pune, Wai (Satara, Maharashtra)
6.	SHRIM IT Services Pvt Ltd	Educational BPM	Navi Mumbai
7.	Yashwantrao Chavan Maharashtra Open University (YCMOU)	Educational BPM	Nashik, Aurangabad, Nanded, Nagpur, Amravati, Kolhapur, Pune, Mumbai

Sub Chapter: 4.2

Environment for Learning through Working: eLearning

4.2 Environment for Learning through Working: eLearning

This section covers following aspects

Contents

Background	
Educational Technology trends	
Nai Talim.....	
Merrill's First Principles of Instruction	
Situated Learning.....	
Curriculum and Learning Content.....	
Academic Process and Objectives of eLearning Content.....	
Objectives and parameters of eLearning Content design	
Design and development of eLearning Content for program under study	
Examples of SLOs	

4.2.1 Background

The subsequent sections analyze Environment for Learning through Working offered as per Role based and Work & Performance Centric model of MKCL.

It comprises of Learning at Work Lab, Learning through eLearning, and Learning through Reflections with mentors.

In order to assess effectiveness of eLearning for learning in Work Lab, it is important to analyze this environment from educational perspective and by applying various theories.

In this section, eLearning aspect is elaborately analyzed.

4.2.2 Educational Technology trends

It is imperative to take into account mega trends in Education Technology, as it defines instructional designing strategy for learning content of current program under study.

Etymologically, the word "education" is derived from the Latin *ēducātiō* ("A breeding, a bringing up") from *ēdūcō* ("I educate, I train") which is related to the homonym *ēdūcō* ("I lead forth, I take out; I raise up") from *ē-* ("from, out of") and *dūcō* ("I lead, I conduct").

If we look at the progress of Educational Technology so far and then try to interpret the current trends, we perhaps would arrive at a conclusion that Information Technology is helping us to truly experience the real meaning of the word 'education'.

We all by the very nature of the environment – a software civilization that we are living in - have become digital citizens.

This new world embraces all the sectors with mega trend of information technology enabled automation, thereby generating a requirement of continuous adaptation to the new situations. It has in turn a great impact on how one learns new things. Obviously, this whole phenomenon puts forth an exciting challenge leading to a huge scope for innovation in the field of education, as the learning process of individuals, just like software development, has also to be agile now!

Fortunately, technology has it all. And with Educational Technology as a specialized branch, the life is really exciting for the educators!

Educational Technology: From paintings on caves to eLearning 3.0

Educational technology could be traced back to the emergence of very early tools, e.g., paintings on cave walls. But usually its history starts with the introduction of educational films.

With the advent of internet and communication technologies, education world witnessed a new era of eLearning. Computer based tutorials (CBTs), Learning Management System, Learning Content Management Systems, Content Managements systems, Online Classrooms were the key words for the first decade of the 21st century and the learners experienced eLearning 2.0! Personalized Learning Environments (PLEs) and Open Education Resources have led us to eLearning 3.0. During these years, while there has been an emergence of new science of technology enabled instructional designing, a prominent change is also seen in the expected role of a teacher, as well as how and why the teacher and students should interact with each other in the process of education. Technology, being at the driver's seat, expects it all.

Some of the new trends are as follows:

OER: Open Education Resources

In its simplest form, the concept of Open Educational Resources (OER) describes any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are openly available for use by educators and students, without an accompanying need to pay royalties or license fees.

OER has emerged as a concept with great potential to support educational transformation. While it's educational value lies in the idea of using resources as an integral method of communication of curriculum in educational courses (i.e. resource-based learning), its transformative power lies in the ease with which such resources, when digitized, can be shared via the Internet. These materials are organized as

courses, and often include course planning materials and evaluation tools as well as thematic content.

Image 2: NPTEL



Major publishers of OER are MIT OCW movement, National Open University of Nigeria, UK Open University, NPTEL-India, Indira Gandhi National Open University-India, African Virtual University and University of Cape Town.

MOOC: Massive Open Online Courses

With current registrants' number exceeding 150, 000 learners as on today, MOOC is a mega trend being observed.

A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as videos, readings and problem sets, MOOCs provide interactive user forums that help build a community for the students, professors, and teaching assistants (TAs). MOOCs are a recent development in distance education.

Well known MOOCs players are

- Coursera: Traditional lectures on the web
- Udemy: Make your own course and deliver
- Udacity: Tailor-made for the web
- MIT edX

Image 3: MOOCs



Key components of MOOCs platform are Wiki, Discussion forum, Content Repository (this is where OER comes in), Content Delivery platform, Evaluation component and Analytics.

Serious Gaming

‘Gamification’ is a new word on the horizon. Serious gaming in the classroom or at home

Image 4: Gamification



through specially designed games leading to acquisition of knowledge and skills is a mega trend. Objective is to engage, entertain and educate!

In game play, the progress a player makes is through learning. This happens as students grasp and understand embedded knowledge and skills required to successfully navigate a new

system. The challenge and the progress of understanding a new concept through gaming is what make a game enjoyable.

Educational game-play has defined learning outcomes. It is important for an educator – i.e. game designer to keep this notion central to the planning when choosing or designing a game.

Games such as Global Conflicts, Playing history, and many such make the subject learning extremely engaging for the students. It surely opens up new roles for the teachers!

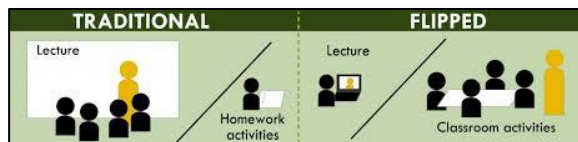
Flipped Classroom

Flipped Classroom is a pedagogical model where lecture and homework elements of a course are reversed. Here, the class time is turned into a workshop where students can discuss lecture content, apply the knowledge learnt, and interact

Image 5: Flipped classroom

with each another in hands-on activities.

It is a form of blended learning in which students learn new content online by watching video



lectures, usually at home, and what used to be homework (assigned problems) is now done in class with teacher offering more personalized guidance and interaction with students, instead of lecturing.

Also the collaboration technologies help the discussions in the classroom more meaningful. This trend has a great potential to transform the educational process especially in the context of Indian classroom where we are facing real challenge to implement constructivism based teaching-learning methods.

Thus the trends are set. They bring new opportunities for the progress along with some key challenges. Challenges are many. There are technological challenges - in terms of agility, ease of access, wider reach, low cost, high quality and more importantly delivery of personalized learning experience. Challenges are for teachers – in terms of new roles, adaptation to ever-changing technology, effective and appropriate use of tools. Challenges are also at implementation level in terms of policies, recognition to new type of education, etc. Nonetheless, as Moliere has said once, “The greater the obstacle, the more glory in overcoming it”!

For the program under study, the trends are being interpreted in terms of their relevance to instructional designing strategy for program under study.

While on one hand, the mega trends are taken into account, Mahatma Gandhiji's Nai Talim is the basis of Role Based and Work & Performance centric model of education.

4.2.3 Nai Talim

Dr. Abhay Bang, in his article in Marathi titled: 'Shikshanache Jadubhare Bet' has portrayed Gandhiji's Nai Talim, as he himself had his school education in a Nai Talim School setup by Gandhiji. He writes: Nai Talim (New Education) school was the most amazing school – almost magical. The education was imparted not mainly in classroom and through books but by actual living and doing. The life was spent in rhythm with the nature and culture during which the science and arts were taught.

In this article Dr. Bang shares his process of learning literature, botany, zoology, mathematics and science through activities aligned with the environment and real life work. The school used to have three hours of compulsory involvement in socially useful and productive work. It had to its base Gandhiji's thought of self-reliant education as well as Vinoba Bhave's thoughts of socially useful skill attainment and scientific knowledge gain.

It is therefore to be interpreted that the process of education aims persistence of knowledge and attainment of skill through real life work / socially useful work that with teacher mediation for revealing scientific aspects involved in it.

For the program under study, this interpretation is crucial.

Gandhiji in his important article in *Harijan* of the 31st July 1937: "By education I mean an all-round drawing out of the best in child and man-body, mind and spirit. Literacy is not the end of education nor even the beginning. It is only one of the means by which man and woman can be educated. Literacy in itself is no education. I would therefore begin the child's education by teaching it a useful handicraft and enabling it to produce from the moment it begins its training.

Thus every school can be made self-supporting, the condition being that the State takes over the manufactures of these schools.

I hold that the highest development of the mind and the soul is possible under such a system of education. Only every handicraft has to be taught not merely mechanically as is done today, but scientific i.e. the child should know the why and wherefore of every process....I have myself taught sandal- making and even spinning on these lines with good results. This method does not exclude a knowledge of history and geography. But I find that this is best taught by transmitting such general information by word of mouth. One imparts ten times as much in this manner as by reading and writing. The signs of the alphabet may be taught later...Of course, the pupil learns mathematics through his handicraft”.

Further, Marjori Sykes in her book: *THE STORY OF NAI TALIM*, narrates:

From the beginning he (Gandhiji) had seen that the vigorous manual work to meet the needs of a family or community was the basis both of physical health and of an ethic of generous sharing and mutual respect. But the link between the skills of hand and eye, and the development of the mind, was not so clear to him in those earlier days: on those long walks from home to office with his own children, and in the "sleepy" afternoon classes at Tolstoy Farm he does not seem to have used the children's work experiences to stimulate their interest in their literary studies; he relied upon the intrinsic interest of the subject and on his own powers of vivid story-telling.

"I must confess," he (Gandhiji) wrote in 1937, "that up to now all I have said is that manual training must be given side by side with intellectual training. But now I say that manual training should be the principal means of stimulating the intellect." This meant that the manual training must be "scientific." There must be full appreciation of the chosen handicraft in all its points of contact with natural science and human history, its standards of accuracy and beauty, the part it plays in the well-being of the people who practise it and in the enrichment of human life as a whole. Handicrafts taught in this way, far from being a mindless drudgery, could stimulate endless intellectual curiosity on a great variety of topics. They opened the door wide for research and discovery.

It is documented in the proceedings of National Education Conference on October 22-23, 1937 in Wardha, that Vinoba Bhave, then heading the Nalwadi Ashram, strongly supported Gandhiji's

contention that for little beginners takli-spinning was extremely rich in educational potential. Remarks by Kaka Saheb Kalelkar are also imperative wherein he mentions "Let us rescue education from the four walls of the class- room."

While explaining the scheme of Nai Talim, Gandhiji explains that this process of education should center around some form of manual and productive work, and all other activities to be developed and training to be given should as far as possible be integrally related to the central handicraft, chosen with due regard to the environment of the child, that the products of tile handicraft should gradually be able to cover the remuneration of the teachers.

As mentioned by Krishna Kumar, in his book: What is Worth Teaching, Mahatma Gandhi's idea of traditional handicrafts providing an axis for the school's daily curriculum had in it the following elements which formed its rationale:

- Bridging the school with the world of work
- Imparting an activity orientation to the curriculum and inculcating a sense of self-reliance

Hence, sustainability of institution by ensuring sustainability of all stake holders, self-reliance, socially useful engagement are the key interpretations from these notions.

With an attempt to apply Nai Talim principles in a 21st century context to Role based and Work & Performance Centric model of education definition of socially useful work, identification of needs of stakeholders, appropriate choice of tools, techniques and methods is vital.

Key challenges, Objectives, Mechanism of RoWPeC explained in earlier section are derived from these aspects and imply an attempt to adapt Nai Talim principles for design and implementation of program under study.

4.2.4 Constructivism

Nai Talim has deep rooted in it the constructivist approach of education.

Modern thinkers on education also have presented theory of constructivism emphatically. Fundamentally, constructivism says that people construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences. It is a

learning theory, wherein Learning is an active process. Knowledge is constructed from (and shaped by) experience, wherein learning is a personal interpretation of the world. Sources: Christie (2005); Kruse (n.d.)

Further, constructivism emphasizes problem solving and understanding uses authentic tasks, experiences, settings, assessments. Content is presented holistically –not in separate smaller parts. It helps to develop own goals and assessments, create new understandings (via coaching, moderating, suggesting) and control learning (reflecting) Source: Grennon Brooks & Brooks, 1999.

Thirteen Ed Online (2004), has presented comparison of Traditional and constructivist classroom

Table 26: Comparison: Traditional vs. Constructive Classroom

Traditional Classroom	Constructivist Classroom
Begins with parts of the whole– Emphasizes basic skills	Begins with the whole –expanding to parts
Strict adherence to fixed curriculum	Pursuit of student questions / interests
Textbooks and workbooks	Primary sources / manipulative materials
Instructor gives/ students receive	Learning is interaction-building on what students already know
Instructor assumes directive, authoritative role	Instructor interacts / negotiates with students
Assessment via testing / correct answers	Assessment via student works, observations, points of view, tests. Process is as important as product
Knowledge is inert	Knowledge is dynamic / changes with experiences
Students work individually	Students work in groups

It is interesting to apply characteristics of constructivist classroom to a program setting which is not at all a classroom environment.

Deep rooted foundations in Nai Talim and Constructivism set a strong Learning through Working Environment of the program under study.

While applying the characteristics of constructivist classroom mentioned in the above table to the program under study, it is observed that while the program is not typically classroom based, it does have a scope for sound implementation of constructivist classroom.

This is implemented through 1) eLearning content 2) evaluation and 3) reflections

Referring to specifications of situation based learning objects (SLO) and the open ended questions, elaborated in later part of this section, they primarily focus on constructivist approach of learning. Details about open ended questions are elaborated in section: *Evaluation*, of this chapter.

Instructional designing principles also have an impact on instructional designing strategy of program under study.

4.2.5 Key instructional design principles

Instructional designing has grown as a separate branch over past more than a decade; that is with the advent of eLearning. Some key principles are observed to be relevant in eLearning content development for the program under study.

4.2.6 Merrill's First Principles of Instruction

M. Devid Merrill suggested top level instructional design prescriptions. For this, he has described distinct phases of learning as: (1) activation of prior experience, (2) demonstration of skills, (3) application of skills, and (4) integration or these skills into real world activities.

Many current instructional design models suggest that the most effective learning environments are those that are problem-based and involve the student in these learning phases.

At the top level the instructional design prescriptions based on first principles are as follows:

- Learning is facilitated when learners are engaged in solving real-world problems.
- Learning is facilitated when existing knowledge is activated as a foundation for new knowledge.
- Learning is facilitated when new knowledge is demonstrated to the learner.

- Learning is facilitated when new knowledge is applied by the learner.
- Learning is facilitated when new knowledge is integrated into the learner's world.

In case of Role based and Work & Performance Centric model of education, the order of phases of learning is changed and the instructional design prescriptions are in parallel implemented.

That is,

- Learning is facilitated when learners are engaged in solving real-world problems.
 - Appraiser assess performance of the students in the work lab, that is exactly when the students are solving real – world problems
- Learning is facilitated when existing knowledge is activated as a foundation for new knowledge.
 - Appraisers through appraisal process and mentors during mentoring session help the student build new knowledge based on existing gained through practice

4.2.7 Situated Learning

Situated learning is projected by Jean Lave and Etienne Wenger as a model of learning in a community of practice. In eLearning context, the situated learning can be interpreted as

- Simulation of real-world tasks
- Contextualized learning
- Authentic and relevant
- Directed problem solving and rehearsal
- Adaptively or realistically structured
- Not just memorization and regurgitation
- Driven by emotion and relation

With a special context of Role Based and Work & Performance Centric model of education, where the students are performing a ‘role’ in real life work environment, the eLearning content ensures presentment of role based situations. This is done so that

- the student would have a complete overview of what all possible roles he/she might have to perform in the specific sector he is currently working

- the student would relate to one of the many roles presented to him through eLearning
- the student would gain knowledge about different functions of other roles so that if and when s/he completes performing for one role in the Work Place, s/he would be knowledge ready for the other role. This would help the appraiser / seniors at the workplace to offer her/him an opportunity to have role progression – in industry language a promotion to higher responsibility
- the student would gain knowledge about different roles and respective functions from other verticals. That is, if a particular student is working in telecom sector and working as a call center executive (i.e. the role), then through situation based eLearning content s/he would understand
 - 1) how the same role is performed for say logistics / IT Infra services / banking / insurance service industry etc. and
 - 2) the invariant aspects of the capabilities for roles across different domains

This knowledge gain would enable the student explore career in his/her area of interest on the basis of concrete, meaningful real life work experience of three years in one domain.

Furthermore, the situations and case studies compiled and written by practioners is a key for its effectiveness. The process followed for writing the situation based eLearning content is elaborated further in this section along with the objectives and parameters for the content, with examples.

For now, it is important to take into consideration the relation of curriculum and learning content designing for the program under study.

4.2.8 Curriculum and Learning Content

Prof. Krishna Kumar in his book: *What is Work Teaching*, rightly mentions that “we have an educational culture that is firmly entrenched in the rock of ‘received knowledge’”. Further while describing *Origins of Text Book Culture*, he mentions that “in the ordinary Indian school, the textbook dominates the curriculum, and the teacher is bound by the textbook. The teacher spends most of the time in class simplifying or interpreting the textbook and familiarizing students with its content to the point where it can be easily memorized.”

It can therefore be interpreted, that in terms of learning content, textbooks act as the authentic and at time perhaps the only form of learning content to be referred uniformly by the students and the teachers.

Role Based and Work & Performance Centric model of education implements prescribed curriculum in a different way with situation based learning approach and does not have prescribed textbooks.

This model has

1. Stipulated curriculum by University
2. Learning content in form of Situation based eLearning content modules mapped to curricular courses
3. Freedom and opportunity to students to construct his/her own curriculum through reflections on daily actions at workplaces
4. Reflection sessions by Mentors wherein freedom of students for constructing curriculum is encouraged and derivation of theory stipulated in the curriculum is recorded as an outcome of reflection process

4.2.9 Academic Process and Objectives of eLearning Content

It is in the context of relation of curriculum and learning content, the academic process of RoWPeC, mentioned in detail in earlier section, is restated herein for ready reference. It is as follows:

1. Students are enrolled for the degree program under study through selection process and are allotted a Work Lab made available by the industry partner for three years. Work Lab is allotted as per the selection criteria set by the industry at the time of admission.
2. Students work at the Work Lab i.e. Practical of the degree program, complete the allotted tasks, and interact with teammates, seniors. Get involved in the work.
3. Before and after the Work Lab hours, Students access MKCL's eLearning framework for Theory component of the degree program. i.e. to
 - a) Learn by exploring global and best practices followed for specific profession and respective role
 - b) Appreciate, analyze, synthesize, and evaluate real-life case studies developed by experts
 - c) Derive theory out of skills practiced at the workplace
 - d) Actively participate by posting and answering questions on eWorkForum – platform for sharing work situations and challenges
4. Students interact with mentors through online platform every day and meet him/her in a week-end session for reflections on deriving meaning and value out of daily actions at workplace discussions around actions and reflections, group activities and assessments

As mentioned in point no. 3 (a) and (b) above, eLearning content is expected to help student learn theory by exploring global and best practices and analyze real life case studies.

This clearly sets following objectives and parameters for eLearning Content design and development as follows:

4.2.10 Objectives and parameters of eLearning Content design

Table 27: Objectives and parameters of eLearning Content design

Objective	Parameter / Tag	Example
eLearning Content		
a) Should be presenting global and best practices followed for specific sector, in form of situations	<ul style="list-style-type: none"> • Sector • Skill 	<ul style="list-style-type: none"> • Telecom/ Education/ Banking/ Insurance • Domain skill/ Service Sector skill/ IT skill
b) Should be Role based, i.e. Roles being performed at real life workplaces of industry	<ul style="list-style-type: none"> • Role 	<ul style="list-style-type: none"> • Call center executive / Back office executive
c) Should be mapped to prescribed curriculum and be presented to students as per curriculum	<ul style="list-style-type: none"> • Curriculum course 	<ul style="list-style-type: none"> • Overview of Service Industry: BPO,KPO and LPO and Indian Scenario • Science of Service • Service designing: Banking, Finance, Insurance • Service designing: Travel and Tourism • Etc...

4.2.11 Design and development of eLearning Content for program under study

In order to address the objectives stated in the table above and also in the section: situated learning design, following process is followed for eLearning content design and development.

ADDIE model for instructional designing is applicable by involving domain experts who are professional practitioners.

Process is as follows:

1. Domain expert – who are professional practitioners enlist roles and functions
2. Role wise skills mapped
3. Role wise skill wise situations in form of stories are developed
4. Situation based learning object (SLO) is developed by adding appropriate illustrations.

For example:

Table 28: Ex Sector - Role

Sector: Travel and Tourism	Roles
	Front Office Executive (Receptionist)
	Ticketing Executive
	Documentation Executive
	Hotel Reservations Executive
	Tour Counseling Executive
	Car Rental Executive
	Tour guide
	Counter coordinator (Supervisor)
	Business Development Executive
	Manager

Table 29: Ex. Role - Functions

Role	Domain functions
Ticketing Executive	Rail
	Airline
	Bus
Documentation Executive	Passport
	Visa
	Forex
	Insurance
Tour Counseling Executive	FIT
	GIT
	Inbound
	Domestic
	International
Car Rental	Self drive
	Chauffer driven
Tour Guide	Tour Escort
	Tour Guide

Table 30: Ex. Sector - Roles

Sector: Education	Roles
	Counselor
	Student advisor
	Learning Facilitator
	Student Facilitation Executive

Table 31: Ex. Sector - Roles

Sector: Logistics	Roles
	Customer Service Executive
	Operations Executive
	Sales Executive

Further, skills which are generic, are mapped for all roles and functions appropriately:

Table 32: Service Sector Skills

Service Sector Skills
Marketing and Selling
Collaboration, Business Processes and Workflows
Customer Centricity
Customer Feedback and Grievance Management
Quality at Workplace
Product Knowledge
Compliance and Policies

Table 33: Business Communication Skills

Business Communication Skills
Business Communication: Marketing and Promotion
Business Communication: Operations and Reporting
Business Communication: Processes and Workflows
Business Communication: Complaints and Grievances
Business Communication: Documentation

Table 34: IT Skills

IT Skills
IT Skills - Basics
IT Skills - Advanced
Data Management and Analysis
Financial Accounting
Cyber Security
Sector Specific Rules & Regulations

Table 35: Life Skills

Life Skills
Politeness
Courteousness
Learnability

Specifications for Situation Based Learning Objects

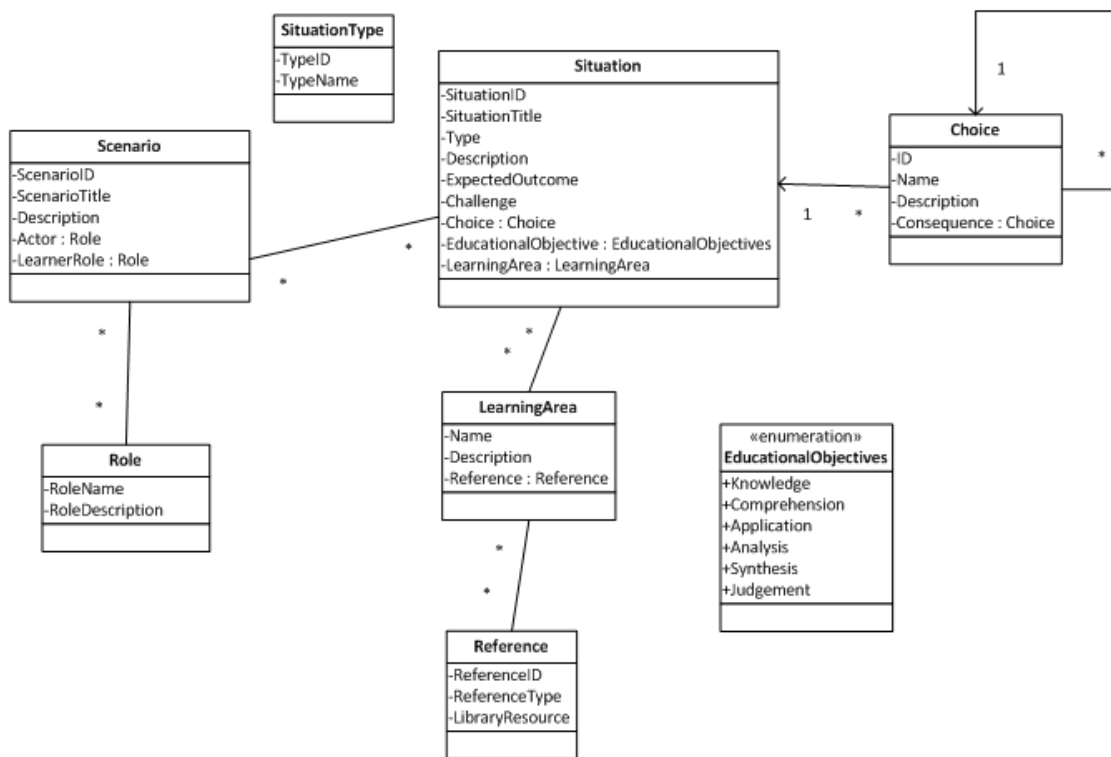
Specific outcomes and the approach for writing situations are as follows:

1. Listing of roles and functions of respective service sector, finalizing and prioritizing it by mutual agreement.
2. Situation should
 - a. Be learner centric.
 - b. Deal with the present conditions and lead the learner to a Scenario that deals with the future.
 - c. Have activities and interactivities. i.e. it should focus on ‘initiatives’ and ‘interactions’ that the specific role demands.

- d. Have close ended objective type questions and open ended subjective type questions
3. Situation should be written in form a story board that comprises of
- a. Textual description and
 - b. Appropriate images / illustrations / photographs/ any other media supporting textual description. These will be used as a reference for development of eLearning content by MKCL.

Situation repository that stores situations received from different domain experts have following parameters, represented in a form of class diagram.

Table 36: UML class diagram: Situation repository



Example of SLOs

One example of a situation is presented herewith with analysis.

Situation: Hall ticket not generated and exam is scheduled next day

Sector: Education

Customer profile: Female, 19 years old, under tension

Call center agent's goal: Check the system, identify issue, give assurance

Action expected: Check the system, SMS / Email communication to the customer

Curriculum reference: Business Communication

Description:

Customer situation:

Anita, (who has called the call center) is based out of a suburb near Pune, Junnar. She is doing external BA and has completed her online admission process.

She has received SMS and email alerts communicating receipt of her application form, date of examination etc. Her examination is just next day.

She has been checking the website for last one month. She has sent proactive emails to admission support requesting for hall ticket.

She has checked the website in the morning, just a day prior to her exam schedule, however gets a message that her hall ticket has not been generated.

Now the situation is extremely critical for her, as on one hand she has to focus on her studies and on the other hand she has not got admit card!

On the call, she is almost in tears, is under tremendous tension as she thinks that if she does not get the hall ticket, she won't be able to appear for the test, leading to loss of one academic year.

Anita has been good in academics. She is the eldest daughter of the family with one younger sister. She is doing part time job of a sales girl in a saree shop to contribute to the family income. Her father and mother are working in a nearby farm on daily wages.

It is her aspiration to graduate and get good job with assured monthly income so that she can support her younger sister in studies.

In spite of her proactive enquiry, on time submission of application, she is facing an uncertain situation that may have negative impact on her future.

Script: Actual call in audio format or dialogues.

Dialogues highlighting business communication skills either demonstrated or need to be demonstrated by the Customer Care Executives.

Assessment items:

- **Objective questions**

1. From where the call had come?
2. Why the caller was in panic? What was her real concern?
3. What is the procedure followed for handling this issue?

- **Constructive questions**

1. If you are the call center executive receiving such calls, and on this specific day, if you have received all calls with same concern, what would be your action?
2. What kind of input you would suggest to the overall process or software framework to prevent such situations in future?

Analysis:

- Situation has occurred at real life workplace
- It is mapped to particular role and expected skills
- It is mapped to curriculum
- Objective questions are designed to assess understanding of factual information about the domain knowledge for the particular role
- Constructive questions are designed
 - to assess understanding of responsibilities of a particular role with a scope for construction of knowledge
 - to assess understanding of invariant and process based approach of business administration
 - to assess capacity of individual to take up different roles

Sub Chapter 4.3: Mentoring through Reflections

4.3 Mentoring

Mentoring for Role based and Work & Performance centric degree program

This section covers following aspects:

Contents

Concept of ‘mentor’ in eLearning.....	
Concept of ‘mentor’ in Work Based Learning	
Role of mentor in program under study:.....	
Local, Global and the Bridge	
Process	
Outcome.....	
Analysis and spin offs.....	

4.3.1 Concept of ‘mentor’ in eLearning

The need for mentors in eLearning environment emerges when the faculty is constrained by their limited time to spend towards assisting students overcoming eLearning barriers, meeting student expectations and, simultaneously, assuming regular teaching responsibilities (CHANG, The roles of mentors in electronic learning environments., 2004). Mentors can take up part of the faculty roles and serve as an intermediary between the faculty and the students to lessen the faculty time limitation. Mentors can assist instruction to support the faculty roles of subject matter experts and online course managers by regularly monitoring interactive activities, constantly keeping track of students’ progress, and promptly responding to students’ questions concerning course content so that student expectations can be met. Mentors can establish social connectedness to sponsor the faculty role of online course managers by initiating additional interaction to assist students develop a sense of social connectedness within eLearning environments so a perceived psychological distance, an eLearning barrier, can be shortened. Mentors can also provide technical support to assist the faculty role of technological consultants by facilitating students to solve technological problems so that technological problems, another eLearning barrier, can be overcome.

It has been observed and practiced for over a decade since when online learning environments have been in practice that the roles of mentors generally are as teaching assistants, social connectedness initiators, and technical supporters that emulate the roles of faculty within eLearning environments. As teaching assistants, supporting the faculty role of subject matter experts, mentors provide students with extra help toward clarifying and comprehending course contents.

In well-known distance education programs delivered through video conferencing technologies, such as by IIT Pawai, do have a pool of teaching assistants offering extra help to students for clarifications, assessments in form of assignments and project work. The mode of communication is asynchronous.

Thus, most of the times in eLearning environment, it is found that the mentoring is structured around the course under study and objective of mentoring is mainly

- To bridge the gap in understanding of content delivered during the synchronous interaction of the student with the faculty.
- To facilitate students for assessments

- To offer technical support so that the eLearning is effective.

These objectives are found very much relevant for framing the reflective practices and role of mentor for the program under study.

4.3.2 Concept of ‘mentor’ in Work Based Learning

In work based learning environment, facilitator and facilitation methods play a crucial role. The root definition of facilitation is *to make easy*; thus group facilitators provide assistance not control, making it easy for the group to do its work. Mentor at a workplace, meets or facilitates a group of adult learners, working together at one workplace or in similar work places. The learning setting demands andragogical practices as against pedagogy. As distinguished by Malcolm Knowles, andragogy is participant – directed learning and pedagogy – teacher – directed learning. In andragogy, participants are allowed to be more autonomous in their actions, more reliable in their assessment of their own capacities and developmental needs and more capable of accepting greater levels of responsibility of their own actions and the actions of others.

The five assumptions underlying andragogy describe the adult learner as someone who (1) has an independent self-concept and who can direct his or her own learning, (2) has accumulated a reservoir of life experiences that is a rich resource for learning, (3) has learning needs closely related to changing social roles. (4) is problem-centered and interested in immediate application of knowledge, and (5) is motivated to learn by internal rather than external factors. From these assumptions, Knowles proposed a program planning model for designing, implementing, and evaluating educational experiences with adults. For example, with regard to the first assumption that as adults mature they become more independent and self-directing, Knowles suggested that the classroom climate should be one of 'adulthood,' both physically and psychologically. In an "adult" classroom, adults "feel accepted, respected, and supported"; further, there exists "a spirit of mutuality between teachers and students as joint inquirers" and because adults manage other aspects of their lives, they are capable of directing, or at least assisting in planning, their own learning.

Joseph Raelin, in his book: *Work Based Learning* (Raelin) has enlisted key skills that a facilitator has to possess while facilitating an adult learner group. Relevant in terms of the program under study are:

- Listening and attending
- Clarifying goals, agendas and norms
- Promoting airing of problems from diverse viewpoints
- Encouraging group members to take ownership of their own learning

4.3.3 Role of mentor in program under study:

4.3.4 Local, Global and the Bridge

For the program under study, it's a blended mode where eLearning and work based learning are complementing each other with their due strengths in the learning process of the student.

For the program under study, on one hand, the real life workplace offers learning environment for skills attainment that sets a local context for learning. On the other hand, eLearning - situation based learning content, provides a global context for learning. It is the 'mentor' that plays an important role to help the students bridge the gap between local and global context, by helping them derive the invariant underpinning theory.

Mentoring, therefore, is a crucial component of the learning methodology for the program under study. It involves appropriate combination and blend of practices being followed for mentoring in eLearning environment and work based learning environment.

'Reflection sessions' are conducted for a group of students.

The objective of the reflection session and role of the mentor is to

1. Help the student derive theory out of practice, help the student interpret invariant skills required in customer service across different domains
2. Give the student a wholesome and holistic view of the work s/he is doing, help her/him derive value and meaning in her/his daily tasks
3. Discuss and share experiences
4. Discuss responses to different work situations

5. Offer a human touch, help the student overcome stress and enjoy work
6. Help the student respect and practice universal human values
7. Help the student understand customer's point of view
8. Help the student understand appraiser's / senior's point of view and the service designing
9. Help the student identify his/her strengths and weaknesses at workplace to have a sound professional life
10. Help the student identify his/her strengths and weaknesses so as to have a sound personal and social life

Process

Mentoring is expected to happen through pre organized 'Reflection' Sessions, wherein the students get an opportunity to reflect on the actions and reactions at the workplace.

Reflection session plan:

A sample reflection session plan is as follows:

Frequency: It is desired that the reflection sessions are conducted every day for 20 minutes or around 2 hours in one week.

Mode: It is desired that the mentor has a synchronous dialogue with the students. Interaction could be Face to face / through video conferencing / through audio conferencing.

Mentor – Students ratio: 1: 15 to 20

There have been discussions about deciding the mentor to student ratio. As mentioned by Prof. Ram Takwale, ex vice chancellor of Pune University, IGNOU and YCMOU, an authority in distance education, (Takwale, 2015), a community learning approach is to be adapted, wherein

group of 5 can learn as peers and such 4 to 5 groups can form a 'panchak' as a learning community.

It was, therefore, desired to have a ratio of 1: 25 for Mentor: Students. However, at the time of implementation a range was adapted as 15 to 20 approximately in order to have personal interactions feasible.

Documentation: Reflection session summary documented by mentor or documented by the student and moderated by mentor.

Sample flow of a typical reflection session

The flow could be as follows:

How was the day?

- Students narrate the tasks accomplished by them during the day / problems faced by them / critical situations faced by them while performing a task.
- Mentor takes notes. Selects a particular task / work situation to analyze

Building up and drilling down

- Mentor starts elaborating the situation, poses 'what if' questions that would enable students to think from the customer's point of view
- Mentor starts drilling down the situation, poses 'why so' questions that would enable students to think from the service design point of view
- Students respond to these questions
- Mentor invokes discussions, leads the discussion to understanding customer and the service design

Commonalities and differences

- Mentor refers different tasks performed by students and triggers discussion on commonalities and differences
- Mentor highlights invariant skills

The ‘Tomorrow’

- Mentor concludes the session by highlighting the skill, attitude and knowledge that the student can apply at work the next day

This is just a sample flow and in a particular session, the mentor may have to plant a different situation from his/her own experience for discussion or introduce a story that would enable students to relate to their work situations.

Role of the mentor

Role of the mentor in the whole reflection session setup revolves around the concept of *scaffolding* as per its original definition (Bruner, p. 90) - it as a *process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts.*

For the program under study, the mentor, who is expected to be an industry expert or a working professional, working in the same or similar domain as that of the students, performs the role of an adult / more capable senior. Mentor enables the students to address situations faced by them at the workplace, find out better ways to perform tasks at workplace and interpret the underpinning theory. The tasks performed by the students at the workplace form the basis for this interaction.

The students are assigned specific practical tasks at the workplace by their supervisors / appraisers. There is, however, always a limited or perhaps rare scope for the corrective feedback on completion of the task being given by the appraiser / supervisor to the student. In a regular working environment and in case of employees, it can be left out to the employee to request for a corrective feedback for necessary improvement.

For the students of program under study, however, the quest is to ensure knowledge gain from the practical tasks at hand. Hence the reflections around actions and reactions of the tasks performed are vital.

Reactions are in form of responses, feedbacks, effects, consequences or outcomes. For example a particular action with undesired error may result into undesirable effect causing negative feedback from the customer. The cause – effect analysis, i.e. reflecting around the ‘reaction’ lead the student understand the theoretical basis for the cause.

During reflection session, the mentor sets up a common goal for the student. With his/her expertise, the mentor *adds to the complexity* of the problem at hand or offers different context with similar complexity to the problem. With this, the students are set to concentrate on their *current competencies* to solve the problem or handle a situation at workplace. Further, the students are made to analyze the *invariant aspects* of similar situations with different contexts or more difficult situations with same context. With this, the students start relating and therefore *comparing*, the current situation, their current role and the level of competencies, with the projected ones by the mentor. The probable *impact* of *small actions* while solving a problem or handling the situation under discussion make the students visualize the *whole picture* as against a limited view restricted to their individual task. This finally sets up a *personalized agenda* for each student as well as a group in terms of *skill improvement, attitudinal change* for addressing complex situations.

For example: Let's take an example of a sample reflection session and analyze the abovementioned process.

The parameters for analysis are:

- Common goal
- Identifying the Problem and adding complexity:
- Analysis and Current competencies
- Invariant aspects
- Comparing:
- Impact in terms of Small action, Wholesome picture, Personalized agenda

Background:

Students are working at a Work Lab involved in eGovernance domain. Students are required to check the applications by citizens for PAN card; verify and recommend these applications for further processing. The verification process, therefore, is extremely crucial.

One senior leader of this organization, who have provided Work Lab to the students of the program under study, once said to the students, "*Aap to desh ka kaam kar rahe ho... If you have*

PAN card, you get so many privileges available to the citizens of this country – India. Be it bank account, home loan, and many such things.”

Now, in a reflection session, these students – involved in eGovernance process - report that they are required to submit specific daily reports to their team lead. Such as: No. of case files verified with remarks.

In case the applications are not upto the mark, i.e. incomplete / do not have necessary supporting documents, these have to be rejected.

This data is to be shared with the team (calling team) which is supposed to call the applicants (customers) and inform that the application is rejected for so and so reason.

Reflection session proceedings:

In the reflection session, one such student – Ramesh, reports that he had a bad (heated) conversation with the calling team as almost all the applications for that day were rejected by him.

Common goal:

Mentor triggers the reflection process. Asks what the ‘action’ was and what the ‘reaction’ in this situation was.

Action was: Submission of data from Ramesh to the calling team.

Reaction was: Calling team was unhappy as almost all applications by Ramesh were rejected.

Identifying the Problem and adding complexity:

Mentor helps students, including Ramesh, to frame the exact problem, based on the Action and Reaction.

Problem: Number of calls required to be completed by calling team increased to a great extent.

Also, after further investigation, Ramesh informed that the calling team was unhappy because of the narration for the case file as well. It was same for all files and that was: Name doesn’t match.

Adding Complexity:

Mentor then adds to the complexity of the problem by posing questions:

What if this happens with all back office people on that day? Does this mean all the applications get rejected? Further, is it really possible that all the applicants’ name is found mismatch?

Analysis and Current competencies:

Students, including Ramesh, now start thinking and analyzing that

- Was there any consistency observed in the mistake of all the application forms?
- Was there any mistake at Ramesh's level in the verification process?
- Why the calling team was so upset?

Invariant aspects:

With a loud (vocal) reflection on above questions, the group reveals that

- All the forms had names like: S. Ganeshan, B. Krishnan, C. Rajagopalam.
- All the forms belonged to one single state
- In the application form, it was required to have First Name, Middle Name, Last Name separately, whereas in the supporting document the name was similar to S.Ganeshan.
- Ramesh was not aware that 'S' in the name represents the home town of the applicant and is a standard practice for southern states in India.
- Calling team must be upset because of insufficient narration by Ramesh. There was no concrete reason that the calling team could have informed the applicants.

Comparing:

- Suresh, Ramesh's friend in the group after having understood this, informs that he faced a similar situation wherein he processed forms belonging to one religion in India. They do not write F Name, M Name, L Name. They have 'Given Name'. For ex: Zuber ShaikhMohammad.
- And those applicants want to have the 'Given Name' on the official document.

Impact:

Small action

- Ramesh says: Immediate action I must take now; is to first check the state and the district from where the applications have come for scrutiny.
- Also, the religion specific variations, as cited by Suresh, as I may have those files for scrutiny tomorrow.

Wholesome picture

- Mentor explains: your action is going to enable other person. So if you perform well, the other person will be empowered. Here, if you write detailed narration, the calling team would not have got so upset.
- Further, while reporting, it's a good practice to analyze the report.

Personalized agenda

Skill:

- Mentor explains: How many applications have you processed today is known. No. of applications rejected / recommended is known.
- If you start monitoring the percentage of rejections every day, an exceptional day could be easily identified. That would help you report in a better way and with factual data.

Attitude:

- Focusing on facts instead of personal remarks that may lead to bad (heated) conversation.

Output of the process

While the process can be analyzed on different parameters including its impact in terms of skills and attitude, the specific output of the process of reflection session is also expected to be in form of **derived theory**. Evidence for this can be seen from the documentation of summary and the categories or tags under which the documentation is published. It can be observed that the tags correspond to various theory concepts which the students are expected to learn as a part of prescribed curriculum of the program.

However, in terms of outcome, it does not get restricted to mapping to theoretical concepts. As said by (Bruner), in scaffolding it is assumed that the process can potentially achieve much more for the learner than an assisted completion of the task. It may result, eventually, in development of task competence by the learner at a pace that would far exceed his unassisted efforts.

Here, during the reflection session, the students who have come from rural background and from economically weaker sections of the society and who are perhaps first generation learners in their families, get a platform for expression. They get an environment full of trust and belief where they can be free to express. They learn to think, learn to appreciate how others think. It's a

phenomenon that sets them free to cross their limits. Not just their attitude and behavior has an impact, but it can also be evidenced in form of attainment of specific skills required at the workplace such as: documentation, taking notes and summarizing, English language proficiency – written as well as spoken that are not a part of prescribed curriculum.

Mentor, thus, sets a positive direction to the vector of Vygotsky’s zone of proximal development. (L.S.Vygotsky). I.e. there is a scope of having evidence of positive and remarkable difference between solving critical work place situations under the guidance of mentor or in collaboration with the mentor, as compared to solving them independently. This is achieved through reflection sessions conducted by the mentor.

It is also the ability to learn i.e. ‘learnability’ that forms the base of discussions of a reflection session.

Reference points for different objectives set, are as follows:

Table 37: Reference points for objectives of mentoring

Objective	Reference points:
<p>1. Help the student derive theory out of practice, help the student interpret invariant skills required in customer service across different domains</p>	<p>Attitude development: Learnability (Application of analytical skills)</p>
<p>2. Give the students a wholesome view of the work s/he is doing, help her/him derive value and meaning in her/his daily tasks</p>	<p>Attitude development: Learnability (Application of analytical skills, critical thinking)</p>
<p>3. Discuss responses to different work situations</p>	<p>Attitude development: Learnability (Construction of knowledge, Problem solving, Decision making)</p>
<p>4. Help the student identify his/her strengths and weaknesses at workplace to have a sound professional life</p>	<p>Self-development (Responsibility, Collaboration, introspection)</p>

5. Help the student respect and practice universal human values	Ethics
6. Help the student understand customer's point of view	Attitude development: Learnability (Empathy)
7. Help the student understand appraiser's / senior's point of view	Attitude development: Learnability (Empathy)
8. Help the student identify his/her strengths and weaknesses so as to have a sound personal and social life	Self-development (Responsibility, Collaboration, introspection)

Outcome

Another sample reflection session proceeding focuses on the outcome of the process where a diverse group of students working in different processes at the Work Lab is analyzed:

Student 1 reports:

“I completed calling 40 franchisees of an organization offering educational services in form of different educational programs for the students at large. The task was to communicate that the certificates of the final examination for a particular program have been dispatched and have reached their district level. Some of the centers at Tehsil level informed that they had received a message from the district level center and that the certificates would be picked up by them. However, 21 franchisees informed that they have been following up with the district level center; however, no communication has been received yet. Further the 16 franchisees out of 21 complained that the students and parents have been following up with them for the certificates and as a coordinator he was to face them.

I tried to convey him that the district level center would call them and I am sure the certificates must have reached that point. Still, I shall cross check and get back to you.

Since that day I had to complete the calling, I could not call up the district level center. Next day, I called up the respective district level center and to my surprise; I understood that the certificates had not yet reached that point! It was shocking and upsetting too. As I knew that the authorized learning center was in no doubt that the certificates were with district center and it is because of

inefficiency at that level the center coordinator is having a difficult time with students and parents.”

Student 2:

“Just like certificates, yesterday I had to listen to many complaints related to share disbursement. The franchisee share that we disburse is transferred to them by net-banking, however they do not understand the calculations we made. For ex. for which program, how many students, the amount of tax deducted if any. All that they see in the statement is a short little narration with limited information that is of no use. End of the day there is anguish against us thinking that the share that they deserve has not been transferred. Almost for every alternate call I have to listen to this complaint.”

Mentor:

“Well. Are there any similar things in both these situations?”

Students: “Yes. The customers are complaining. In first case, our channel partner – who is our internal customer is complaining because his customer is dissatisfied. And in second case again, our channel partner is complaining because he himself is not satisfied with our service.”

Mentor: “What according to you is the reason for this? Are the customers wrong?”

Students:

“No. I don’t think so. Because their expectation is not wrong. They have completed the course and so they should get the certificates. Also our franchisee, who has promised them the certificate, should get it on time from us. Now it’s our duty to provide him that.

“And in second case, they should know in detail for what activity they are getting the share, for how many students, so that they can keep a tally at their end.”

Mentor: “Right. But does that mean that your company is doing wrong? I.e. if customers are not wrong, then does that mean your company is not providing the services and keeping the promises to the customer?”

Students:

“No. This is not the case. In fact, we know that the certificates have been dispatched from central location. That was the reason we started calling them to inform.”

“Yes. That’s true. In fact I was calling them proactively to collect feedback about students’ learning. And that time they started complaining about the share related issues.”

“So, we don’t think that the company is at wrong fully”

Mentor:

“But then, there are unhappy customers...right? Then what must be the reason? Where is the shoe pinching? There is one more commonality in both the situations. Could you identify that? Were you able to tell the franchisee exactly when the certificates have been dispatched from central location and the exact date when they were delivered to district location?

Or in other case, could you provide the information that the franchisee wanted... i.e. for *abc* program and for say *n* students, the amount of share is *x* after deduction of tax say *y*.”

Students:

“That’s right. We were not having this information with us. Had we had this information with us, we would have ended up in a positive call. But, our seniors should have given this information to us”

Mentor: “Well, can you not ask for it proactively? If you ask, do you think they would give you?”

Students: “Yes. They would give it.”

“What I can do is, I can prepare a format in excel regarding the share transfer information. Now I know what franchisee want to know. And then I can request my supervisor to give me additional information about the franchisee in this format. With this, then I can call them up.”

Mentor: “That’s too good! What about the certificate issue?”

Student: “Well, I think we need to have a system like flipkart. They have complete track of any parcel. And their customer is always well informed about the status.”

Mentor: “That’s a wonderful idea! But what would you do now?”

Student: (Laughs and says): “Well, till such time we have that system I shall keep the track by proactively calling the points where the certificates are dispatched. And of course, I shall share this idea with my supervisor. I am sure he would like it”

Mentor: “Great then! So ‘Keeping the customer always informed’ is perhaps the key of today’s discussion... do you agree?”

Student: “Yes.”

Documentation of reflection session

The above reflection session gets documented with a title and tag: **Customer Centricity: Keeping the customers always informed.**

Tags for theoretical concepts: Customer centricity, Information flow, Service designing

Analysis and spin offs

Analysis:

The original notion of scaffolding assumed that a single, more knowledgeable person, such as a parent or a teacher, helped an individual learner by providing him / her exactly the help he or she needed to move forward (Bruner)(Wood) (1976). In this description, one of the most critical aspects of scaffolding is the role of the adult or the expert. Wood documented six types of support that an adult can provide: (1) recruiting the child’s interest, (2) reducing the degrees of freedom by simplifying the task, (3) maintaining direction, (4) highlighting the critical task features, (5) controlling frustration, and (6) demonstrating ideal solution paths. The expert is a domain expert as well as a facilitator who is knowledgeable of the skills, strategies, and processes required for effective learning. The expert not only helps motivate the learner by providing just enough support to enable him or her to accomplish the goal, but also provides support in the form of modeling, highlighting the critical features of the task, and providing hints and questions that might help the learner to reflect (Wood 1976).

In the specific context of program under study, the mentoring is administered on the basis of classical scaffolding except the last step of demonstrating ideal solution paths. Here, instead of demonstration, the mentor leads the student to search for probable solution paths in his/her work environment making him/her the in-charge of the exploratory expedition. Further, this increases degrees of freedom for the students to perform better the next day.

Key elements of scaffolding that are being practiced are Intersubjectivity, Ongoing diagnosis, Careful calibration of support and Fading of the support.

Mentors progression – a spin off

An interesting and important spin off of the process is mentor's own development. The dynamic working cum learning environment brings new problems every day. Students get the problems for discussion during the reflection session. The task/ the problem at hand is new every day and with different complexity as its totally dependent on the business dynamics of that day of a corporate company. The mentor, therefore, has to co-op up with the pace, and the dynamism of the problem and cannot just 'repeat' yesterday's inputs. S/he has to be continuous in his/her efforts to lead students to understand the wholesome picture of the problem as the mentor can see it from the senior position. At the same time, a diligent effort to understand the ground reality, being sensitive to it and reflecting on it with positivity is a challenging task the mentor has to perform without a scope for failure.

As mentioned by some of the senior mentors from senior management of company have expressed after conducting series of reflection sessions:

“It's a great learning experience for us as we understand how young people can contribute to service designing”

“Students pin point the problems so well that half the problem gets solved there itself, as it's always important to identify the problem right. It saves so much cost in terms of efforts to go to its roots!”

“It's not just a reflection session for the students. The session helps me reflect self-within.”

Sub Chapter 4.4: Evaluation Methodology

4.4 Evaluation Methodology

Evaluation Methodology for Role based and Work & Performance centric degree program

This section covers following aspects:

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4.4.4 Evaluation methodology for the program under study.....	
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2 Knowledge Ratings.....	
3 Culture Ratings.....	
4 Applying Bloom's taxonomy.....	
5. Assessment Specimen.....	
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4.4.1 Concept of evaluation

Meaning, Objectives, Formative and Summative

Evaluation is probably as old as the human race, dating from the time humans first made a judgment about whether building campfires and using weapons helped them to survive. Indeed, evaluation is an essential human activity that is intrinsic to problem solving, as humans (a) identify a problem, (b) generate and implement alternatives to reduce its symptoms, (c) evaluate these alternatives, and then (d) adopt those that results suggest will reduce the problem satisfactorily. As humans, we will always be faced with problems whose solutions require evaluation so that effective action can be taken. Evidence of more formally organized evaluation goes back thousands of years. (Luellen, 2005)

The goal of evaluation is to determine the worth or merit of some procedure, project, process, or product. Well-designed evaluations also provide information that can help explain the findings that are observed. The role that evaluation may play will vary depending on the timing, the specific questions to be addressed, and the resources available. It is best to think of evaluation not as an event, but as a process. The goal should be to provide an ongoing source of information that can aid decision making at various steps along the way.

Evaluation and Assessment

While evaluation refers to making judgments of the basis of the information collected, the term assessment refers to collecting information on the progress of learner's learning using a variety of procedures. Evaluation is the systematic determination of merit, worth and significance of something or someone and assessment is the process of gathering and analyzing specific information as a part of an evaluation process. (Ref: Abstracts from Encyclopedia of Evaluation) (Mathison, 2005)

Formative and summative assessments make the evaluation process further systematic.

Formative assessment: (Eberly Center: Formative Assessment)

The goal of formative assessment is to monitor student learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning.

More specifically, formative assessments:

- help students identify their strengths and weaknesses and target areas that need work
- help faculty recognize where students are struggling and address problems immediately

Formative assessments are generally low stakes, which means that they have low or no point value. Examples of formative assessments include asking students to: draw a concept map in class to represent their understanding of a topic, submit one or two sentences identifying the main point of a lecture, turn in a research proposal for early feedback

This type of assessment refers to a wide variety of methods that teachers use to conduct in-process evaluations of student comprehension, learning needs, and academic progress during a lesson, unit, or course. Formative assessments help teachers identify concepts that students are struggling to understand, skills they are having difficulty acquiring, or learning standards they have not yet achieved so that adjustments can be made to lessons, instructional techniques, and academic support.

The general goal of formative assessment is to collect detailed information that can be used to improve instruction and student learning while it's happening. What makes an assessment "formative" is not the design of a test, technique, or self-evaluation, per se, but the way it is used—i.e., to inform in-process teaching and learning modifications.

Formative assessment, as stated by Paul Black and Dylan Wiliam in their article 'Inside the Black Box' is at the heart of effective teaching. (Black)

Summative assessment refers to the assessment of participants where the focus is on the outcome of a program, in contrast to formative assessment, which summarizes their development at a particular time.

Summative assessment is helpful to make judgements about student achievement at certain relevant points in the learning process or unit of study (e.g. end of course, project, semester, unit, year). It can be used formally to measure the level of achievement of learning outcomes (e.g. tests, labs, assignments, projects, presentations etc.). Further it can also be used to judge program, teaching and/or unit of study effectiveness.

4.4.2 Performance based continuous comprehensive evaluation

What to evaluate?

For the program under study, in view of the academic process and learning methodology, following questions lead to deciding the evaluation parameters for an individual Learner:

- Whether the Learner has performed effectively at the workplace by demonstrating the necessary skills?
- Whether s/he has derived theory out of practice and has gained conceptual knowledge in the domain area?
- Whether s/he is capable to apply the theoretical knowledge and skills for more profound practice at the workplace?
- Whether s/he has proved to be a dependable resource at the workplace and demonstrated commitment and dedication?
- Whether s/he has been positive while working and learning, interacting with peers and mentors, and whether s/he has been ethical and has demonstrated respect for cultural diversity throughout the degree program?

The questions mentioned above demand strong evidences to be captured throughout the learning process leading to evaluation parameters.

Evidences in form of:

- Performance at the industry workplace: performance appraisals
- Performance in eAssessments based on the knowledge gained
- Interactions with peers, mentors etc. for attitude development, ethical values and cultural dimensions, wholesome personality development

Why continuous?

The evidences mentioned above need to be captured throughout the learning process as they are in form of outcome / output of the learning process.

These evidences are related to the performance, i.e. actions by the learner at the industry workplace and since the learning process is continuous, the evaluation has to be continuous as well and not just 'term-end'.

A continuous comprehensive evaluation methodology, therefore, is to be adapted to seek convergence of learning and evaluation.

This performance based continuous comprehensive evaluation methodology attempts to avoid severe asymmetry between short duration examinations and long learning period.

I.e. instead of just a semester end / year end fixed hour examination, Learners will be continuously assessed for their performance at the workplace through their

- (1) performance at the workplace,
- (2) through their interactions with mentor and
- (3) eAssessments through eLearning resources.

It is a blend of formative and summative assessment to ensure skill and knowledge attainment. It is in this context it becomes imperative to have a strong focus to continuous comprehensive evaluation. A comparison with traditional pattern of semester end summative assessment of degree programs further highlights the importance of continuous and comprehensive assessment.

4.4.3 Comparative analysis of traditional exams and continuous comprehensive evaluation

An exercise of comparative study of traditional exam as against continuous evaluation is done in order to have clarity of the objectives set for continuous evaluation process.

Enlisted below few parameters for comparative analysis of traditional exam pattern and continuous comprehensive evaluation:

Table 38: Comparison: Traditional exam Vs. Continuous Comprehensive evaluation

Aspects	Traditional exam: Term end / year end	Continuous and comprehensive evaluation
Objective	To test the competency level of learners at large	To test competency of individual, relevance of skills in terms of industry requirements, wholesome personality development
Patterns	Objective and descriptive questions	Simulated and real-life challenges in form of scenarios
Design	Mass evaluation	Mass personalized evaluation
Frequency	Once or twice in an year	Continuous: leading to understanding of learners' progression at any point of time
Duration	Limited hours	No limitation: fair chance to demonstrate skills / knowledge
Parameters of evaluation	Written or oral answers	Work, Knowledge and Culture
Focus	Performance in exam	Learning process
Skills tested	Memorization, Summarization	Understanding, Analysis, Application, Synthesis and Judgment
Abilities tested	Specific to questions asked	Wholesome: learner has to apply multiple intelligences such as: linguistic, logical, interpersonal and intrapersonal, spatial, ethical
Evidences	Answer sheets	Performance at workplace and knowledge based eAssessments

4.4.4 Evaluation methodology for the program under study

Evaluation methodology being followed for the degree program under study is as follows:

4.4.4.1 Work Ratings

- Learners earn ‘work ratings’ by working in the industry, which are based on performance monitoring process and norms stipulated by industry.

4.4.4.2 Knowledge Ratings

- Learners earn ‘knowledge ratings’ by accessing eLearning resources and solving eAssessments
- Work ratings + Knowledge ratings lead to award of degree.

In view of the parameters, i.e. ‘what to evaluate’, the methods, tools to capture desired evidences and technology frameworks are as follows:

Table 39: Evaluation method, tools, purpose

	Method	Tool	Purpose
Work Ratings	Performance at the Work Lab	Performance monitoring system followed by industry for all employees	<ul style="list-style-type: none">• Skill attainment
Knowledge Ratings	eAssessments	1. Objective assessment	<ul style="list-style-type: none">• Knowledge gain
		2. Open ended questions	<ul style="list-style-type: none">• Knowledge construction
		3. Assignments	<ul style="list-style-type: none">• Knowledge gain

4.4.4.3 Applying Bloom's taxonomy

The revised taxonomy of Benjamin Bloom, (Anderson & Krathwohl, 2001) presents the structure as follows:

- **Remembering:** Retrieving, recognizing, and recalling relevant knowledge from long-term memory.
- **Understanding:** Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.
- **Applying:** Carrying out or using a procedure through executing, or implementing.
- **Analyzing:** Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing.
- **Evaluating:** Making judgments based on criteria and standards through checking and critiquing.
- **Creating:** Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

Applying this scheme to the evaluation methodology for the program under study, it reflects in the addition of the method – tool table referred above.

Table 40: Application of Bloom's Taxonomy

	Method	Tool	Purpose	Blooms Taxonomy Reference
Work Ratings	Performance at the Work Lab	Performance monitoring system followed by industry for all employees	<ul style="list-style-type: none"> • Skill attainment 	Applying Analyzing Evaluation
Knowledge Ratings	eAssessments	1. Objective assessment	<ul style="list-style-type: none"> • Knowledge gain 	Remembering Understanding Analyzing
		2. Open ended questions	<ul style="list-style-type: none"> • Knowledge construction 	Analyzing Evaluating Creating
		3. Assignments	<ul style="list-style-type: none"> • Knowledge gain 	Creating

4.4.4.4 Assessment Specimen

Sample performance monitoring system for Work Ratings is as follows:

Table 41: Sample performance monitoring system: Work Ratings

	Key areas	Rating out of	Weightage
Tasks	Accomplishments	10	40%
	Quality		
Learning	Learning	10	40%
	Process		
Culture	Ethics	5	20%
	Responsibility		
		25	100%

Sample assessment for Knowledge Ratings

Curriculum reference: Course: Workplace ethics and responsibility

Objective assessment:

Q.1: Type of question: *Multiple choice single correct*. Difficulty level: *Low*

Neha called 10 customers one day. Everyone said, "I have got the same call from you yesterday, why are you calling again?" What must have happened?

Options:

- a) *Old data file has been referred*
- b) *Customer does not want to listen to calls and hence is giving excuses*
- c) *Customer is lying*

Correct option: (a)

Q.2: Type of question: *Multiple choice single correct*. Difficulty level: *Medium*

You are working in tech support team of a company. Video conferencing setup is required for a meeting. You are not supposed to be part of the meeting. You have setup the call and the meeting starts. However connection is lost in between. Meeting coordinator calls you frantically. What would be your reaction?

Options:

- a) *"It cannot happen. I had tested it"*
- b) *"Oh. Let me see. Don't worry, I would set it up again. Just few minutes"*
- c) *"Ok. I have come out. Let me reach office and then I will connect."*

Correct option: (b)

Q.3: Type of question: *Multiple choice single correct*. Difficulty level: *High*

"Anand, has called up a travel agent. Anand is based out of a Pune. He is working as a software developer with a small software company.

He wants to get a new passport issued as he thinks he might get an opportunity to travel abroad for work through his company. He does not want to miss that opportunity only because he does not have his passport.

He has gathered all the basic documents necessary for the application of the new passport.

He is of the opinion that he does not have to be present at the Passport Seva Kendra in order to get a passport.

On the call, he is very impatient and wants to know the current step-by-step procedure on how to obtain a new passport.

Question is: Generally the procedure of obtaining a fresh passport is available on the website. Since Mr. Anand is a software developer, he must have visited internet. Then according to you, why must he have called up the travel agency to do the inquiry? "

Options:

- a) *He wants to get it done urgently*
- b) *He is impatient and does not want to miss out the opportunity to travel abroad. Hence wants to involve some expert who can arrange his passport.*
- c) *He fills that travel agent can organize the passport on his behalf and he need not visit Passport Seva Kendra.*
- d) *All the above.*

Correct option: (c)

Open Ended questions:

Your relative asks information about your company. You try to answer but still there are some questions left. What must be the reason for not able to satisfy your relatives?

Assignment:

Study the Code of Conduct policy of your company or any other service sector company. List the clauses that you feel are important. Offer justification.

4.4.4.5 Pilot case study

In order to validate role based and work and performance centric model of education, pilot program on a very small scale was conducted at MKCL.

Program Design

Domain: IT infrastructure management

Industry workplace: MKCL

Roles for which interns were recruited: Technical support intern, IT Technician intern

Number of interns: 5

There was a recruitment planned in MKCL for interns to work in IT Infrastructure management wing of MKCL. At the same time MKCL Finishing Schools model for implementing Work Based degree program was taking its shape. It was therefore decided to validate the concept of role- based and work centric model of education for interns being recruited.

Hence, this pilot was not preplanned for conducting research, but it was decided to use the existing setting as a pilot on a very small scale. Hence the research had not control on deciding the sample size for conducting the pilot. The interns recruited, were considered as sample and hence full population was selected as a sample.

Objectives of pilot

Objectives of the pilot were to check at a primary level, whether while working in real-life situation with eLearning support relevant skills are attained and knowledge gain and career progression is achieved by the interns

It can be observed that the hypothesis for current research is in-line with the objective set for the pilot.

Process

Process followed for testing if the objectives of the pilot are met, is as follows:

1. Interns were allotted with following tasks in IT infrastructure management team. The tasks are real life.

Table 42: Pilot case: Work areas - tasks

Work area and tasks
1. Technical support for eLearning framework installed at multiple locations across state of Maharashtra, critical for business operations
2. Asset inventory maintenance
3. Technical Support for online tests
4. Assistance for Auto installer testing
5. Conducting Distributed Classroom and Video Conferencing sessions
6. Technical Documentation
7. Deployment of System performance tools
8. Ensuring uptime of hardware components

2. No formal training related to work area or tasks was given. i.e. no lectures were delivered.

3. Interns were allotted the tasks directly.

4. Interns were provided with following learning environment

i. eLearning modules in form of videos through MKCL VLib. VLib means video library specially created for interns.

ii. MKCL IT infrastructure blog with best practices

iii. IT support call log with actions taken report

iv. Daily interaction with mentor

v. Peer group interactions

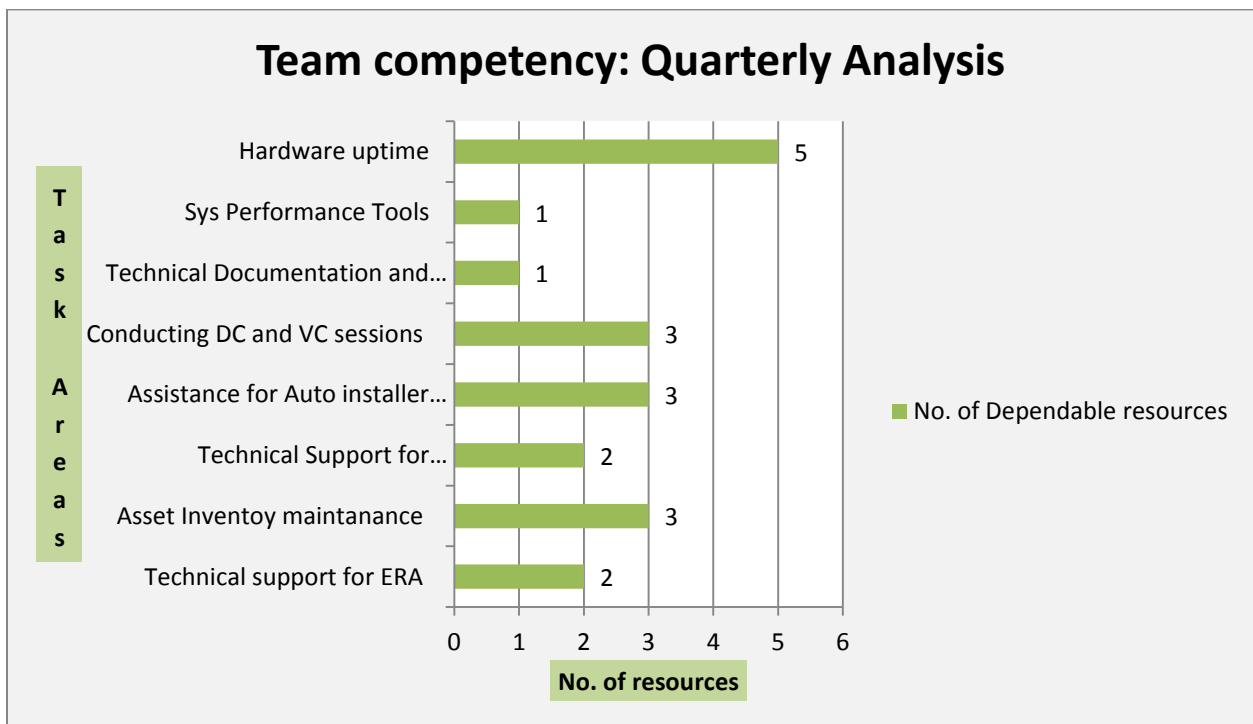
5. Interns were supposed to log every day performance in online system

6. Quarterly performance review was conducted at the end of third month as a part of MKCL's appraisal process, to assess performance at the workplace and skill attainment
7. Formal personalized assessment for knowledge gain – eAssessment and interviews

Data analysis and Findings

1. Performance @ Workplace

Figure 2: Pilot case: Performance @ Workplace

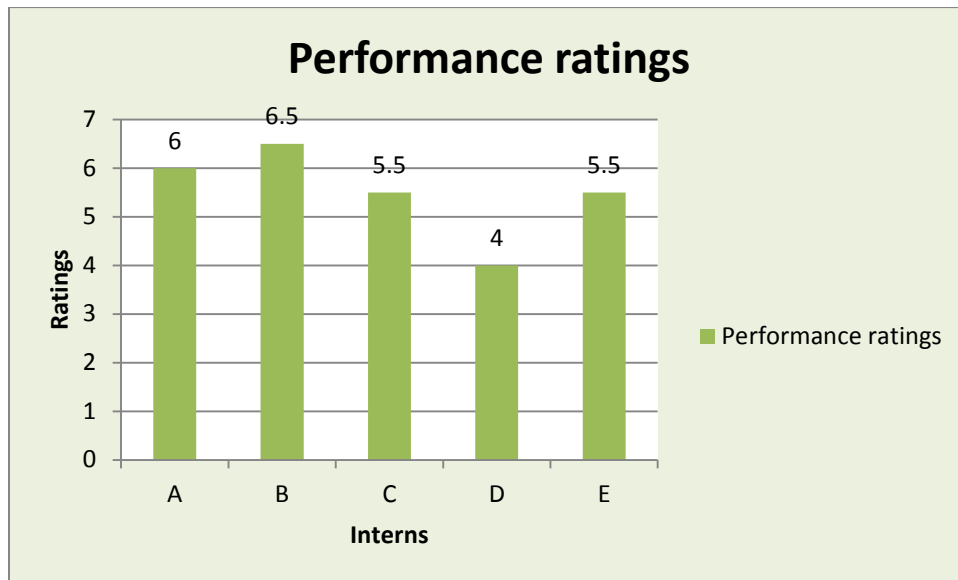


Observations and interpretations

1. It can be seen that for different areas of work, i.e. the tasks allotted to students, almost the entire team of 5 have gained skill competence.
2. Basic task of hardware uptime has been competently performed by all 5 interns.
3. There is also dependability observed for tasks such as technical support.
4. Areas such as technical documentation and system performance tools need special expertise such as English language proficiency and exposure to systems. Hence only one dependable resource is observed for these areas.

5. This means that the skill attainment is demonstrated from the performance at the workplace.

Figure 3: Pilot case: Performance ratings

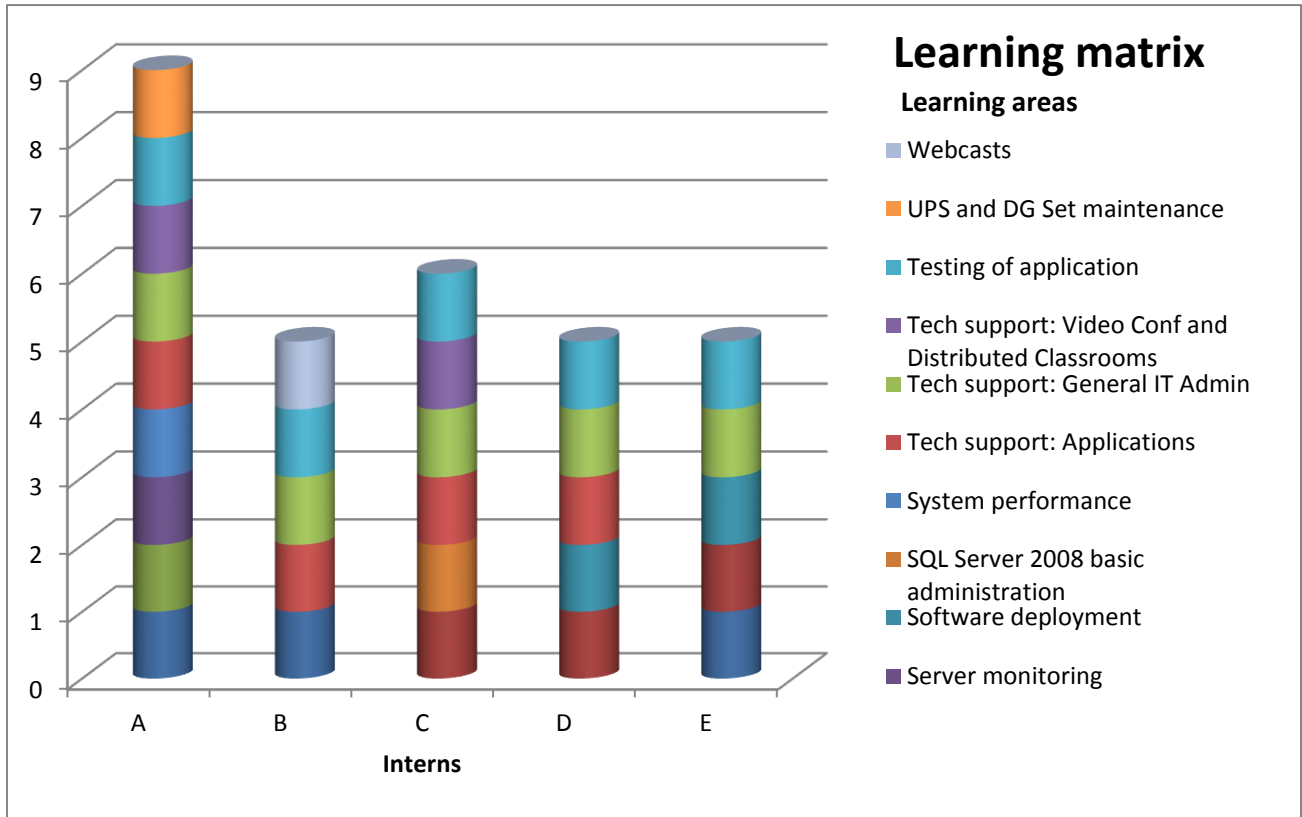


Observations and interpretations

1. The above graph shows the performance of each intern at the workplace.
2. It can be seen that the lowest performance is 4 out of 10, which is also within the acceptable limits of the company policy for performance of employees at the workplace.
3. Other four resources have performed quite well.

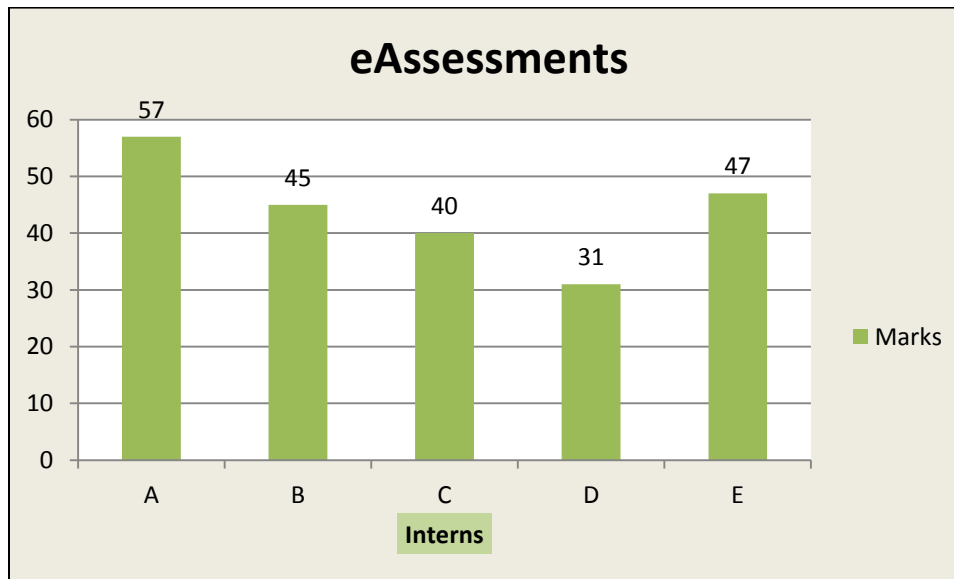
2. Learning @ Workplace

Figure 4: Pilot case: Learning @ Workplace



eAssessments

Figure 5: Pilot case: eAssessments



Observations and interpretations

1. It was essential to check the 'learning' of these interns as the objective set for the pilot includes both: Skill attainment and Knowledge gain. While the skill attainment can be proven by Performance Ratings at the workplace, the Knowledge gain can be tested by an assessment based on the theoretical concepts.
2. As mentioned earlier in the process, eAssessment was conducted and then the knowledge gain was analyzed for the interns.
3. First graph presents Learning Matrix for all the interns. It can be seen that out of 9 learning areas which are associated with working minimum 5 do appear in the band of each intern.
4. The first intern 'A' – a top performer has gained maximum knowledge with a high learning matrix.
5. Second graph presents eAssessment scores for all interns. It is evident that except 1 intern, all others have scored satisfactorily.

Consolidated Observations and Interpretations from pilot

1. Team is competent to handle responsibilities. i.e. task areas (Figure 2)
2. Individual performance ratings are satisfactory. Continuous performance evaluation (Figure 3)

It can be seen that for different areas of work, i.e. the tasks allotted to students, almost the entire team of 5 have gained skill competence.

Basic task of hardware uptime has been competently performed by all 5 interns.

There is also dependability observed for tasks such as technical support.

Areas such as technical documentation and system performance tools need special expertise such as English language proficiency and exposure to systems. Hence only one dependable resource is observed for these areas.

This means that the skill attainment is demonstrated from the performance at the workplace.

3. Learning matrix shows significant learning for every individual.(Figure 4)
4. Results of eAssessments represent knowledge gain. (Figure 5)

Challenges and difficulties faced during pilot

There have been certain difficulties faced during the pilot. They are as follows:

1. Interns joined the company not for educational program, but as entry level or temporary employees. Hence, all of them were not so willing to go through the eLearning modules made available to them.
2. The interns expected at initial stage ready-made procedures to be followed for accomplishment of particular task assigned to them.
3. Therefore, an intervention was made wherein they were informed that since they are 'interns' company is concerned about their learning and hence additional eLearning modules are being made available to them.

4. It was reported by 4 out of 5 interns that the exposure to eLearning modules helped them build their resume while searching for job at the end of their limited period of internship of 6 months with MKCL.

Conclusions from pilot

Learning through working, with eLearning support can result into knowledge gain and relevant skill attainment.

Continuous comprehensive evaluation of performance and knowledge by using eLearning methods can result into wholesome development of individual.

From the analysis of the pilot and from continuous interactions with the appraisers of the interns, the interns themselves, it was concluded that the large scale implementation of eLearning supported internship models at real-life work environments is feasible.

Sub Chapter 4.5: Technology Framework

4.5 Technology Framework

Technology framework for Role based and Work & Performance centric degree program

This section covers following aspects:

Contents

4.5.1 Learning.....

4.5.2 Working.....

4.5.3 Assessments.....

4.5.4 Learning through Working.....

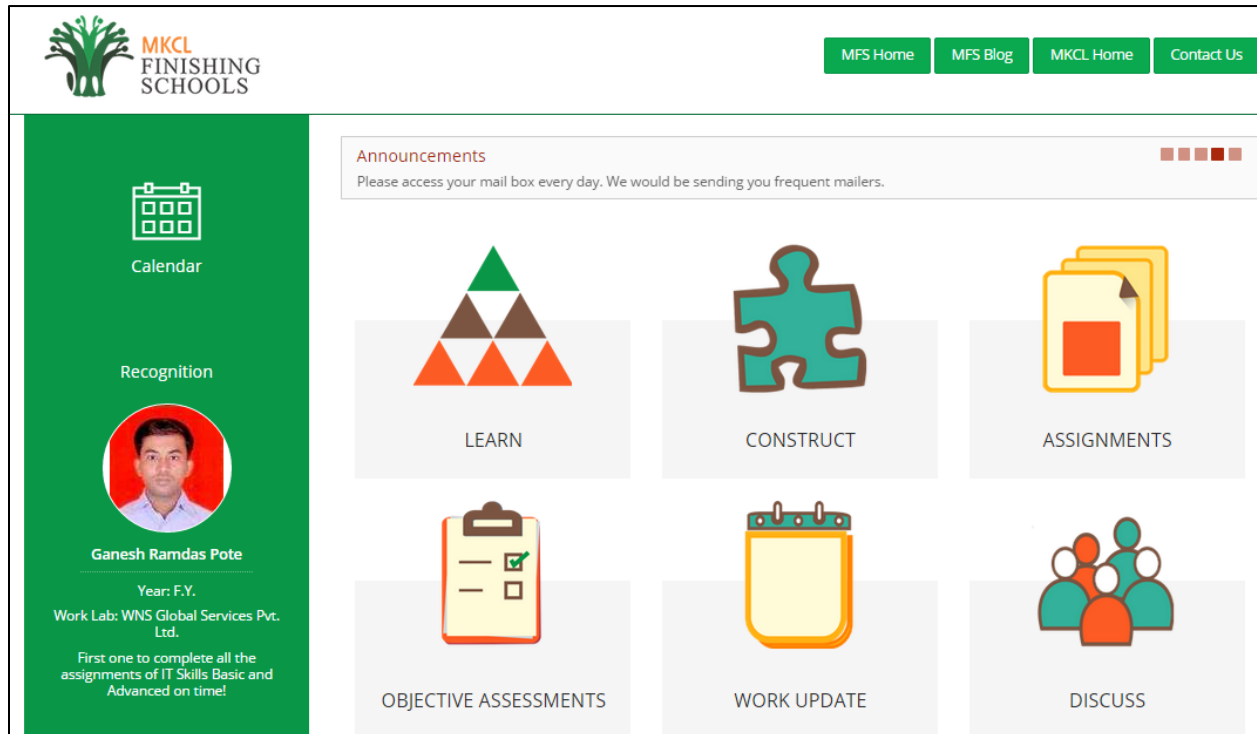
4.5.5. Purpose and key features of software framework.....

Technology Framework for implementation of RoWPeC educational programs

A comprehensive suite of software frameworks for learning and assessment is deployed for the students of role based degree program under study.

Software Frameworks:

Image 6: Student home page



4.5.1 Learning:

- Accessing eLearning Resources: MKCL's ERA (eLearning Revolution for All)
- Constructing knowledge: MKCL's cERA (Constructive ERA)

4.5.2 Working:

- Work Update: MKCL's Time Sheet Application for reporting
- Work Forum: Discussion Forum

4.5.3 Assessments:

- e. Formative Objective assessment: MKCL's OES (Objective Evaluation System)
- f. Summative Assignment based assessment: MKCL's AMS (Assignment Management System)

4.5.4 Learning through working:

- g. Blog

4.5.5 Purpose and key features of software framework:

Software Framework

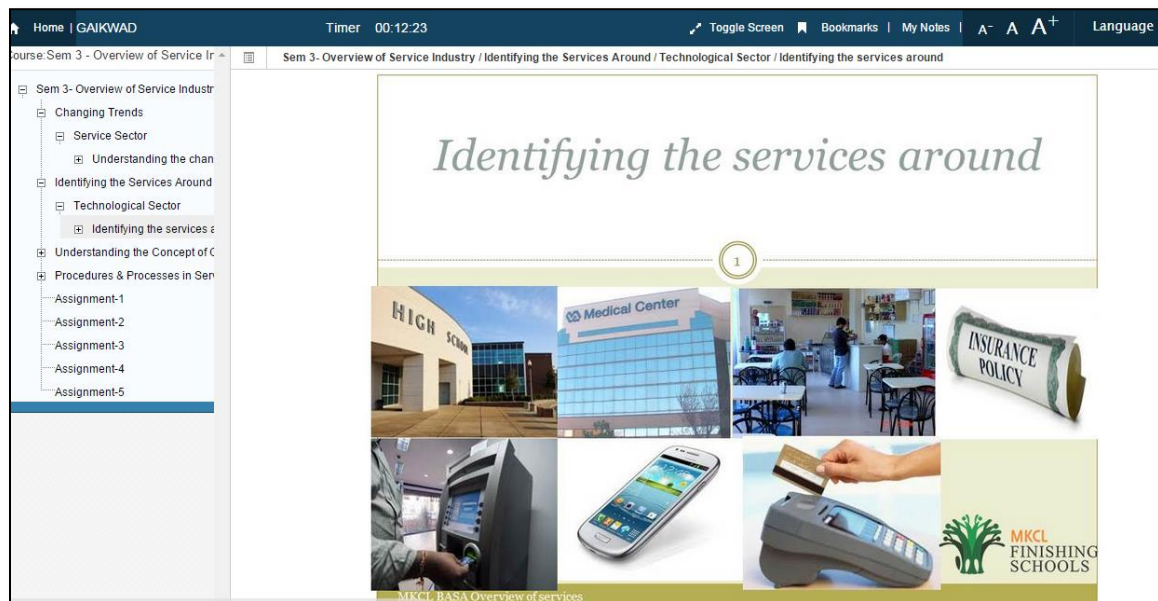
1. MKCL's ERA (eLearning Revolution for All)

- Purpose: Accessing eLearning Resources – Situation based eLearning modules
- Deployment: Online, Offline - On Tablet
- Access: Online at Work Lab or eLearning Lab/ On Tablet



- Key features:
 - Content Design and integration tool (CDIT)
 - Learning and content management system (LCMS)
 - Learning Management System (LMS)
 - SCORM Compliance (Sharable Content Object Reference Model – international standard for content packaging)

Image 7: MKCL's ERA (eLearning Revolution for All)



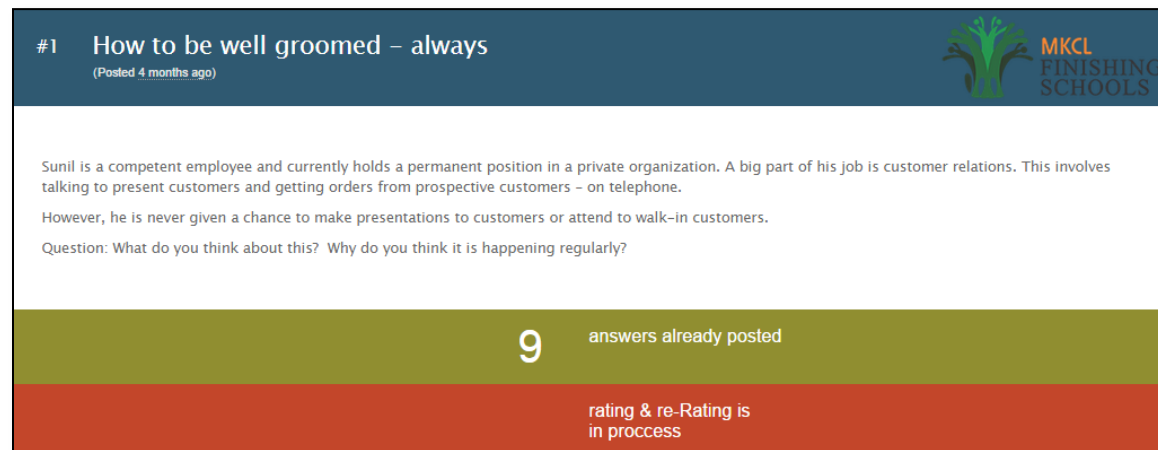
2. MKCL's cERA (Constructive ERA)

- Purpose: Construction of knowledge through open ended questions
- Deployment: Online
- Access: Online at Work Lab / through Wi-Fi



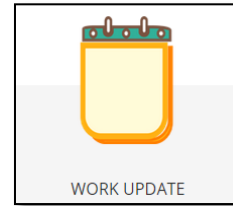
- Key features:
 - Group formation
 - Support for different formats for questions and answers
 - Collaborative assessment
 - Rating – re-rating mechanism with justification
 - Teacher's console

Image 8: MKCL's cERA (Constructive ERA)

The screenshot shows a user interface for a question post. At the top, there is a dark blue header bar with the text "#1 How to be well groomed – always" and "(Posted 4 months ago)" on the left, and the MKCL FINISHING SCHOOLS logo on the right. Below the header, the main content area is white and contains the following text: "Sunil is a competent employee and currently holds a permanent position in a private organization. A big part of his job is customer relations. This involves talking to present customers and getting orders from prospective customers – on telephone. However, he is never given a chance to make presentations to customers or attend to walk-in customers. Question: What do you think about this? Why do you think it is happening regularly?". Below the text, there is a green bar with the number "9" and the text "answers already posted". At the bottom, there is a red bar with the text "rating & re-Rating is in process".

3. Work Update

- Purpose: Submitting Work Reports
- Deployment: Online



- Key features:
 - Time sheet application
 - Report submission tool
 - Graphical analysis of performance – individual and group

Image 9: Work Update: Work Report

POTE GANESH RAMDAS's Daily Report

[Close Report](#)

Serial	Employee Code	Employee name	Program Type	Program Name	Location	Project Name	Category	Description	Date	Time Taken
1	68	POTE GANESH RAMDAS	Enabling Program	Customer Relationship Management	MKCL	Data Management, Logistics	Certificate verification	Hi Toady: - wednesday dated :- 07/01/15 Today shift timing :- 11 pm to 8am Today i was login in my system 10:30 pm. This time i am not working on system because PS problem. Then i was Worked TEARING. Then 1am this problem was solved & i am worked on system PAN & TAN chekar process. Today my count (target) is completed. Then logout :- 8:11am Thanks....	Wednesday 2015-01-07	8 Hr(s) 10 Min(s)
Total Time										8 Hr(s) 10 Min(s)

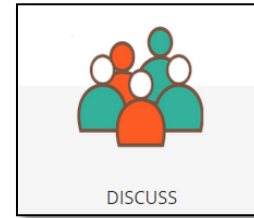
POTE GANESH RAMDAS's Daily Report

[Close Report](#)

Serial	Employee Code	Employee name	Program Type	Program Name	Location	Project Name	Category	Description	Date	Time Taken
1	68	POTE GANESH RAMDAS	Enabling Program	Customer Relationship Management	MKCL	Data Management, Logistics	Certificate verification	Today monday & dated 05/01/15.. Time :-11pm to 8am. Taoday am entering on floare & login 10:45pm. I was don't able to doing work. Because in our system problem for PS(photo & signature) . Then me & my friendz doing a envolpe tearing from 11pm to 1 am. After 1am solved PS problem & we are wroking on systems PAN checker TAN process. End of the shift my count (target) was completed. Then logout 8 : 15 am.....	Monday 2015-01-05	8 Hr(s) 30 Min(s)
Total Time										8 Hr(s) 30 Min(s)

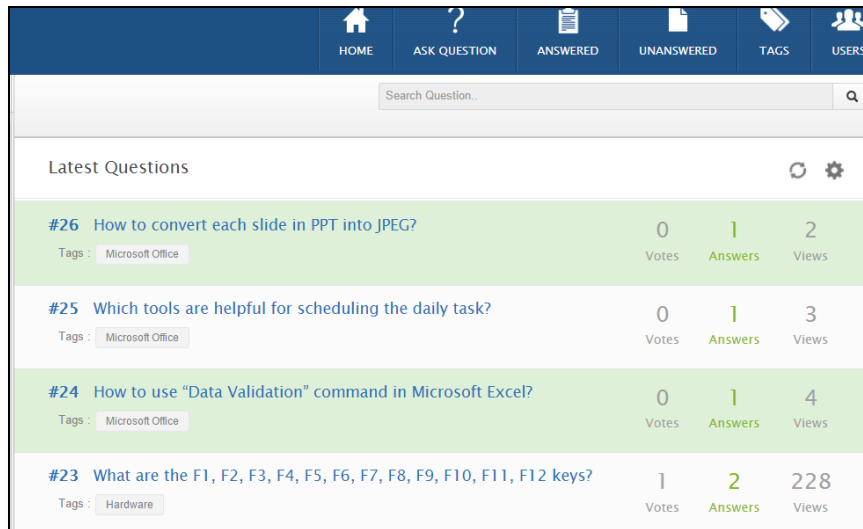
4. Work Forum

- Purpose: Sharing situations / problems faced at the workplace
- Deployment: Online



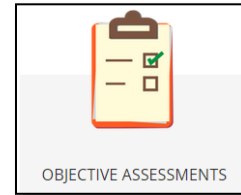
- Key features:
 - Discussion forum
 - Question – answers
 - Votes and likes
 - Analytical reports
 - Badges and rewards

Image 10: Work Forum



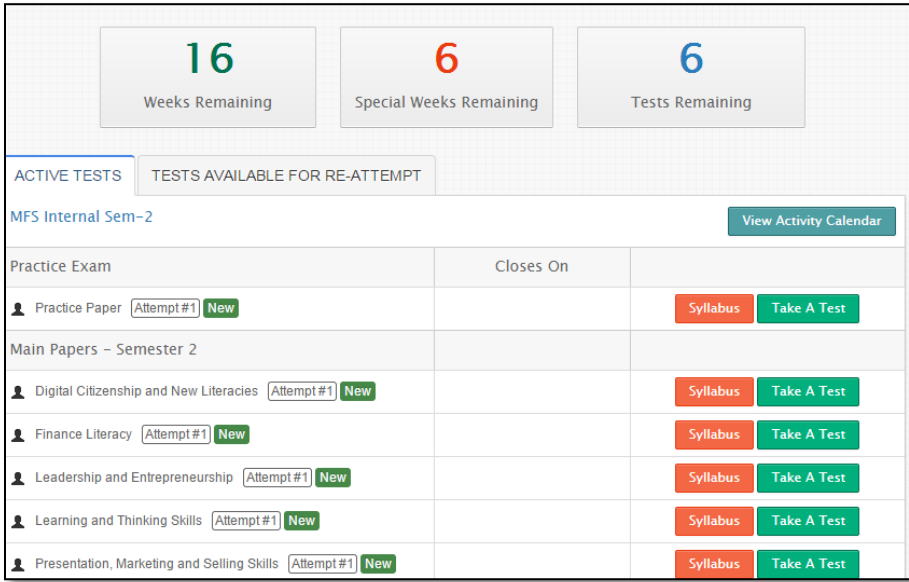
5. MKCL's OES (Objective Evaluation System)

- Purpose: Formative assessment in form of objective questions
- Deployment: Online



- Key features:
 - More than 10 different types of question formats
 - Question wise analytics
 - Student wise analytics
 - Answer wise analytics
 - Question repository management
 - Question paper formation and administration

Image 11: MKCL's OES (Online Evaluation Framework)



Weeks Remaining	Special Weeks Remaining	Tests Remaining
16	6	6

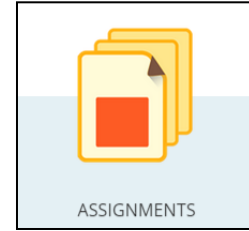
ACTIVE TESTS | TESTS AVAILABLE FOR RE-ATTEMPT

MFS Internal Sem-2 [View Activity Calendar](#)

Practice Exam	Closes On	
Practice Paper Attempt #1 New		Syllabus Take A Test
Main Papers – Semester 2		
Digital Citizenship and New Literacies Attempt #1 New		Syllabus Take A Test
Finance Literacy Attempt #1 New		Syllabus Take A Test
Leadership and Entrepreneurship Attempt #1 New		Syllabus Take A Test
Learning and Thinking Skills Attempt #1 New		Syllabus Take A Test
Presentation, Marketing and Selling Skills Attempt #1 New		Syllabus Take A Test

6. MKCL's AMS (Assignment Management System)

- Purpose: Summative assessment in form of assignments
- Deployment: Online



- Key features:
 - Work flow management
 - Criteria based assessment
 - Evaluator's console
 - Evidence based assignment record maintenance

Image 12: MKCL's AMS (Assignment Management System)

Assignment Details

Assignment Name :	Business Communication Assignment 1
Attempt No :	1
Statement Text :	Business Communication Assignment 1
Status :	New
Evaluation Method :	CRITERIA_BASED

[Other Details](#)

7. MFS Blog

- Purpose:
 - Sharing and categorization of summary of reflection sessions.
 - Categorization mapped to theory topics of the curriculum of the program under study
 - Deployment: Online
-
- Key features:
 - Moderated posts
 - Categorization

Image 13: Blog

The image shows a screenshot of a blog post on the MKCL website. The header features the title "MKCL FINISHING SCHOOLS: LEARNING THROUGH WORKING" and a search bar. Below the header is a navigation bar with "HOME" highlighted. The main content area displays a blog post titled "Team Work" by SYSTEM ADMIN, dated 10 FEBRUARY, 2015. The post includes details such as the date (7-2-2015), time (05:30 PM to 06:10 PM), session conductor (Atul Patodi), and subject (Team Work). It also lists present students: Priyanka Gade, Aniket Bhujbal, Aniket Bramhe, Girish Adsul, Umesh Funde, Rohit khatavkar, and Rahul Kachare. The post begins with an "Introduction/Summary:" section. To the right of the post, there are two sidebars: "Recent Posts" and "Discussion Topics". The "Recent Posts" sidebar lists: "Employees are important assets to an organization", "Understanding the basics of Banking", "7 Wonders", "Current affairs and important news", and "Team Work". The "Discussion Topics" sidebar lists: "Creative Thinking" and "Current Affairs".

Chapter 5: Data Analysis and Interpretations

5 Chapter 5: Data Analysis and Interpretation

Contents

5.1	Background
5.2	Data Collection.....
5.3	Data Analysis
5.3.1	Data Analysis for Objective 1
5.3.2	Data Analysis for Objective 2.....
5.3.3	Data Analysis for Objective 3.....
5.3.4	Data Analysis for Objective 4.....
5.3.5	Data Analysis for Hypothesis Testing: Skill attainment and Knowledge gain
5.4	Findings for Validating Research Objectives
5.5	Findings for Hypothesis Testing
5.6	Hypothesis testing
5.7	Summary.....

5.1 Background

Current research has four objectives to be analyzed and one hypothesis to be tested.

These four objectives demand collection of data from different sources and forms for analysis. Interpretations of findings after analysis of entire data as a whole – and not in parts – are considered for validating research objectives and testing of hypothesis.

As elaborated and justified in earlier chapter: *Chapter 3: Research Methodology*, the research design, is one group experimental study, with post-test only.

Hence, the important source of data is in form of post test results.

Additionally questionnaire has been used for collecting data to validate and analyze objectives set for the current study.

Objective wise research tools along with data set references are restated herewith.

Table 43: Objective1 - Research tool

Research Objective 1	To analyze effectiveness of eLearning Content (eContent)
Research Tool	Questionnaire for students
Data set reference	Q1.Ob1
Statistical tools: Base for interpretations and validating research objective	Percentage % of data collected through software frameworks for testing hypothesis

Table 44: Objective2 - Research tool

Research Objective 2	To study effectiveness of technology (eLearning framework)
Research Tool	Questionnaire for students
Data set reference	Q2.Ob2
Statistical tools: Base for interpretations and validating research objective	Percentage % of data collected through software frameworks for testing hypothesis

Table 45: Objective3 - Research tool

Research Objective 3	To study effectiveness of assessment methodology in terms of skill attainment and theoretical knowledge
Research Tool	<ol style="list-style-type: none"> 1. Post-test in form of Work Ratings 2. Post-test in form of Term End Examination 3. Post-test in form of Internal Assignment
Data set reference	<ul style="list-style-type: none"> • WR.DataSet1.FY.13.14.WorkRatings.PracticalMarks • WR.DataSet2.SY.14.15.WorkRatings.PracticalMarks • WR.DataSet3.FY.14.15.WorkRatings.PracticalMarks • TEE.DataSet1.FY.13.14 • TEE.DataSet2.FY.Repeaters.14.15 • TEE.DataSet3.SY.14.15 • TEE.DataSet4.FY.Freshers.14.15 • ASN.DataSet1.FY.13.14. Assignment. Marks • ASN.DataSet2.SY.14.15. Assignment. Marks • ASN.DataSet3.FY.14.15. Assignment. Marks

Statistical tools: Base for interpretations, validating research objective and hypothesis testing	<ul style="list-style-type: none"> • Passing criteria as stipulated by University for i.e. 40% • % of data collected through software framework for testing hypothesis
---	--

Table 46: Objective4 - Research tool

Research Objective 4	To analyze and assess importance of mentor’s role in the learning process
Research Tool	Questionnaire for students
Data set reference	Q3.Ob4
Statistical tools: Base for interpretations and validating research objective	Percentage % of data collected through software frameworks for testing hypothesis

5.2 Data Collection

Data has been collected through following tools

- i. Online tool for surveys with restricted and authenticated access
- ii. Software frameworks deployed in controlled environment
 - i. Online tool for surveys:
 - Questionnaires were created as online forms
 - These forms were shared with the sample group of students on their personal registered email address
 - Authenticated access was required for filling up the questionnaires
 - Responses were stored in online database in form of a protected worksheets
 - ii. Software frameworks:
 - Online evaluation framework is used for conducting online examination.
 - Result data base is considered as the data source

5.3 Data Analysis

Steps followed for data analysis for current study:

1. Data Processing involved
 - a. Editing
 - i. Duplicate entries are removed considering time stamp of submitting the questionnaire
 - ii. Records are deleted where identity is disclosed, so as to have anonymity and unbiased data analysis
 - b. Tabulation
 - i. Data is tabulated for pivoting
2. Data Analysis involved inferential analysis for drawing conclusions. (Kothari)

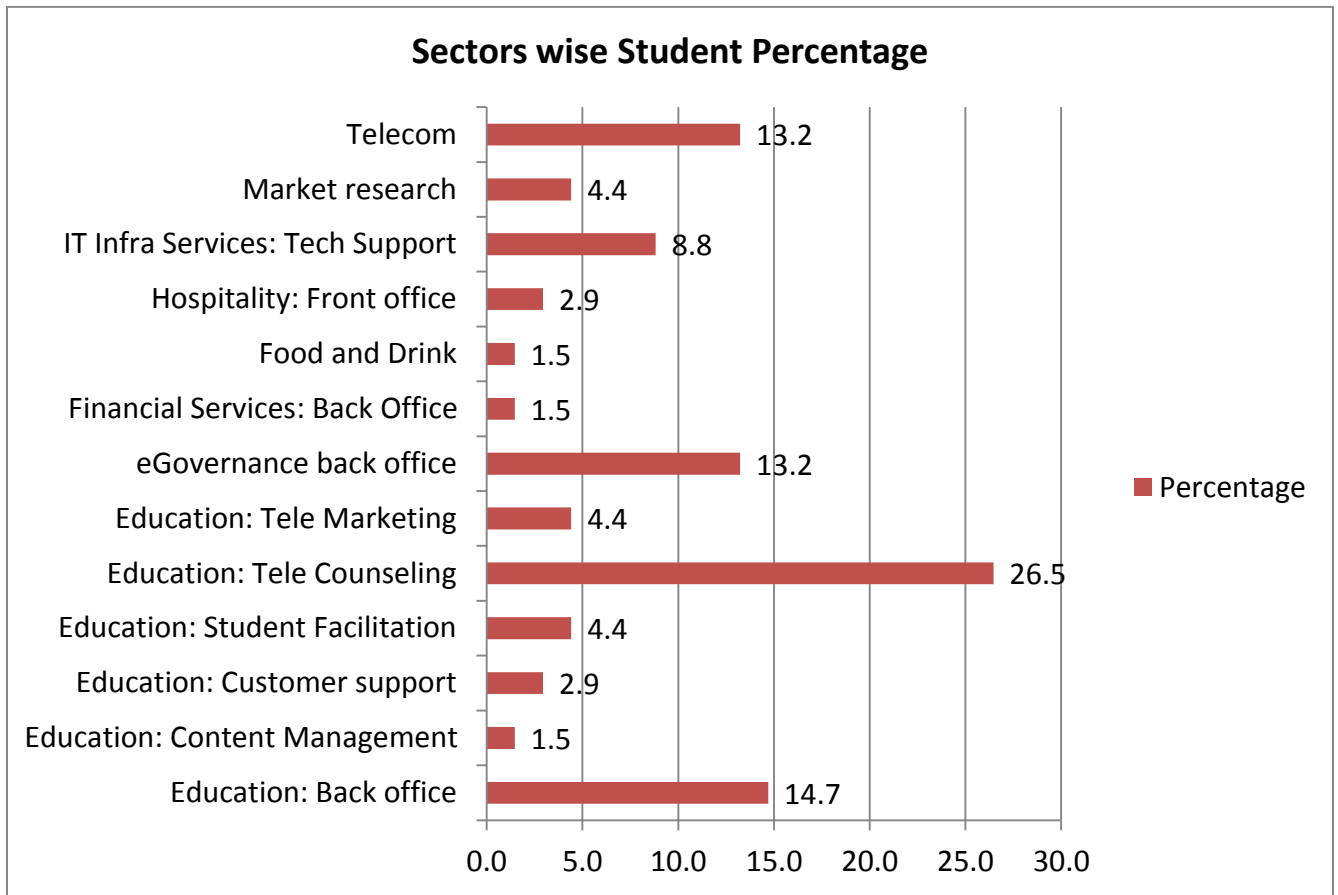
Data Analysis

Qualitative analysis of data

Students of program under study are associated with different Work Labs and get an opportunity to gain real life work experience from different domains.

After analyzing the data based on their associated work lab and the service sector domains the companies serve, following analysis is done.

Figure 6: Sector wise student percentage



- It is observed that students are working in different domains such as: Telecom, IT Infra Services, Hospitality – Front office, Financial Services – Back office, eGovernance, Education – Tele marketing, Counseling, Student Facilitation, Customer Support, Content Management, Market Research.
- This shows that students have got an exposure to real life work experiences in business process management domains mentioned above.

Analysis of available sample

Table 47: Analysis of available sample

Sr. No	Available Data Sets	Sample for Analysis	Expected Sample Size as per Research Design	Justification
1.	Q1.Ob1 (Responses for Questionnaire 1)	83	92	Erroneous responses rejected
2.	Q2.Ob2 (Responses for Questionnaire 2)	83	92	Erroneous responses rejected
3.	WR.DataSet1.FY.13.14.WorkRatios.PracticalMarks	26	26	-
4.	WR.DataSet2.SY.14.15.WorkRatios.PracticalMarks	24	26	Students discontinued / Absent
5.	WR.DataSet3.FY.14.15.WorkRatios.PracticalMarks	40	42	Students discontinued / Absent
6.	TEE.DataSet1.FY.13.14	26	26	-
7.	TEE.DataSet2.FY.Repeaters.14.15	6	6	-
8.	TEE.DataSet3.SY.14.15	22	24	Students discontinued / Absent
9.	TEE.DataSet4.FY.Freshers.14.15	40	42	Students discontinued / Absent
10.	ASN.DataSet1.FY.13.14. Assignment. Marks	26	26	-
11.	ASN.DataSet2.SY.14.15. Assignment. Marks	23	24	Student(s) discontinued / Absent
12.	ASN.DataSet3.FY.14.15. Assignment. Marks	40	42	Students discontinued / Absent
13.	Q3.Ob4 (Responses for Questionnaire 3)	72	92	Erroneous responses rejected

- Students discontinued / Absent:

This status represents a scenario observed during the span of research. The students, at the time of continuation to next year do not pay the fees because of personal reasons such as – getting shifted to home town.

5.3.1 Data Analysis for Objective 1: eLearning content

One comprehensive questionnaire was given to the students which included questions related to eLearning content, eLearning framework as well as mentoring.

There were 20 questions in the questionnaire.

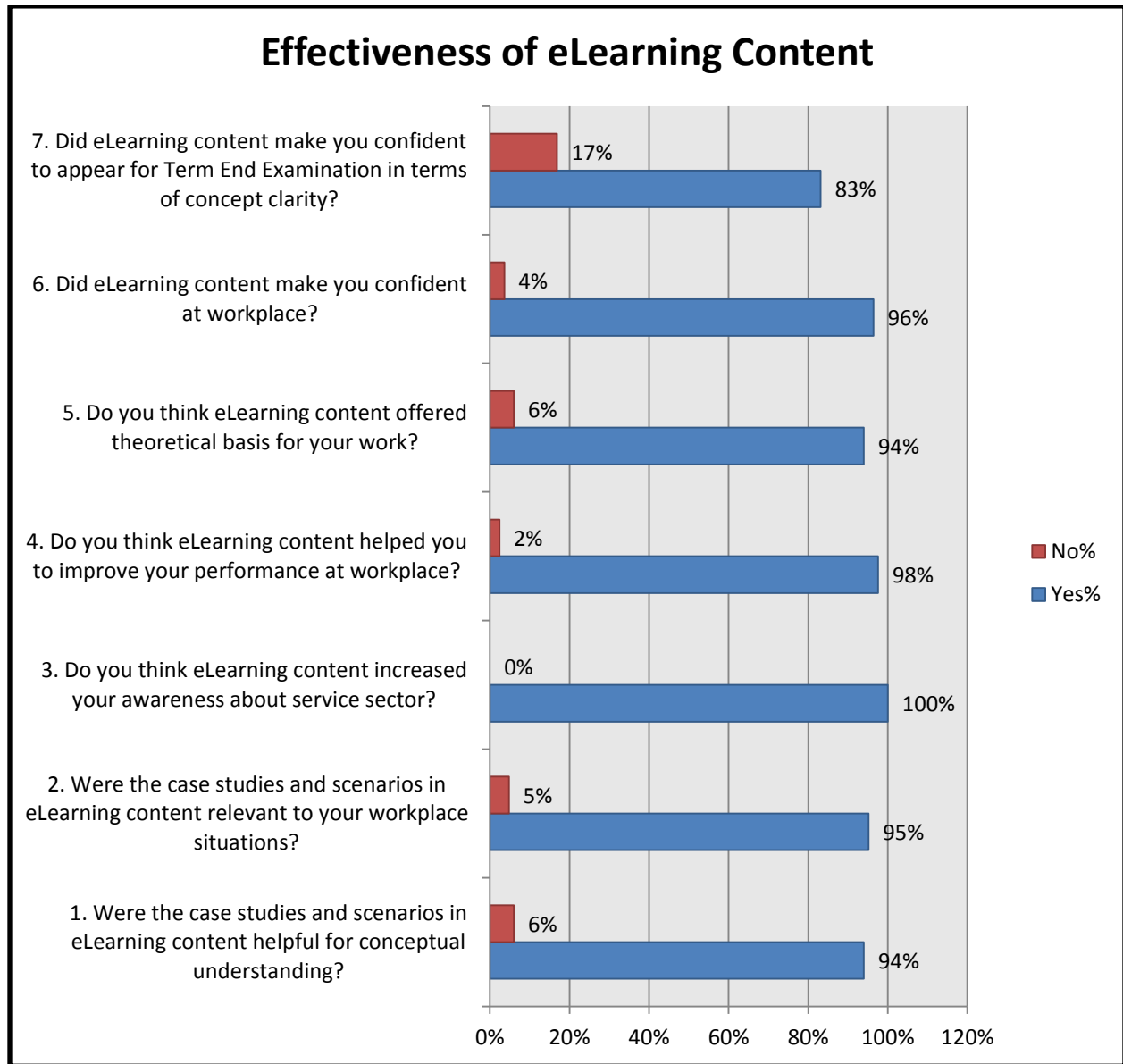
For analysis, selected questions related to respective objectives are considered.

eLearning content design, development has been elaborated in earlier chapter, i.e. ***Chapter 4: Educational Model and Program under study, Sub Chapter: 4.2: Environment for Learning through Working***

Table 48: Data Table: Objective 1

Data Table		
Questions	Yes%	No%
1. Were the case studies and scenarios in eLearning content helpful for conceptual understanding?	94%	6%
2. Were the case studies and scenarios in eLearning content relevant to your workplace situations?	95%	5%
3. Do you think eLearning content increased your awareness about service sector?	100%	0%
4. Do you think eLearning content helped you to improve your performance at workplace?	98%	2%
5. Do you think eLearning content offered theoretical basis for your work?	94%	6%
6. Did eLearning content make you confident at workplace?	96%	4%
7. Did eLearning content make you confident to appear for Term End Examination in terms of concept clarity?	83%	17%
Sample (Total)	83	

Figure 7: Effectiveness of eLearning Content



Observations: eLearning content:

- 1. 94% students think that eLearning content has helped them for gain conceptual clarity**
2. 95% students think that eLearning content is relevant to workplace situations they face
3. 100% students think that eLearning content has increased their awareness about service sector

4. **98% students think that eLearning content has helped them to improve performance at the workplace**
5. 94% students think that eLearning content offered theoretical basis for their work
6. 96% students think eLearning content made them confident at workplace
7. 83% students think eLearning content made them confident for term end examination

Analysis of observations:

1. It is observed that average percentage of effectiveness of eLearning Content in terms of positive responses is 94.29 % which is on higher side, which indicates that the content was developed as per the objectives framed.
2. However, it must be taken into account that while students think that the eLearning content has helped them conceptual clarity (94%), it is relevant to their workplace situations (95%), it has increased their awareness about service sector (which all students think), it has helped them improve performance at the workplace (98%), it offered theoretical basis for their work (94%), it made them confident at the workplace (96%), only 83% students think that it has made them confident to appear for term end examination.
3. 17% students think that they were not confident to appear for term end examination. This is a very interesting observation as it projects a kind of fear of term end examination perhaps. The reason for this could be the 'medium' of term end examination, which is English.
4. There could be another reason which was noted during the interactions with the students that the term end examination is scenario based and the eLearning content is scenario based as well. However, the scenarios are not same. That is, students do not get 'expected' question bank through eLearning content so as to make them confident about the term end examination by guess work.
5. Further, average 6% students have given negative response to conceptual clarity, relevance to workplace situations, performance at workplace, theoretical basis, and confidence at workplace. The reasons for this could be related to the personal competencies such as learnability, grasping, and analytical capabilities. This is because the students are expected to be in the driver's seat throughout the learning process and the eLearning content has to play role of support. If the student is not capable of relating a case study from other domain to the current domain area s/he is working, there is a probability of recording negative response.

6. Further, the medium of instruction for eLearning content is English. Many of the students have challenge with their English language proficiency with limitations of vocabulary.

Key Observations

1. **94% students think that eLearning content has helped them for gain conceptual clarity**
2. **98% students think that eLearning content has helped them to improve performance at the workplace**

Interpretations: About eLearning content:

1. eLearning content is proving to be relevant to workplace situations and also has increased awareness about the service sector. It means abstract concepts were well presented through scenarios.
2. It is also offering a theoretical base in terms of conceptual clarity leading to confident and improved performance at the workplace.
3. Comparatively lesser students have gained confidence to appear for term end examination.

**Average percentage of effectiveness of eLearning Content in terms of positive responses:
94.29 %**

5.3.2 Data Analysis for Objective 2: eLearning framework

One comprehensive questionnaire was given to the student which included questions related to eLearning content, eLearning framework as well as mentoring.

For analysis, selected number of questions related to respective objectives are considered.

Technology frameworks used for the program under study have been elaborated in earlier chapter, i.e. *Chapter 4: Educational Model and Program under study, Sub Chapter: 4.5: Technology Framework*

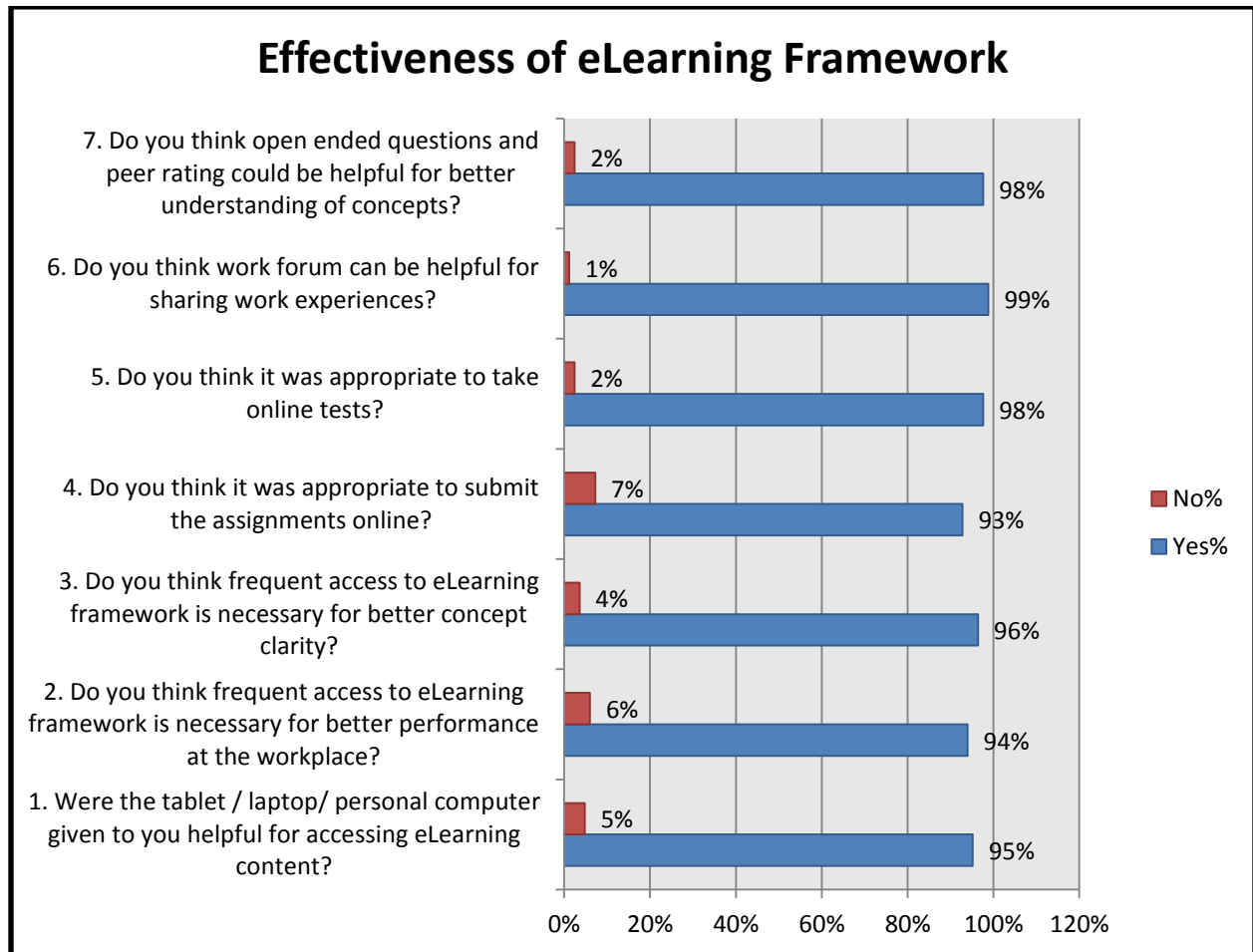
It is found essential to reinstate that the effectiveness of eLearning frameworks is to be tested with regards to the elements in the hypothesis, i.e. Skill attainment and Knowledge gain.

Hence the objective while designing the questionnaire is to assess the eLearning frameworks from the point of view of the software or technology effectiveness but whether the eLearning frameworks have been instrumental in Skill attainment and Knowledge gain by the students.

Table 49: Data Table: Objective 2

Data Table		
Questions	Yes%	No%
1. Were the tablet / laptop/ personal computer given to you helpful for accessing eLearning content?	95%	5%
2. Do you think frequent access to eLearning framework is necessary for better performance at the workplace?	94%	6%
3. Do you think frequent access to eLearning framework is necessary for better concept clarity?	96%	4%
4. Do you think it was appropriate to submit the assignments online?	93%	7%
5. Do you think it was appropriate to take online tests?	98%	2%
6. Do you think work forum can be helpful for sharing work experiences?	99%	1%
7. Do you think open ended questions and peer rating could be helpful for better understanding of concepts?	98%	2%
Sample (Total)	83	

Figure 8: Effectiveness of eLearning Framework



Observations: eLearning framework:

1. 95% students found mode of access to eLearning helpful
2. 94% students think necessity of frequent access to eLearning framework for performance at workplace
3. 96% students think necessity of frequent access to eLearning framework for concept clarity
4. 93% students found online submission of assignments as appropriate
5. 98% students found taking online tests s appropriate
6. 99% students found work forum helpful for sharing work experiences
7. 98% students found open ended questions helpful for concept clarity

Analysis of observations:

1. It is observed that average percentage of effectiveness of eLearning Framework in view of positive responses is 96 % which is on higher side.
2. However, it must be taken into account that there are negative responses recorded by students leading the researcher to analyze probable reasons for such responses.
3. 95% students found mode of access to eLearning framework helpful. Negative responses, though less, were worth analyzing. It was understood through discussions with the students that at times the seamless access to the framework was not ensured, due to deputation to other work location for temporary period of time. This resulted into no access or limited access.
4. Another observation is about performance at the workplace. eLearning frameworks provide additional aspects in terms of a platform for collaboration, knowledge sharing and is beyond the scope of eLearning content. Hence this question was important to explore if the access was found essential for performance at the workplace. 94% students have responded positively. Though it is on higher side, the negative responses were further analysed through discussions. It was noted through observations and interactions with the students that internet access / wi-fi access that are necessary for collaborative learning and knowledge sharing was not frequently available at the workplaces.
5. An interesting observation is to be noted that 93% students find it appropriate to submit assignments online i.e. 7% do not find it appropriate to submit the assignments online. The reasons revealed after discussions with students include - loss of eLearning login and password required for assignment submission, not following emails sent as a reminder for submission of assignments and hence the link getting closed for submission.

Key Observations

1. 95% students found mode of access to eLearning helpful

Interpretations: About eLearning framework:

1. Access to eLearning frameworks in one of the modes made available is found to be useful.
2. Need for frequent access is highlighted for skill attainment and demonstration as well as knowledge gain
3. Learning environment comprising of different frameworks is appreciated

Average percentage of effectiveness of eLearning Framework in terms of positive responses: 96%

5.3.3 Data Analysis for Objective 3: Skill attainment and Knowledge gain

Performance evaluation matrix is prescribed by industry partner companies, i.e. work labs. It is attached as an annexure to the thesis. Still in order to establish context for interpretation of data analysis, it is reproduced herewith in abridged form.

Performance Monitoring System: Work Ratings

	Key areas	Rating out of	Weightage
Tasks	Accomplishments Quality	10	40%
Learning	Learning Process	10	40%
Culture	Ethics Responsibility	5	20%
		25	100%
		Converted to the scale of 10	

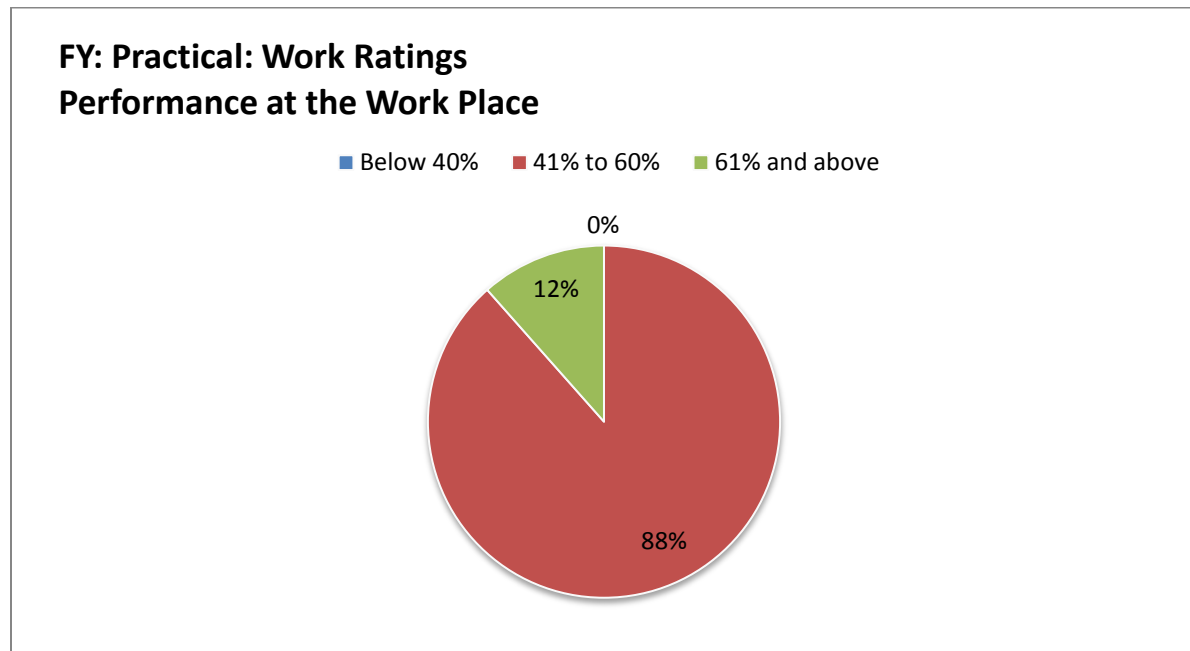
5.3.3.1 Post- test in form of Work Ratings (WR)

1. WR.DataSet1.FY.13.14.WorkRatings.PracticalMarks

Table 50: Data Table: Objective 3

Data Table	Below 40%	41% to 60%	61% and above	Total
Students	0	23	3	26

Figure 9: FY: Practical: Work Ratings – Performance at the Workplace



Observations: Assessment Methodology: Work Ratings

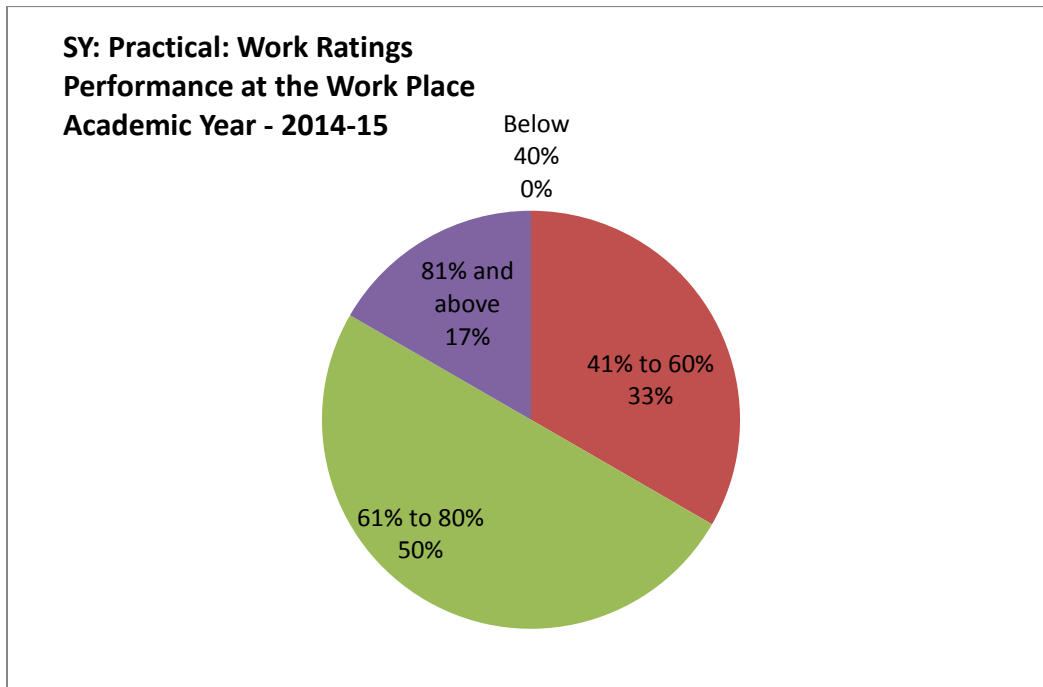
- i. 0% students have scored work ratings below 40%
- ii. 88% students have scored work ratings in the range: 41% to 60%
- iii. 12% students have scored work ratings above 61%

2. WR.DataSet2.SY.14.15.WorkRatings.PracticalMarks

Table 51: Data Table: Objective 3

Data Table	Work Rating Scores			
	Below 40%	41% to 60%	61% to 80%	81% and above
Students	0	8	12	4

Figure 10: SY: Practical: Work Ratings – Performance at the Workplace



Observations: Assessment Methodology: Work Ratings

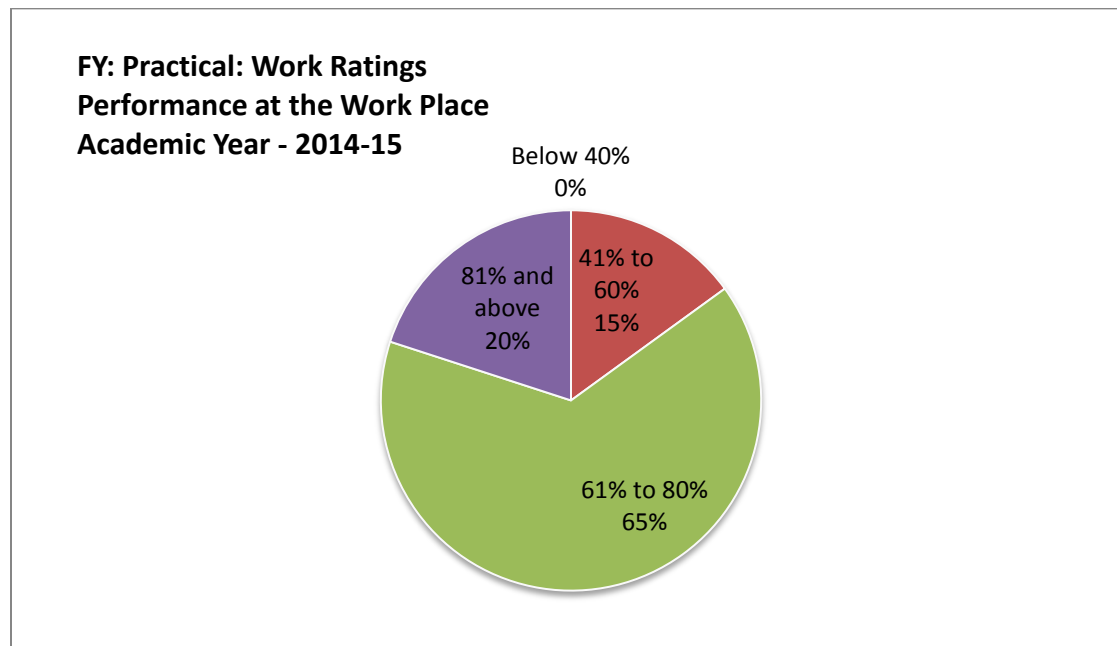
- i. 0% students have scored work ratings below 40%
- ii. 33% students have scored work ratings in the range: 41% to 60%
- iii. 50% students have scored work ratings in the range: 61% to 80%
- iv. 17% students have scored work ratings above 81%

3. WR.DataSet3.FY.14.15.WorkRatings.PracticalMarks

Table 52: Data Table: Objective 3

Data Table	Work Rating Scores			
	Below 40%	41% to 60%	61% to 80%	81% and above
Students	0	6	26	8

Figure 11: FY: Practical: Work Ratings – Performance at the Workplace



Observations: Assessment Methodology: Work Ratings

- i. 0% students have scored work ratings below 40%
- ii. 15% students have scored work ratings in the range: 41% to 60%
- iii. 65% students have scored work ratings in the range: 61% to 80%
- iv. 20% students have scored work ratings above 81%

Integrated Data Analysis

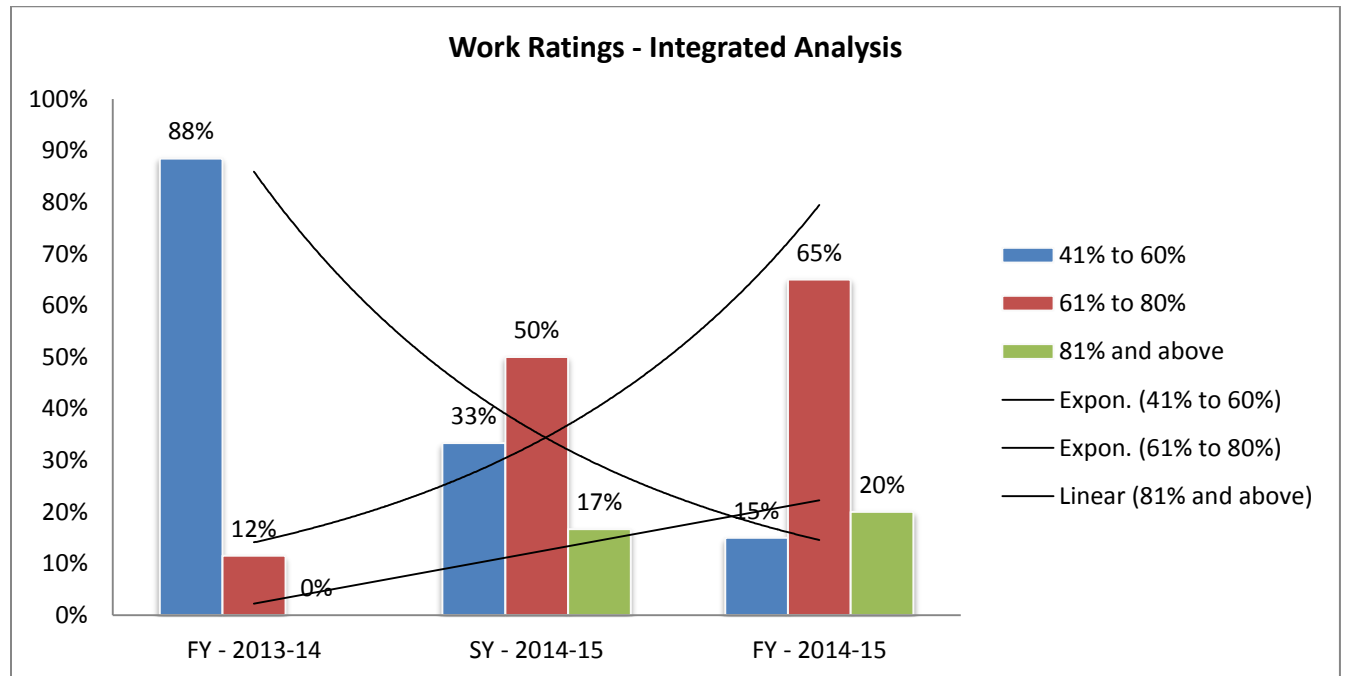
There are multiple data sets available for data analysis. It was therefore necessary to have an integrated analysis to arrive at conclusion and test the hypothesis.

The integrated data analysis – statistical as well as on the basis of observations is presented here.

Table 53: Integrated Data Analysis: Work Ratings

Integrated Data Analysis				
Work Ratings	Below 40%	41% to 60%	61% to 80%	81% and above
FY - 2013-14	0%	88%	12%	0%
SY - 2014-15	0%	33%	50%	17%
FY - 2014-15	0%	15%	65%	20%
Average		46%	42%	12%

Figure 12: Integrated Data Analysis



Analysis of observations

It is interesting to take into account observations for all the three data sets for which graphical analysis is presented above.

1. In all the 3 data sets, no one has performed below acceptable standards i.e. below 40%. This is as per University rule for evaluation as well as performance standards applicable by Work Lab.
2. Further, it is to be noted that there is a gradual positive shift in percentages for particular range. That is for first data set, the majority - 88% are in the range of 41% to 60% and only 12% are above 61%. For the second data set, it is observed that only 33% are in the range below 60%, however 50 % are in range: 61 to 80%. Further, it is important to note that 17% have performed above 81% which is quite an accomplishment. Similar positive trend is observed for data set 3. Here, percentage of performers below 60% has reduced to 15% only with an increase in percentage of performers in the range: 61to 80% - i.e. 65% and further positive shift is noted in no. of performers above 81%, which is 20%.
3. Further, it is observed that more number of students scored in the range 61 – 80% which is at a higher side if compared with first year work ratings. This shows that students understood the concepts, could perform at the workplace better with better understanding of work ratings and performance matrix, criteria stipulated by industry.
4. The above analysis leads to conclusion that more profound practice at workplace is evident.

Key Observations

1. Average 46% students are performing in the range: 41% to 60% - Good Rating
2. Average 42% students are performing in the range: 61% to 80% - Very Good Rating
3. Average 12% students are performing in the range: 81% and above – Excellent Rating
4. 100% students are performing within acceptable range

Reference rating scales in form of specimen for performance evaluation at workplace, i.e. award of work ratings is attached as appendix to the thesis.

Interpretations

Assessment Methodology: Work Ratings

1. Performance by means of demonstration of skill attainment is satisfactory and in the acceptable range by the Work Lab

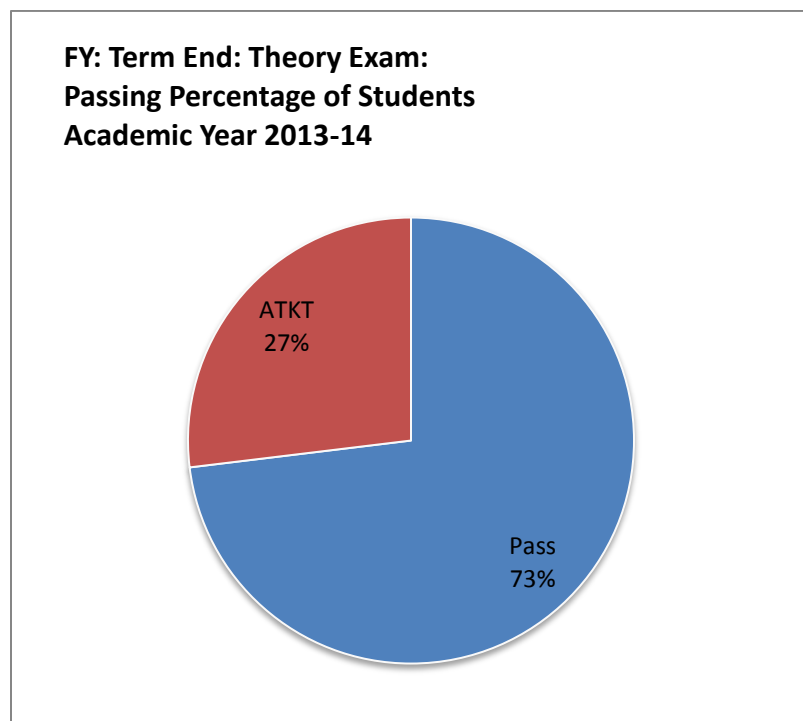
5.3.3.2 Post-test in form of Term End Examination

1. TEE.DataSet1.FY.13.14

Table 54: Data Table: Objective 3

Data Table	TEE Result		
Result	Pass	ATKT	Total
Students	19	7	26

Figure 13: FY: Theory: TEE



Observations: Assessment Methodology: Term End Examination

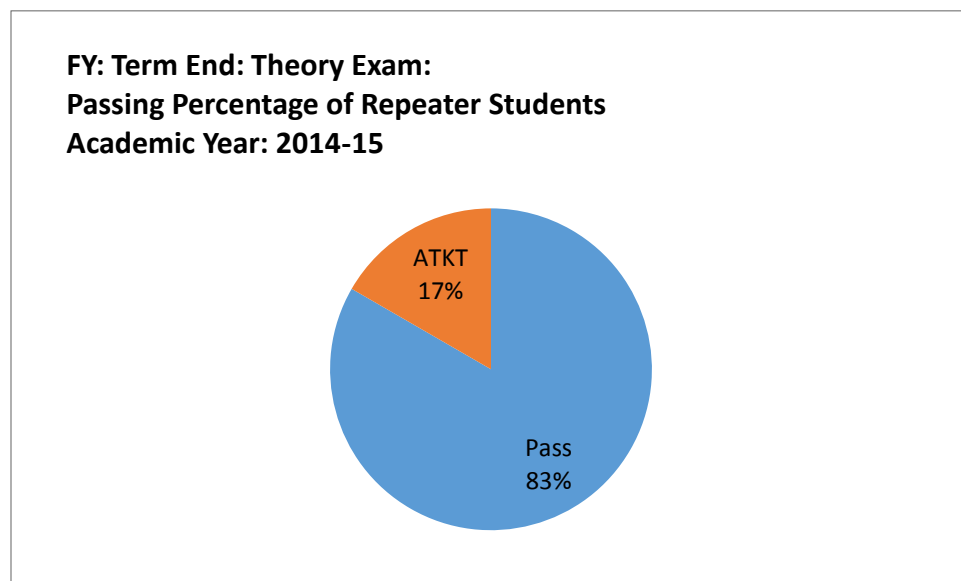
- i. 73% students have passed
- ii. 27% students have deferred result

2. TEE.DataSet2.FY.Repeaters.14.15

Table 55: Data Table: Objective 3

Data Table	TEE Result		
	Pass	ATKT	Total
Students	5	1	6

Figure 14: FY: Theory: TEE



Observations: Assessment Methodology: Term End Examination

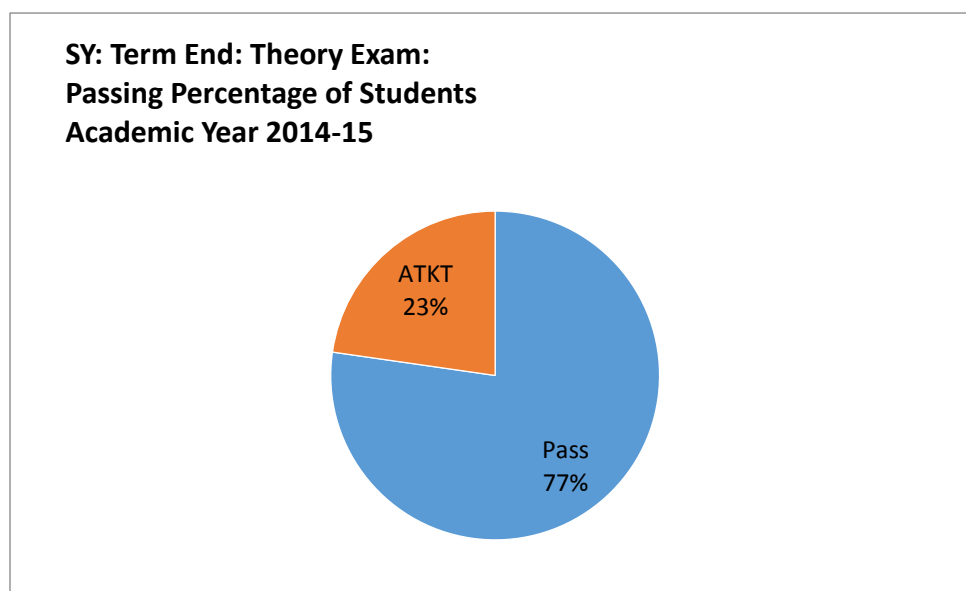
- i. 83% students have passed
- ii. 17% students have deferred result

3. TEE.DataSet3.SY.14.15

Table 56: Data Table: Objective 3

Data Table	TEE Result		
	Pass	ATKT	Total
Student	17	5	22

Figure 15: SY: Theory: TEE



Observations: Assessment Methodology: Term End Examination

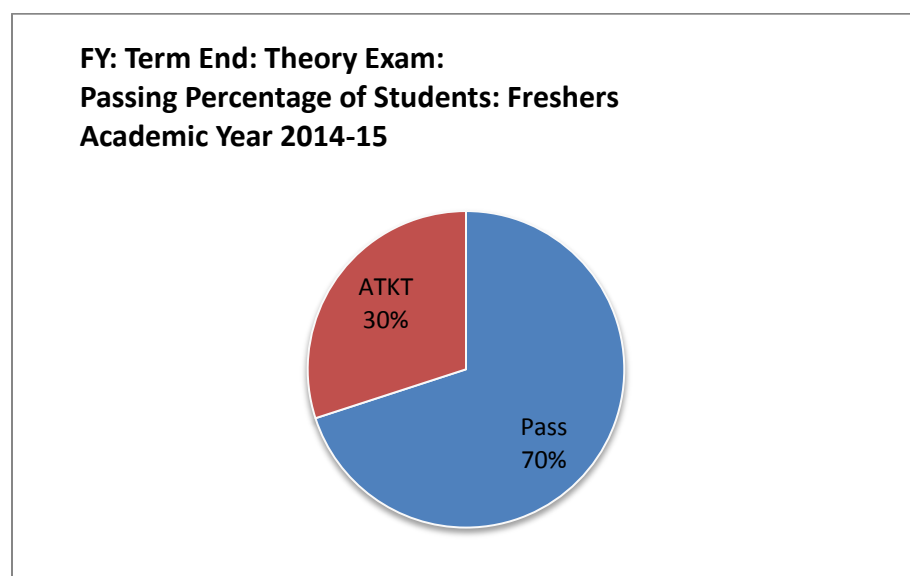
- i. 77% students have passed
- ii. 23% students have deferred result

4. TEE.DataSet4.FY.Freshers.14.15

Table 57: Data Table: Objective 3

Data Table	TEE Result		
	Pass	ATKT	Total
Students	28	12	40

Figure 16: FY: Theory: TEE



Observations: Assessment Methodology: Term End Examination

- i. 70% students have passed
- ii. 30% students have deferred result

Integrated Data Analysis

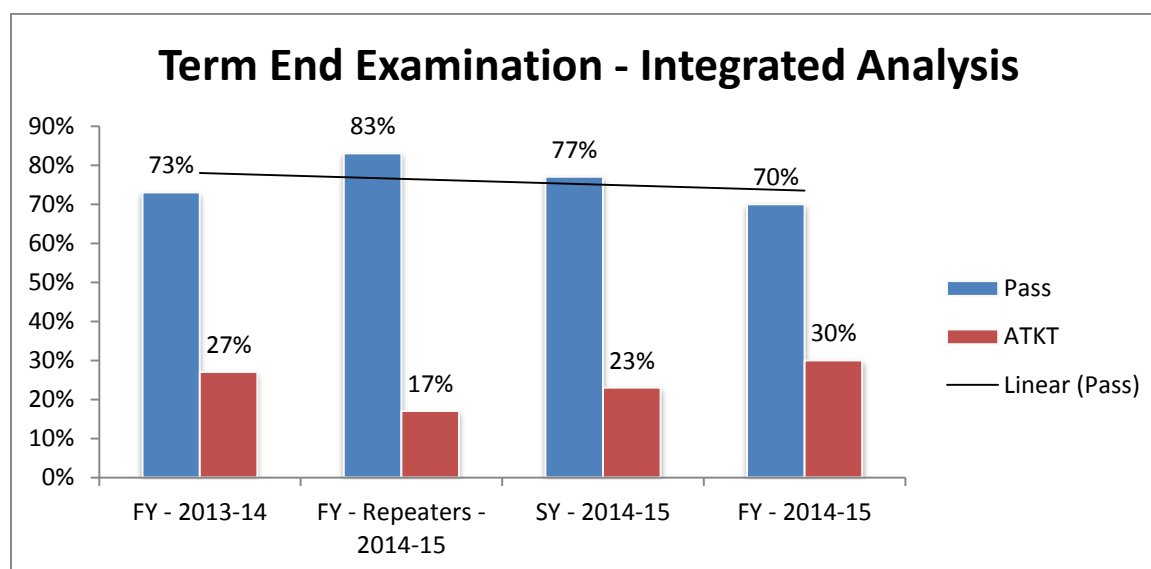
There are multiple data sets available for data analysis. It was therefore necessary to have an integrated analysis to arrive at conclusion and test the hypothesis.

The integrated data analysis – statistical as well as on the basis of observations is presented here

Table 58: Integrated Data Analysis: TEE

Term End Examination	Pass	ATKT
FY - 2013-14	73%	27%
FY - Repeaters - 2014-15	83%	17%
SY - 2014-15	77%	23%
FY - 2014-15	70%	30%
Average	76%	24%

Figure 17: Integrated Data Analysis: TEE



Analysis of observations

1. Average passing percentage of term end examination is 76%. While it is in the acceptable range as per University norms, however, it is found necessary to analyze through observations and interactions with the students for students who have not cleared the term end examination – i.e. 24% students.
2. As a researcher cum implementer of the program it has been beneficial to gather observations which are beyond statistical interpretations. Through interactions it could be observed that there is a fear of ‘term end examination’ in the minds of the students and there is a natural tendency to look out for a ready-made guide or the expected question – answer book.

3. While it is stated earlier that the term end exam is based on the scenarios related to the work lab situations faced by the students, the students with lesser competency of relating, applying and comprehending may find it difficult to answer a new scenario presented to them.
4. Further, till standard 12th, the students have been habituated to appear for a exam that is descriptive and requires mugging up of answers. Whereas the exam is online, objective type, and based on comprehension, analysis and that too with questions in form of situations. Some sample questions are enclosed in the annexure of this thesis.
5. As a result it is observed that some of the students might have found it difficult to interpret the question and then answer.
6. Medium of exam – i.e. English could have also been another factor for not clearing the exam.
7. Students being enrolled for this degree program come from economically weaker sections of the society with less exposure to sophisticated environment that has English language predominance. As a result understanding the language and interpreting the question proves to be a challenge for clearing the examination.

Key Observations

1. 76% students have passed term end examination conducted by the University

Interpretations

Assessment Methodology: Term End Examination

1. 76% is the average passing percentage
2. Theoretical knowledge gain is evident in case of 76% students

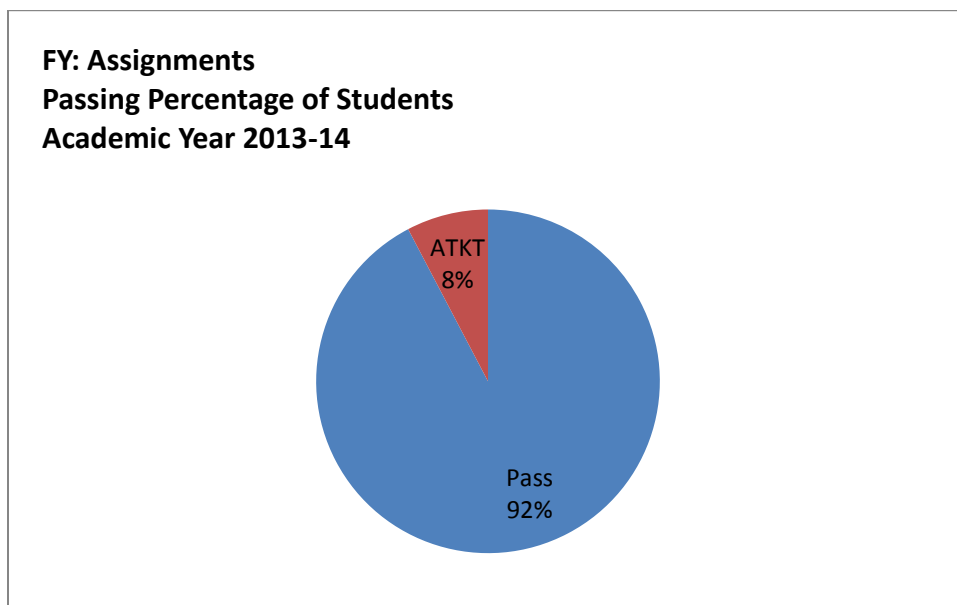
5.3.3.3 Post-test in form of Internal Assignment

1. ASN.DataSet1.FY.13.14.Assignment. Marks

Table 59: Data Table: Objective 3

Data Table	Assignments Result		
	Pass	ATKT	Total
Student	24	2	26

Figure 18: FY: Theory: Assignments



Observations: Assessment Methodology: Assignments

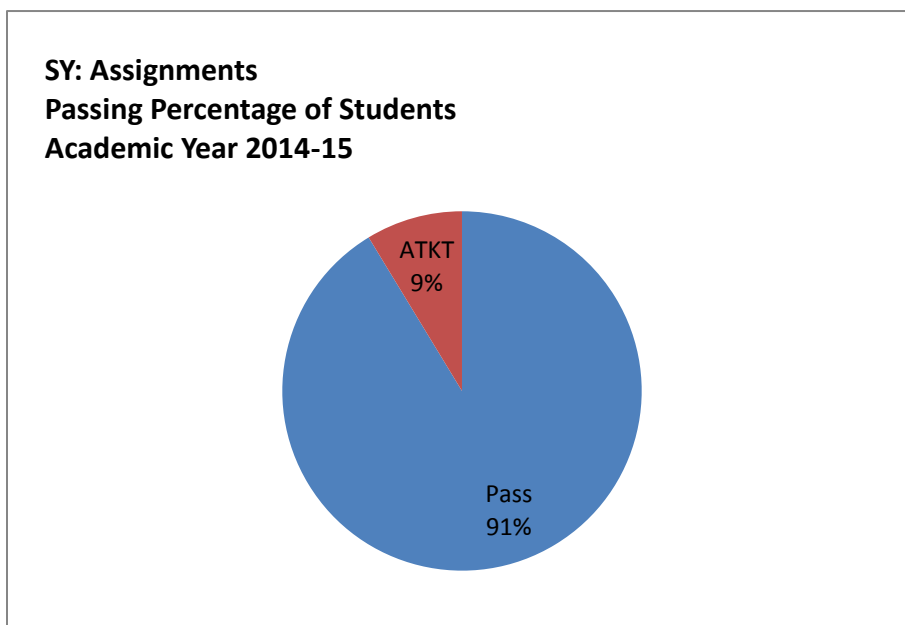
- i. 92% students have passed in assignments
- ii. 8% students have deferred result

2. ASN.DataSet2.SY.14.15. Assignment. Marks

Table 60: Data Table: Objective 3

Data Table	Assignments Result		
Data	Pass	ATKT	Total
Student	21	2	23

Figure 19: SY: Theory: Assignments



Observations: Assessment Methodology: Assignments

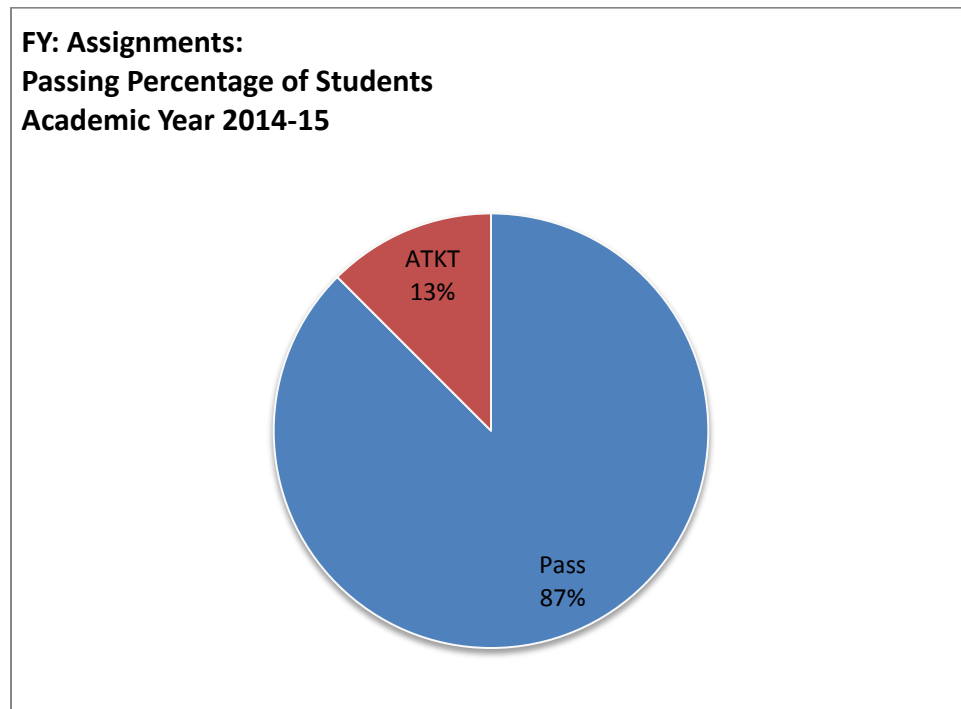
- i. 91% students have passed
- ii. 9% students have deferred result

3. ASN.DataSet3.FY.14.15. Assignment. Marks

Table 61: Data Table: Objective 3

Data Table	Assignments Result		
	Pass	ATKT	Total
Student	35	5	40

Figure 20: FY: Theory: Assignments



Observations: Assessment Methodology: Assignments

- i. 87% students have passed
- ii. 13% students have deferred result

Integrated Data Analysis

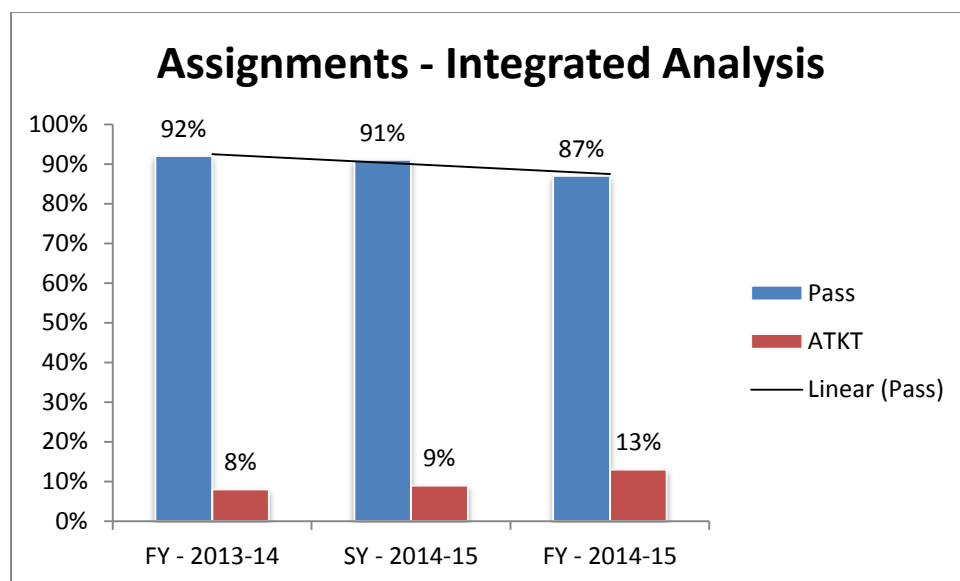
There are multiple data sets available for data analysis. It was therefore necessary to have an integrated analysis to arrive at conclusion and test the hypothesis.

The integrated data analysis – statistical as well as on the basis of observations is presented here

Table 62: Integrated Data Analysis: Assignments

Assignments	Pass	ATKT
FY - 2013-14	92%	8%
SY - 2014-15	91%	9%
FY - 2014-15	87%	13%
Average	90%	10%

Figure 21: Integrated Data Analysis: Assignments



Analysis of observations

1. Average percentage of passing in Assignments is 90%. While this percentage is satisfactory, it is felt important to analyze probable reasons of failure in case of 10% students.
2. Through meaningful interactions with the students it was observed that at times due to work pressure, the students find it difficult to submit the assignment in the online framework on time.
3. Further, the medium of submitting the assignment is English. Many times it is observed that the content of the assignment is very good however the expression is poor. For example if a case study is given for analysis during the reflection session with mentor the

students may analyze it very well since they are allowed to express in the language they are comfortable with. However, if the same case study is given as a part of assignment to be submitted in written form / in form of a presentation, the quality is poor because of less proficiency in English. These are the probable reasons of 10% failures.

Key Observations for

1. 90% students have passed assignments

Interpretations

Assessment Methodology: Assignments

1. 90% students have passed in internal assessment by applying skills attained and gained knowledge

Consolidated Interpretations: Objective 3: Skill attainment and Knowledge gain

By consolidating observations for all three post tests, following interpretation regarding skill attainment and knowledge gain is presented

	Observations
Skill attainment	1. 100% students are performing within acceptable range at the workplace
Knowledge gain	2. 76% students have passed term end examination conducted by the University
	3. 90% students have passed assignments
Average Percentage of Skill Attainment and Knowledge Gain 88.67%	

5.3.4 Data Analysis for Objective 4: Mentoring

One comprehensive questionnaire was given to the student which included questions related to eLearning content, eLearning framework as well as mentoring.

For analysis, selected questions related to respective objectives are considered.

Table 63: Data Table: Objective 4

Data Table		
Questions: Q1 and Q2	Yes	No
Are the Reflection Sessions / Mentoring Sessions interactive?	100%	0%
Are the Reflection Sessions / Mentoring Sessions relevant to you?	100%	0%
Sample (Total)	72	

Figure 22: Effectiveness of Mentoring: Relevance, Interactive

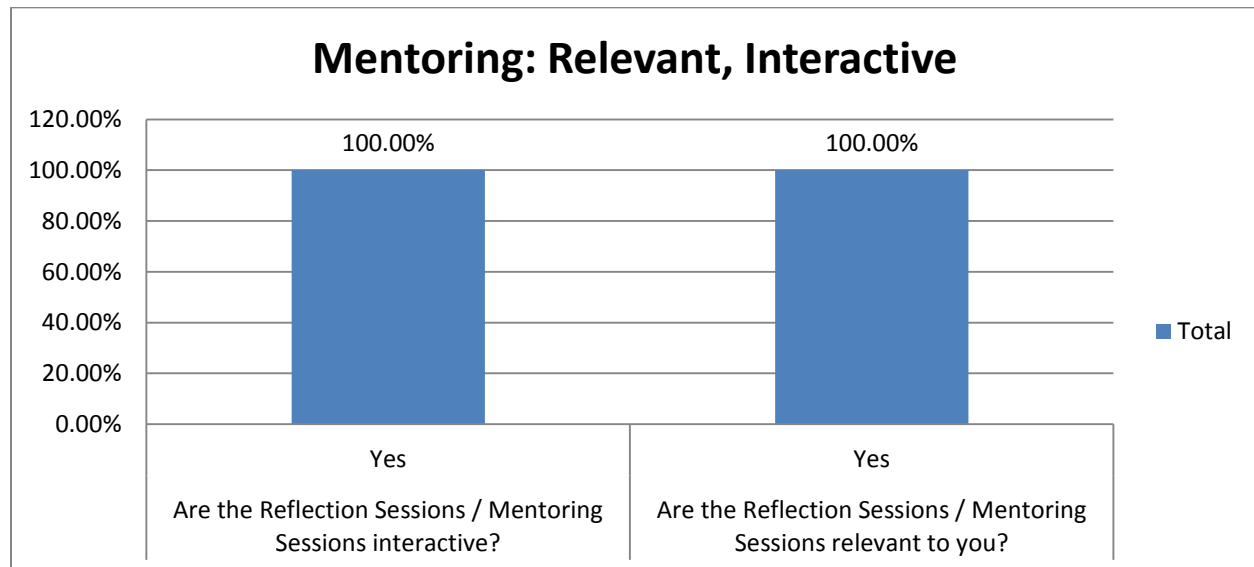


Table 64: Data Table: Objective 4

Data Table		
Question: Q3	Response	Total
Are the Reflection Sessions / Mentoring Sessions conducted for you gainful?	Not much	0
	To some extent	12
	Very much	60
Sample (Total)		72

Figure 23: Effectiveness of Mentoring: Gainful

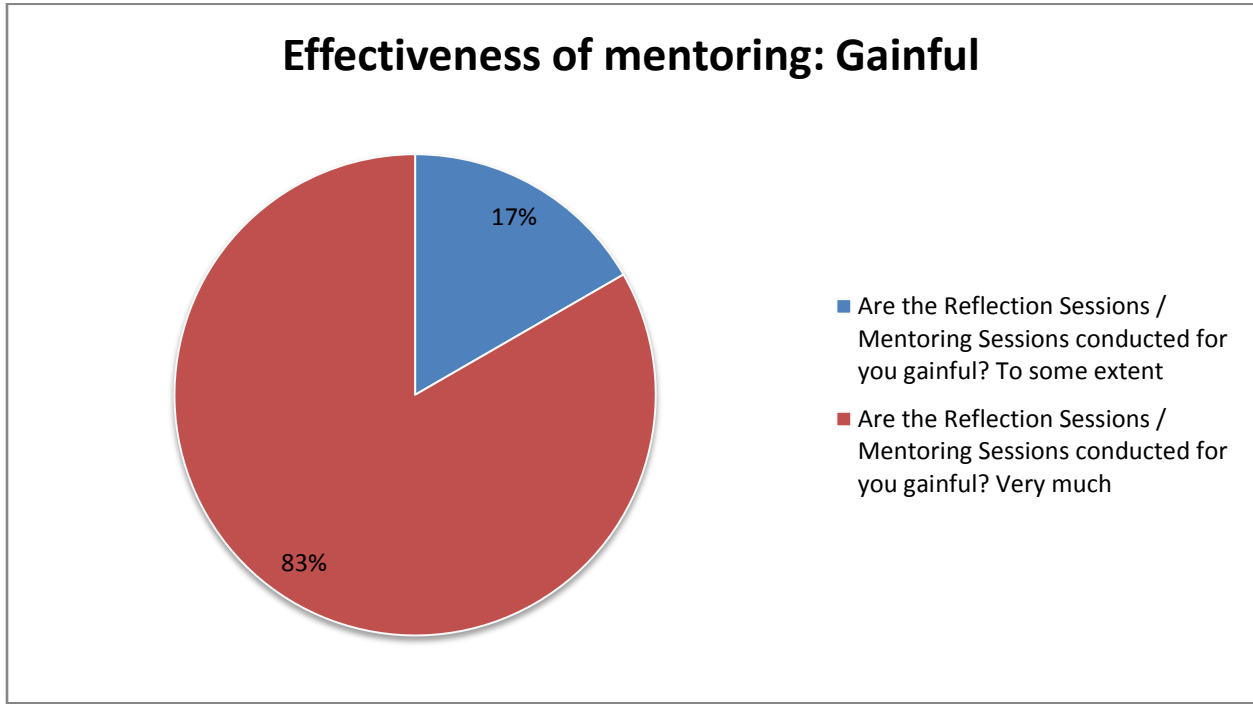
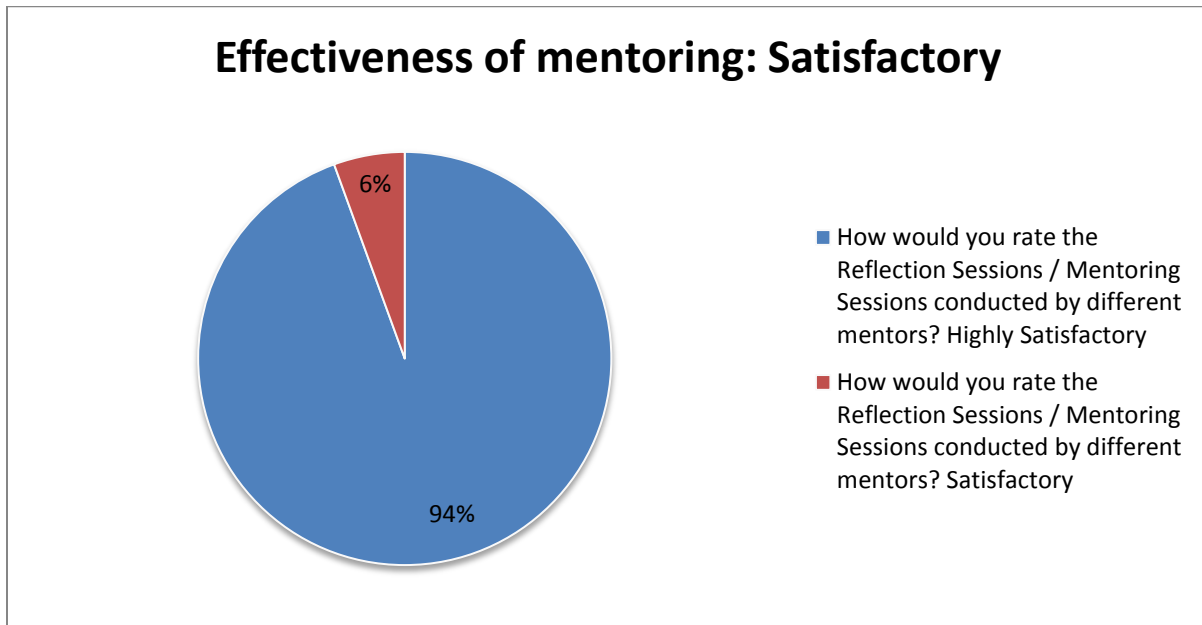


Table 65: Data Table: Objective 4

Data Table		
Question: Q4	Responses	Total
How would you rate the Reflection Sessions / Mentoring Sessions conducted by different mentors?	Highly Satisfactory	68
	Satisfactory	4
	Not Satisfactory	0
	Sample (Total)	72

Figure 24: Effectiveness of Mentoring: Satisfactory



Observations: Mentoring

- i. 100% students have found reflection sessions interactive
- ii. 100% students have found reflection sessions relevant to workplace
- iii. 83% students have found reflection sessions very much gainful
- iv. 94% students have found reflection sessions highly satisfactory

Integrated Data Analysis

In view of highest positive response for all the questions related to mentoring, following integrated analysis is done.

Table 66: Mentoring: Integrated

Question: Mentoring	Positive response
Q1	100%
Q2	100%
Q3	83%
Q4	94%
Average	94%

Analysis of observations

1. It might appear interesting that 100% students find reflection sessions with the mentor interactive and relevant to workplace. However, it is to be noted that as per the very design of the reflection session, they have to be interactive and relevant to the workplace. It is reinforced statistically through student responses that the design is received in its appropriate form.
2. 83% students find the sessions very much gainful, 12% find it to some extent and no student finds it not gainful. Probable reason for relatively negative response from 12% students lies in question framing. Meaning of the word 'gainful' is perhaps not clear to the students. While administering the questionnaire, it was observed that the students discussed amongst them the meaning expected. Those with higher competency of comprehension comprehended it in terms of knowledge gain, skill gain, gain of an insight and a view point while working. It is, however, purposely done to keep the abstract level of the question because it is expected that through the very process of reflection the student should be able to start deriving meaning out of practice.
3. Further, 94% have rated the mentors with 'highly satisfactory' session, 6% as 'satisfactory'. It helps to understand the quality, ability and performance of the mentors conducting reflection sessions.

Key Observations

1. 83% students have found reflection sessions very much gainful

Interpretations: About Mentoring:

1. Reflection sessions have given opportunity for students to interact
2. Interactions include situations at workplace and students have gained knowledge

Average percentage of effectiveness of Mentoring in terms of positive responses: 94%

5.3.5 Data Analysis for Hypothesis Testing: Skill attainment and Knowledge gain

For testing hypothesis, data is analyzed for the students who have passed post tests with minimum 60% of scores.

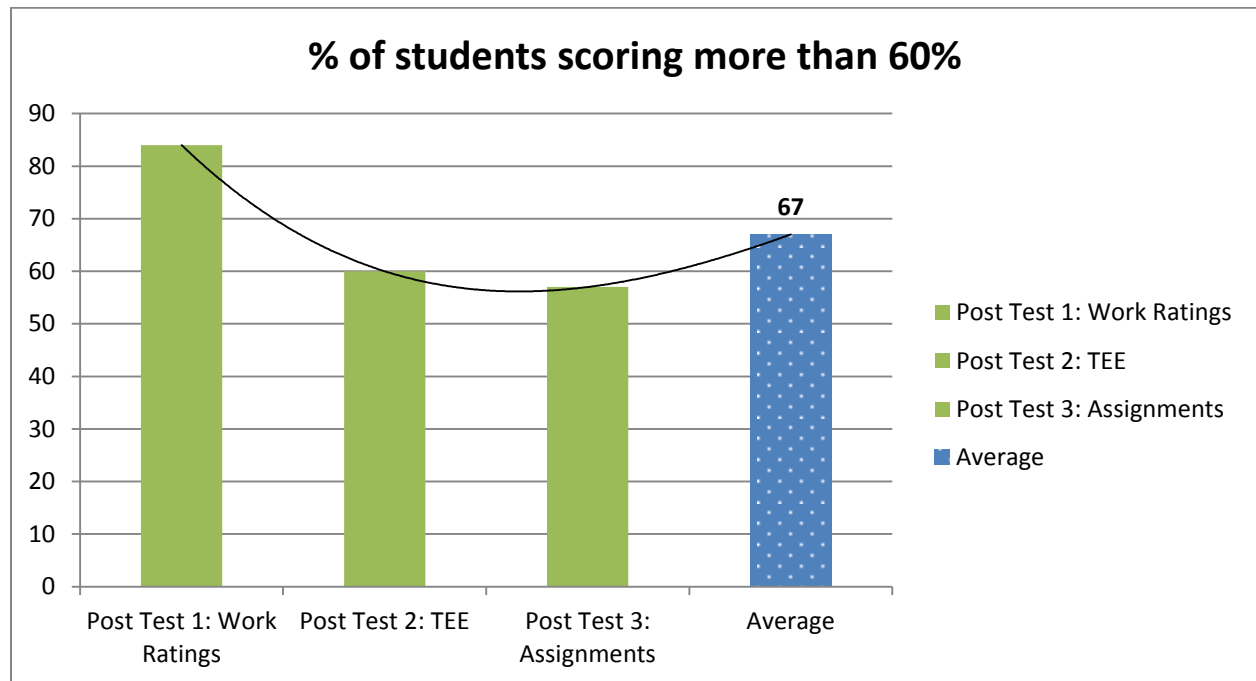
Percentage of students is calculated out of passed students for all post tests and average of percentage of students is calculated.

Data sets and analysis is as follows:

Table 67: Average % of students scoring more than 60%

Post Test 1: Work Ratings	% of students who have scored more than 60%	Data Set 1	Data Set 2	Average %
		78	90	84
Post Test 2: TEE	% of students who have scored more than 60%	Data Set 1	Data Set 2	Average %
		49	71	60
Post Test 3: Assignments	% of students who have scored more than 60%	Data Set 1	Data Set 2	Average %
		38	76	57
Average Percentage of Students scoring more than 60%				67

Figure 25: Mastery – Skill attainment, Knowledge gain: % students with more than 60%



Key observation for Hypothesis Testing

- i. Average 67% of Students have scored more than 60% marks in post tests

Interpretations: About mastery of skill attainment and knowledge gain:

1. More than 60 percent students have attained skills and gained knowledge at mastery level of 60%.

5.4 Findings for Validating Research Objectives

Table 68: Objectives - Consolidated Percentages

		Average Percentage
Objective 1	Effectiveness of eLearning Content	94.29%
Objective 2	Effectiveness of eLearning Framework	96%
Objective 3	Effectiveness of Assessment Methodology	88.67%
Objective 4	Effectiveness of Mentoring	94%

5.5 Findings for Hypothesis Testing

Table 69: Findings for Hypothesis Testing

Skill attainment and Knowledge gain – mastery level 60%	Average Percentage of Students scoring more than 60%
	67%

5.6 Hypothesis testing

Null hypothesis for current program under study is as follows:

Null hypothesis: H_0 :

eLearning is *not effective* for learning in Work Lab as per Role based and Performance Centric model for educational program, in terms of skill attainment and theoretical knowledge gain *with 60 percent mastery by 60 percent students.*

5.6.1 Inference

As per the findings for hypothesis testing mentioned above, it is inferred that more than 60% students have attained mastery level of 60% for skill attainment and knowledge gain.

Hence the **null hypothesis is rejected**.

Hence hypothesis for the current study is accepted. i.e.

H₁:

eLearning is effective for learning in Work Lab as per Role based and Performance Centric model for educational program, in terms of skill attainment and theoretical knowledge gain with 60 percent mastery by 60 percent students.

5.7 Summary

- Data for current study is collected through predefined methods
- Collected data has been processed by standard methods and inferential analysis is done
- Research tools used as per the research design of the current study
- Objective wise data sets are analyzed
- Observations are recorded for analysis of each data set
- Integrated data analysis is performed for multiple data sets corresponding to single research objective
- Consolidated statistical analysis is performed
- Findings are recorded for hypothesis testing
- Null Hypothesis for current study is rejected

Chapter 6: Conclusions,

Recommendations, Further Scope and Contributions to the field of Education

6 Chapter 6: Conclusions, Recommendations and Contributions to the field of Education

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6.4 Contributions to the field of Education
6.5 Scope for further research

Background

On the basis of data analysis presented in earlier chapter and on the basis of various observations - qualitative in nature, recorded throughout the duration of the current research, conclusions and recommendations are being presented herewith.

While recording these, it is felt that while the focus of the research objectives and the hypothesis appears to be on effectiveness of eLearning for learning in the Work Lab, the research study touches many other complex aspects which actually are beyond the planned scope of the research.

To put it more explicitly - the title of the research, the hypothesis as well as research objectives focus on eLearning but do not limit it to eLearning as a conventional terminology. The operational definition of eLearning widens the scope in a qualitative way, thereby enabling noting of conclusions and recommendations in a comprehensive way.

6.1 Conclusions

6.1.1 Implementation of the model

Role Based and Work & Performance Centric model of Education (RoWPeC) attempts to address key challenges faced by four key stake holders – Student, Industry, University and Government & Society in general.

Implementation of the model involves collaboration with all stake holders.

In view of this complex implementation scenario, following conclusions derived on the basis of data analysis and interpretations prove to be imperative.

- a. Role based and Work & Performance Centric Model of Education can be successfully implemented for service sector.
- b. Industry partner companies can collaborate for implementation of educational program subject to no or limited change in their policies and operations.
- c. Universities offering distance education programs can implement RoWPeC by forging partnerships with industry.

6.1.2 Partnerships

- a. Organization like MKCL can forge partnerships with industries and University to bring educational transformation.
- b. Industries in Service Sector (Business Process Management sector) can forge partnerships with organizations like MKCL, working for educational transformation and empowerment, for implementing educational programs like the one under study.
- c. Universities offering distance education programs can forge partnerships with organizations like MKCL and industries for implementing Work Based educational programs.
- d. Corporate companies, small and medium enterprises can offer Work Lab to the students of RoWPeC degree program.
- e. Individual domain experts can be partners to this model, and can contribute to the implementation of RoWPeC degree program as a domain expert for developing situation based learning objects as well as mentors.

6.1.3 Work based learning

Conclusions related to Work based learning are as follows.

- a. Students of RoWPeC degree program demonstrate skill attainment at the workplace and their performance at the workplace is satisfactory by the industry partner companies and is as per the set norms for performance.
- b. Knowledge gain by students is evident through the results of term end examinations conducted by University
- c. Students of RoWPeC degree program can start learning through working first and then gain conceptual clarity.
- d. Students of RoWPeC degree program by means of learning through working feel confident to perform at the workplace.

6.1.4 eLearning content

- a. Scenario based eLearning content is proving to be relevant to workplace situations and also has increased awareness about the service sector. i.e. while the students are working in one domain and have one local context, eLearning content is helpful to present the global context.
- b. It is also offering a theoretical base in terms of conceptual clarity leading to confident and improved performance at the workplace.

6.1.5 eLearning framework

- a. Frequent and easy access to eLearning framework is essential in RoWPeC model.
- b. Multiple deployment modes for deploying eLearning framework in industry workplaces are required catering to their policies such as:
 - Access on LAN through workstations at workplace– individual / shared
 - Access through internet through personal computer / laptop / mobile
 - Access through Tablet with internet / with Wi-Fi zone at workplace
- c. Access through personal computer deployed at eLearning centre, i.e. outside workplace premises
- d. It does create a learning environment enabling students to learn individually, learn through collaborate and sharing of experiences.
- e. Innovative frameworks enabling and creating opportunities to students to collaborate, share and do peer assessment are needed.
- f. A new approach can emerge for blended learning mode, which was earlier restricted to classroom + online. However, now work based learning + eLearning could be a new direction for blended learning mode.

6.1.6 Assessment methodology

- a. Internal assessment – i.e. continuous comprehensive evaluation, comprising of Work Ratings is found to be effective as it strongly demonstrates importance of performance at the workplace.
Performance by means of demonstration of skill attainment is satisfactory and in the acceptable range by the work lab.
- b. Internal assessment – i.e. continuous comprehensive evaluation, comprising of Assignments is found to be effective for skill attainment and ensuring knowledge gain during the program – i.e. as a process and not as an end result.
- c. External assessment – i.e. term end examination, can be connected to work place scenarios and situations with a focus of assessing theoretical knowledge gain. Results prove it is effective as per acceptable criteria by University.

6.1.7 Reflections

- a. Reflection process through mentoring session is crucial for success of the program.
- b. Students learn to reflect around their actions at workplace and can derive theory out of practice. It is evident from the fact that the discussions during reflection sessions get mapped to the theoretical courses in curriculum.
- c. Students group can be of varied types – i.e. students with same Work Lab or different Work Labs. In case of students with different Work Labs, better scope for knowledge gain and finding invariances is available.
- d. Students through reflection process can practice to express, communicate.

6.1.8 Technology

- a. Seamless technology for integrating work experiences and eLearning experiences is needed.

6.1.9 Innovations and impact

- a. RoWPeC model is an Educational innovation,
 - i. It offers *environment* in form of real workplace. It offers *content* in form of global situations relating to workplaces. It offers *process* of ‘learning through working’
 - ii. It offers a new approach for curriculum designing
 - iii. It offers a new way through assessment methodology to integrate industry requirements and curricular objectives
 - iv. It offers an upward spiral: work – knowledge gain – more profound work
- b. RoWPeC model is a Business innovation,
 - i. Key is: the partnerships are on the basis of strengths. Industry has the competitive factor where the performance matters and Education brings in ‘purpose to perform’
 - ii. It addresses attrition issue of the industries with direct impact on cost of hiring / training and retraining
- c. RoWPeC model is a Technology innovation,
 - i. It needs adaptive technology to varied constrained deployment environments
 - ii. It attempts to integrate learning experiences in controlled (eLearning lab) as well as uncontrolled (work lab) learning environments. Controlled learning environment is one where students are inside the eLearning framework and technology can track his/her actions with pre-designed learning experiences in form of learning content /

frameworks. Whereas, uncontrolled environment is dynamic and learning experiences are real life, getting created without pre-intimation and expectancy of learner's behavior.

- iii. It is innovative from the point of view of software and hardware technology as well as the purpose (education).
- d. RoWPeC model is a Social innovation,
 - i. It empowers students belonging to economically backward regions of the society
 - ii. It is a social responsibility for industry

6.2 Recommendations

Recommendations are made primarily on the basis of overall of study of the model and keeping in view the potential way forward for implementation of the model.

6.2.1 Skill mapping

- a. Performance monitoring criteria used for award of work ratings could be mapped to skills leading to a comprehensive skill matrix for the specific sector
- b. This matrix could further be mapped to acceptable standards stipulated by authorities like NASSCOM and industry accreditation could be sought.
- c. Similarly, eligibility skills i.e. skills required for selection at a Work Lab could be consolidated and standardized skill test could be designed. This would help better selection of students resulting into satisfaction of industry demand of manpower as well as empowerment of youth.

6.2.2 Preparatory programs

- a. Preparatory programs on Spoken English, Interview Techniques, Business Communication could be designed
This shall be helpful for enabling industries select the students and deploy them in real life workplaces. This would result into reduction of induction training time and making the students ready for the workplace on day one of their joining.
- b. A diagnostic test could be designed for assessing inclination of the student for working in specific sector

Diagnostic tests play a crucial role in understanding personal profile. Personal profile traits if known in advance, it becomes easy for any human resource department to place a candidate in a suitable job profile. For the current program under study, which is for service sector, the basic inclination or attitude that is required in the student is to ‘serve’ a person. Further, person working in customer care should really mean the ‘care’ for customer and should be able to empathize with the customer. Unless these forms the personality attributes, the person will not be eligible to work in the service sector.

Hence it would be appreciated and helpful to have a diagnostic test to find out inclination of the student.

- c. Preparatory programs could be offered / introduced from junior college level

This recommendation is to prepare students at an early stage while they are pursuing junior college. As a result, immediately after the 12th exams, the students can appear for entrance test of work based degree program and secure admission and also career before the 12th results are declared.

6.2.3 Mentoring

- a. Technology enabling remote mentoring could be used.

There have been distributed classroom technologies in use for over a decade. With the advent of online platforms for MOOCs – (elaborated in chapter 4 – sub chapter 4.2 – Educational Technology Trends), it is found to be feasible to have online active platforms for formal interactions.

For the current program under study, students are located at different locations. As a result, in case special lectures or special reflection sessions by expert mentors are organized, the students have to travel to suitable location to attend the session, where video conferencing / distributed classroom facilities are deployed.

It would be vital if mobile based remote mentoring application is made available to the students to attend such sessions remotely.

- b. Senior students could be nurtured as mentors who could be ‘senior buddies’ for new joinees.

It has been observed that the senior students show high commitment to work as well as better understanding of the academic delivery of the innovative program under study.

As elaborated in earlier chapter – chapter 4 – sub chapter 4.3 – mentoring, the scaffolding by more knowledgeable others prove effective. In addition to the appraisers, immediate seniors would perhaps better understand the concerns while working in real life situation at this young age.

6.2.4 Technology, eLearning Content

- a. Seamless technology for learning through working on tablets / mobiles could be targeted.

As stated earlier, this program brings a new kind of learning environment which is blended. It has working and learning. Additionally requirement is to record learning through working. Special technology is desired that would seamlessly record contributions at workplace and intuitively map the learning in a personalized manner. Complex algorithms would be required as the mode for giving access is also variant in form of tablet or even mobile.

- b. Technology for delivering mobile learning objects could be used.

Mobile learning objects are in the air for over a decade. With the scenario of deep penetration of smartphones now it will be prudent to effectively use mobile learning objects for instant and on the spot learning.

- c. Mobile learning objects could be designed, developed and delivered

6.2.5 Assessments

- a. Peer assessment forms could be used more effectively

Workplaces are major grounds for collaboration. Hence the students must be tuned to collaborative environment. Peer assessment present a classic model for enabling and encouraging students to offer objective, unbiased, critical but focused feedback to peers.

Hence is effective use could prove to be vital.

6.2.6 Partnerships

- a. More work lab opportunities at local level could be made available.

Students currently getting enrolled for the work based degree program under study, come from remote places across the state of Maharashtra - from Mumbai to Gadchiroli. It is a big emotional, social change that the students have to undergo having strong implications on their economic conditions as well as a major impact on their personal and family life.

It has been observed that many students feel home-sick and special counselling activity is required for the students – especially girls as they stay away from their mothers. Similar issues typically observed in the adolescent age group are required to be addressed during the program implementation beyond scope of working or learning per say.

Solution to this issue is to create an opportunity in close vicinity of the home towns of these young adults with a desire to be an independent graduate!

Hence more work lab opportunities at local level could be made available.

6.2.7 Advanced learning

- a. Post graduate programs could be designed for students who complete RoWPeC degree program
- b. Program under study could be offered to under graduate employees of industry partner companies for their career advancement

6.2.8 Policies for implementation

- a. A special category as Student / Trainee / Intern could be framed by industry partner companies corporate HR.
- b. Applicability of apprenticeship act – amended could be vetted.

The program under study is an innovative way to ensure skill attainment as it happens within the company and as per acceptable norms and expectations of the industry workplace.

Hence, current apprenticeship schemes in India could be referred and vetted to check if there is any conformance to this model.

6.3 Spin offs

There are interesting spin offs observed out of the current study.

a. Senior employees as Mentors:

It is observed that the senior employees when deputed as mentors; have found tremendous satisfaction in contributing to someone's learning. A very high commitment is reflected.

b. New agenda for HR

Current study may be referred as a new agenda for the field of Human Resource (HR), as it proposes implementation of new policies for hiring, training and retraining of employees.

6.4 Contributions to the field of Education

As mentioned in the conclusions earlier, the Role based and Work & Performance Centric model of education is an educational innovation. Its analytical study, therefore, has substantial contributions to make to the field of education.

These are as follows

1. It is a new model of education that offers a new shape and meaning to Open and Distance Learning.
2. It's a new approach for 'earn and learn' paradigm.
3. Nai Talim scheme proposed by Mahatma Gandhi has been reinterpreted by making it applicable to tools of 21st century.
4. A comprehensive way to establish industry – academia linkages at teaching – learning – assessment processes is highlighted.
5. A comprehensive meaning for eLearning, overcoming limitations of conventional use of the terminology is presented.
6. eLearning content with situated learning approach may set a different direction for eLearning content development by involving domain experts in a rapid manner.
7. Inclusive curriculum designing strategy is presented, that ensures framing of learning objectives keeping in view industry requirements of skills, knowledge and attitude.
8. It presents new methods for comprehensive assessment.

9. Professional courses that focus on skill attainment may be very well implemented as per Role based and Work & Performance Centric Model of education by forging appropriate industry partnerships.

6.5 Scope for further research

Further research can be conducted in following areas.

1. Technology research for integrative eLearning technologies
2. Process of reflection in ‘learning through working’
3. Assessment methods for ‘learning through working’
4. Culture credits – definition and mechanism to capture attitudinal development and ethical behaviour
5. Social impact of Role based and Work and Performance Centric model of education from the perspective of Social Sciences.
6. Management research in Innovations in HR policies
7. Guided learning at the workplace and changing role of teacher
Applicability of Role based and Work and Performance Centric model of education for other sectors

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- VII. Curriculum Details: Courses – Units
- VIII. Prospectus of B.A. in Services Administration published on YCMOU Website
- IX. No objection certificate for conducting research

Appendices

Appendices

I. Questionnaire: eLearning content and framework

Personal Information:

1. Name: _____

2. Age: _____

3. Gender: Male Female

4. Area you are living in

Urban Rural Semi Urban

About Learning

1. Were the case studies and scenarios in eLearning content helpful for conceptual understanding?

Yes No

2. Were the case studies and scenarios in eLearning content relevant to your workplace situations?

Yes No

3. Do you think eLearning content increased your awareness about service sector?

Yes No

4. Do you think eLearning content helped you to improve your performance at workplace?

Yes No

5. Do you think eLearning content offered theoretical basis for your work?

Yes No

6. Did eLearning content make you confident at workplace?

Yes No

7. Did eLearning content make you confident to appear for Term End Examination in terms of concept clarity?

Yes No

About eLearning framework

8. Were the tablet / laptop/ personal computer given to you helpful for accessing eLearning content?

Yes No

9. Do you think frequent access to eLearning framework is necessary for better performance at the workplace?

Yes No

10. Do you think frequent access to eLearning framework is necessary for better concept clarity?

Yes No

11. Do you think it was appropriate to submit the assignments online?

Yes No

12. Do you think it was appropriate to take online tests?

Yes No

13. Do you think work forum can be helpful for sharing work experiences?

Yes No

14. Do you think open ended questions and peer rating could be helpful for better understanding of concepts?

Yes No

II. Specimen of Industry Work Rating Matrix

Performance Monitoring System: Work Ratings

	Key areas	Rating out of	Weightage
Tasks	Accomplishments	10	40%
	Quality		
Learning	Learning	10	40%
	Process		
Culture	Ethics	5	20%
	Responsibility		
		25	100%

Ratings converted on the scale of 10.

III. Student Daily Worksheet

MKCL		MFS STUDENT DAILY WORKSHEET		AY-2014-15 FY / SY / TY: Sem 1 / Sem 2	
Name			Day	Date	
Attendance			Status <small>(P: Present /A: Absent)</small>		
Remark if 'Absent' <small>(H: Holiday, OPH: Optional / PL: Planned Leave, UPL: Unplanned L)</small>		Negative Marks if 'Absent' <small>(-30 For UPL / Unapproved leave)</small>			
Tasks					
Sr.No	Description <small>(Role, Expected output)</small>	Total Time <small>(Mins/ Hours)</small>	Appraiser Remarks		
Tasks: (Workplace skills)					
(I) Appraiser Rating: Tasks <small>0 to 10, 0 lowest, 10 highest</small>					
Workplace Ethics <small>Remark: (Ac: Acceptable/NI: Need improvement/NAc: Not acceptable)</small>					
Descriptive remarks if any				Appraiser Remark	
(II) Appraiser Rating: Workplace Ethics <small>0 to 5, 0 lowest, 5 highest</small>					
Total rating for the day <small>(out of 10)</small>			Student Signature		
	Absolute Rating	Weightage multiplier	Total	Date, Time	
(I)		x 0.8		Appraiser Signature	
(II)		x 2 x 0.2			
Absent					
Total			Name		
			Date, Time		

IV. Post Test: TEE

Since the Term End Examination is online and is conducted by University based on the question bank created by different domain experts, sample questions from the question bank are listed herewith for the courses under the scope of the study.

Year	Semester	Courses
1	1	Information Technology Skills - Basics
		Information Technology Skills - Advanced
		Workplace Ethics and Responsibility
		Effective Collaboration and Listening Skills
	2	Finance Literacy
		Digital Citizenship and New Literacies
2	3	Overview of Service Industry: BPO,KPO and LPO and Indian Scenario
		Front Office Customer Services and Management
		Back Office Customer Services and Management
	4	Service designing: Banking, Finance and Insurance
		Service designing: Accounts and Legal
		Service designing: Hotel, Restaurants, Hospitality and Event Management

Course: Information Technology Skills - Basics

Sr.No	Question(English)	Answer A(English)	Answer B(English)	Answer C(English)	Answer D(English)
1.	_____ are graphical objects used to represent and open commonly used applications.	GUI	Drivers	Windows NT	Icons
2.	Which of the following is the biggest unit of memory?	Gigabytes.	Bytes.	Megabytes.	Kilobytes.
3.	Which of the following would not be considered as portable computer?	A Desktop Computer	A notebook Computer	A personal Digital Assistant	None of these
4.	----- refers to the height and width of the characters to be printed .	"Font size"	"Border"	"Cell"	"Font style"
5.	The programs on the ----- in windows remain there and are always available for you to click to	the "Most frequently used programs list".	"pinned items list"	"Documents"	"Control Panel"

	start them.				
6.	To access the location of the particular file quickly, you create a shortcut icon for the file and place it on the desktop.	TRUE	FALSE		
7.	MS Word's Mail Merge feature facilitates you to mail your document about special offers to a large number of people	TRUE	FALSE		
8.	Index shows you at a glance, the topics that are included in the document and makes it easier to locate information.	TRUE	FALSE		

9.	Hyperlink identifies a location in the document or a selection of text that you name for future reference.	TRUE	FALSE		
10.	MS Word indicates formatting inconsistencies with a red wavy underline.	TRUE	FALSE		
11.	A ----- is a reference from one part of a document to related information in some another part.	hyperlink	cross-reference	document	linkage
12.	A ----- is a visual representation of data and conveys the information in an easy to understand and attractive manner.	chart	table	picture	graphic
13.	The intersection of a row and a column is called a “-----” .	table	cell	data	sheet

14.	Your Excel 2010 file is stored with the extension “-----”.	".docx"	".xlsx"	".xltx"	".zltx"
15.	In Graphics Presentation Programs each presentation is divided into -----.	charts	slides	tables	pictures
16.	Headers and Footers are used to add information such as slide numbers, the time and date, a company logo or the presentation title to the top of a handout or notes page in your presentation, or to bottom of a slide, handout or notes page.	TRUE	FALSE		
17.	SmartArt Programs are designed to help you to create an effective presentation.	TRUE	FALSE		

18.	" ----- " is a database object that is mainly used to enter and display records and make changes to existing records onscreen.	query	form	report	table
19.	A field name is used to identify the data stored in a field.	TRUE	FALSE		
20.	Charts are made up of vertical columns (called fields) and horizontal rows (called records).	TRUE	FALSE		
21.	Each column is a record which is the smallest unit of information about a record.	TRUE	FALSE		
22.	Formatting the data often helps in finding some particular information quickly.	TRUE	FALSE		

23.	You are preparing Math's notes for your examination. You want to create a document which includes mathematical expressions. Refer the image shown on the screen and identify name of the application which recognize handwritten math's expressions into a word document.	You cannot insert math's equations into word document.	You can use Math Input Panel to recognize handwritten math expressions	You can use Math Calc to recognize handwritten math expressions	You can insert Math's equations using Google Input Method
24.	You are working on Windows interface. You are referring 'Help and Supports' to become familiar with Windows OS. While referring the manual, you will get the given image shown on the screen. What happens if you followed the steps given in the reference image?	Video option is added to the 'Start Menu' in Windows Operating System	Video option is added to the 'Accessories' group in the Windows Operating System	These steps are not applicable for Windows Operating System	Video option is displayed on the Windows Taskbar
25.	You are preparing a timesheet using Spreadsheet application. You want to calculate total working hours with the help of formulas. You have written formula in the cell. Referring to the given image, what will be the result after pressing Enter key?	—Microsoft Excel shows error message and permanently removes the formula	—Microsoft Excel displays formula instead of result	—Microsoft Excel displays total working hours in the current cell	—Microsoft Excel application closes automatically

Course: Workplace Ethics and Responsibility

Sr.No	Question	Option1	Option2	Option3	Option4
1.	Team lead scheduled a meeting at 9.30 am sharp. Tarun got late. He missed very important briefing and found himself confused while attending the calls throughout the day. This happened because Tarun was...	not punctual	shy	reluctant	
2.	Pravin has a responsibility to compile data to be sent to his head office every week on Friday at 4.00 pm. One Friday, he is not ready with the data. What should he do?	Do not send and just ignore.	Send it late	Send it late with a mail giving justification for late submission	
3.	Seema has a responsibility to send proactive mails to her esteem customers every day at 5.00 pm. She fails to send the data on time for two days. Her team lead is very upset. What proactive action Seema should take?	Ask her colleague to remind her every day	Set a reminder for herself in her outlook	Put up a sticky note on her PC	
4.	Neha called 10 customers one day. Everyone	Old data file has been	Customer does	Customer is lying	

	said, "I have got the same call from you yesterday, why are you calling again?" What must have happened?	referred	not want to listen to calls and hence is giving excuses		
5.	Mailers are to be sent to 100 customers. Email ids of all customers are available. Draft email is ready. How much time would you ask for completing this exercise?	Around 20 mins for mail merge and quality checking	Around 3 hours, per record approximately 2 mins	Around 5 mins as everything is ready	
6.	You are working in tech support team of a company. Video conferencing setup is required for a meeting. You are not supposed to be part of the meeting. What steps you would take for a successful meeting?	1) Get the technical details to setup call from meeting coordinator 2) Setup the call 3) Hand over the control to meeting coordinator	1) Get the technical details to setup call from meeting coordinator 2) Make a test call 15 minutes in advance 3) Demonstrate the functions to meeting coordinator and hand over the control	1) Write a mail to meeting coordinator and ask him/her to meet you for having a demo of video conferencing setup	

7.	You are working in tech support team of a company. Video conferencing setup is required for a meeting. You are not supposed to be part of the meeting. You have setup the call and the meeting starts. However connection is lost in between. Meeting coordinator calls you frantically. What would be your reaction?	"It cannot happen. I had tested it"	"Oh. Let me see. Don't worry, I would set it up again. Just few minutes"	"Ok. I have come out. Let me reach office and then I will connect."	
8.	You are working in tech support team of a company. Video conferencing setup is required for a meeting. Also meeting is to be recorded. You are not supposed to be part of the meeting. You set up the connection. Just then you get a personal call and in the mean time, meeting starts. By the time you finish your call, you around 10 minutes of important discussions do not get recorded. How would you report this?	Since this was starting of the meeting, it must be a casual discussion. So no need to report.	I shall inform my team lead that there was some technical error at the beginning. So we have the recording from 11th minute of the meeting.	I shall inform my team lead that I got a personal call. I could not record first 10 minutes of meeting. I am sorry, this won't happen again.	
9.	You are working in tech support team of a company. You miss out recording first few minutes of meeting because of your personal call. According to you which of the following reportings would prove that you are an honest	No reporting of this issue.	There was some technical error at the beginning. So we have the	I got a personal call, so I could not record first 10 minutes of meeting. I am	

	and ethical employee?		recording from 11th minute of the meeting.	very sorry, this won't happen again.	
10.	You are working in tech support team of a company. Video conferencing setup is required for a meeting. Also, there is one PowerPoint presentation to be delivered which is to be seen by remote participants. However this facility is not available. What would be your response to this requirement?	You would inform the meeting coordinator that it is not possible. Remote participants can only listen to you.	You would inform the following and forget the requirement: "Simultaneous displays are not possible. We can switch the displays. Either we can project the presentation or view the remote participant, as there is only one projector"	You would inform the technical difficulties and offer solution that the presentation could be sent by email to remote participants in advance	

11.	You are working in tech support team of a company. A very important meeting is setup, with 3 remote locations to be connected through video conferencing. You have applied for leave for personal reasons on the same day. Your team lead denies allocating the task to someone else as s/he trusts you the most. What would you do?	You would train your colleague and assure your team lead that s/he can take care of the tech support on your behalf.	You would train your colleague and assure your team lead that s/he can take care of the tech support on your behalf. You would call up one hour before the meeting and ensure that the arrangements are made.	You would say to your team lead," You have approved my leave. It is now your duty to train someone else. I shall not cancel my leave"	
12.	Mohan makes 40 calls in a day. 20 calls are unanswered. Next day, Mohan tells his team lead that he would call up those 20 again. Mohan is.....	punctual	responsible	ethical	
13.	Manisha has told her family to call her during lunch hours and has given office landline as emergency number. Mahisha is.....	ethical	punctual	a good time manager	
14.	Team lead asks for caller data for last week.	manages his records	is punctual	knew that team	

	Prashant sends the data within 5 minutes. Prashant...	properly		lead needs such data	
15.	Your team member meets an accident and is admitted to hospital. It is going to have negative impact on the team targets to be achieved in that week. You approach your team lead and say, " I would make additional calls". This shows	you are proactive and ready to take responsibility	you are punctual and ethical		
16.	Out of the following what action demonstrates you are punctual?	You reach office 5 minutes before office timings.	You are always on time for the meeting.	You finish your lunch during stipulated time.	
17.	Out of the following what action demonstrates you are responsible?	You wish your senior 'Good morning'	You respond to missed calls	You intimate your unavailability in advance	
18.	You have lots of emails 'unread' in your mail box. This shows that you are not responsible.	TRUE	FALSE		
19.	You make people wait for you quite often. This shows that you are punctual.	TRUE	FALSE		
20.	At the workplace, you strictly finish your lunch and tea in stipulated time. This shows that you are responsible.	TRUE	FALSE		
21.	You like to take part in gossip at workplace. This is unethical.	TRUE	FALSE		

22.	You do not use your mobile phones during your working shift. This shows you are responsible to your work.	TRUE	FALSE		
23.	Quite often on the calls you feel that you do not have answers to the questions asked by customers. This means..	You need to update your knowledge.	Customers ask irrelevant questions.	You should get some other process.	
24.	Your relative asks information about your company. You try to answer but still there are some questions left. Which of the following statements is true?	Relatives need not ask about the company. They may ask about my work.	I need to acquire more knowledge about my company proactively, as I understand I don't have enough.	My team lead should give more knowledge about my company to me.	
25.	Shanti has lots of files on her desktop. This means...	She does lots of work	She has lots of data with her	She needs to learn to organize her files systematically	

Course: Effective Collaboration and Listening Skills

Sr.No	Question	Option1	Option2	Option3	Option4
1.	A common team presentation is to be made based on individual performance reports. Nitin, your team member does not submit the performance report on time. Which of the following statements is true?	Nitin is non-cooperative	Nitin is not responsible	Nitin is not a team-player	All the above statements are true
2.	A common team presentation is to be made based on individual performance reports. Nitin, your team member does not submit the performance report on time. What action(s) you could take as a team member?	I would do nothing as I would have done my part	Gossip about Nitin's non cooperation with other team members	Extend help to Nitin in case he is facing some issue in writing report	
3.	A common team presentation is to be made based on individual performance reports. Nitin, your team member does not submit the performance report on time as he is yet to finish his work. Jatin, another team member approaches Nitin and offers him help to complete the pending task. Which of the following statements is true?	Jatin is a team player	Jatin wants the team presentation to complete and is willing to extend help to Nitin	Jatin tries to find facts. He has collaboration spirit.	All the above statements are true

4.	A common team presentation is to be made based on individual performance reports. Every one submits the report, but not in the same format. Team lead is upset. 1. Subhash quickly creates a template and offers it to team lead for circulation. 2. Jatin says he would follow up with all others and get the reports formatted as per the template. 3. Akash leaves for the day. 4. Reena says she would be ready to stay back and complete pending work with other team member. Question: Which of the following statements is appropriate for Akash?	He needs to improve his collaboration skills	He is punctual	He is a team player	He is cooperative in nature
5.	A common team presentation is to be made based on individual performance reports. Every one submits the report, but not in the same format. Team lead is upset. 1. Subhash quickly creates a template and offers it to team lead for circulation. 2. Jatin says he would follow up with all others and get the reports formatted as per the template. 3. Akash leaves for the day. 4. Reena says she would be ready to stay back and complete pending work with other team	He wants to demonstrate his technical skills to team lead	He wants to prove himself superior to team lead	He appropriately uses his skills and shows cooperation to achieve common goal	He wants to prove himself superior to other team members

	member. Question: Which of the following statements is appropriate for Subhash?				
6.	A common team presentation is to be made based on individual performance reports. Every one submits the report, but not in the same format. Team lead is upset. 1. Subhash quickly creates a template and offers it to team lead for circulation. 2. Jatin says he would follow up with all others and get the reports formatted as per the template. 3. Akash leaves for the day. 4. Reena says she would be ready to stay back and complete pending work with other team member. Question: Which of the following statements is appropriate for Reena?	She is ready to work beyond office hours	She can think of probable reasons for non-compliances by her team members	She is collaborative and cooperative	All the above
7.	You do not need any help from your colleagues at workplace	True	False		

8.	Even if you work independently, you need to collaborate with other team members at the workplace	True	False		
9.	Collaboration helps to best utilize strengths of different members of the group.	True	False		
10.	Cooperative approach is required to work together for the common good of the group.	True	False		
11.	In case of crisis at workplace, Sameer refuses to stay back. This shows	He is cooperative.	He does not understand the gravity of situation.	He is non cooperative	
12.	In case of crisis at workplace, Sohel shows willingness to stay back in spite of his personal commitments. This shows ...	He is cooperative.	He does understand the gravity of situation.	He is non-cooperative	
13.	Interdependent tasks are allotted by team lead. Reema finishes early and reports immediately. Seena, the next person in the chain with more critical task gets extra time to complete his part with quality. As a result, Team lead is able to deliver the project on time and expected quality. This shows	Reema is cooperative	Seema is cooperative	Team lead is cooperative	

14.	Interdependent tasks are allotted by team lead. Reema finishes early but does not report and sits idle till all the time allotted to her is elapsed. Seena, the next person in the chain has more critical task. She takes longer time than allotted for quality checking. As a result, Team lead is able to deliver the project on time and expected quality. This shows	Seema is a non-performer	Reema needs to learn to cooperate.	Team lead is non-cooperative	
15.	Which of the following statements is true for Football?	Football is a team game	In football, every player can perform individually	In football, every player has to collaborate with other players for his/her team to win	
16.	In Tennis doubles game, it is sufficient for a tennis player to perform his/her best at individual level	True	False		
17.	In Hockey, in addition to individual best game, it is required for each player to demonstrate collaboration skills for the team to win.	True	False		
18.	Which of the following skills a football player should possess?	Collaboration	Individual excellence	Team spirit	

19.	Interpersonal communication helps one ...	to learn about oneself.	communicate with the general public.	to become a talented public speaker.	to know what others are thinking
20.	Learning to communicate with others is key to	never being misunderstood.	establishing rewarding relationships.	eliminating all of your listeners' physiological noise.	winning the approval of everyone around you.

Course: Overview of Service Industry: BPO, KPO and LPO and Indian Scenario

Sr. No	Question	Option Text 1	Option Text 2	Option Text 3
4.	Which of the following services are covered in BPO: 1) Data Management 2) Sales Support 3) Customer Support 4) Human Resource Management	(1), (2) and (3)	(2), (3) and (4)	Only (3)
5.	Ms. Sonal opened an account with ABC bank. Ms. Reena (bank employee) gave her a call informing her that she is her personal banker, where by she would be helping her in getting the bank formalities done easily and quickly. She would be attended by Ms. Reena for her assistance when she comes to the bank. Ms. Sonal was very happy to see this change in the services given by bank. Why was Sonal happy?	Sonal liked Reena	Sonal liked to get personalized service	Sonal did not know how to operate an account. So she thought Reena would do it for her.
6.	What is / are the key factor(s) that brought following change in services? 1) Admission queues to Online Admissions 2) Queue for	Technology	Customer Need	Availability of money with customer

	money withdrawal at Bank to ATM 3) Bill reminders on wall calendars to sms alerts on mobile			
7.	Identify service sector in following scenario: "Birthday gift sent by parents to their son staying in UK"	Travel and tourism	Logistics	Online shopping
8.	Mr.Adil stays in a village. He used to walk miles to post a letter to his son who is studying in Mumbai. After few years, he could easily e-mail letter to his son. What has changed?	Technology	Mindset	Writing style
9.	Mr. Sunil met with a car accident. He is admitted in a hospital. Which service provided would he need to get his insurance?	Medical and Health insurance	Car insurance	Travel insurance
10.	Mr. John is planning to renovate his house. Hence, he appoints an architect. Please select who will be the probable vendors and service providers for the house renovation process.	Carpenter	Doctor	Painter
11.	How can we bring effectiveness in the quality of service?	Showing attitude for creating impression	Not listening to the customer and doing what we think correct	Being assertive

12.	What is the concept of 'First time Right'?	Prevent the errors rather than find the errors and work upon them by wasting extra time	Find the errors and work upon them by giving it extra time	Not addressing the errors at all
13.	Ms. Asha, as a passion started baking cakes. Eventually, she started getting orders from her friends and then from the corporates. Due to this expansion, she started looking for a new work area whereby she can do the work more efficiently. However, she was not aware how to abide with the legal rules and get the licence for having a licenced shop. Whom do you feel she should approach?	Chef	Tax consultant	Legal consultant
14.	Which of the following may not be so desirable quality of a good service provider?	Present facts while replying	Giving limited reply	Listening patiently
15.	Which of these are Service Sector Essentials ?	Customer Handling, Effective Communication, Anger Management	Being responsible and firm with a risk of rude tone	Handling technical issues

16.	What is / are the primary objective(s) of providing good service to the customers?	Customer satisfaction	Increasing company revenue	Ensuring better revenue than competitor company
17.	Identify service sector for the scheme: Pradhan Mantri Suraksha Bima Yojana	Banking	Insurance	Healthcare
18.	Which of the following is related to customer feedback	marketing	quick action	presentation
19.	Identify service sector for the scheme: Atal Pension Yojana	Healthcare	Education	eGovernance
20.	Identify service sector for following service: A caterer serves tiffins in office	Supply chain	Front office	Logistics
21.	Identify service sector for following service: Linking of Aadhar card with Bank Account	Banking	eGovernance	Insurance
22.	Identify type of service for the following: You get sms alert for hall ticket download	Technical support	Tele marketing	Back office
23.	Identify type of service for the following: You get voice call as a reminder to pay the bill.	Technical support	Back office	Tele marketing
24.	Identify type of service for the following: You get a call to give you information about new credit card scheme.	Tele marketing	Data management	Back office

25.	Identify type of service for the following: Scrutiny of online applications for passports	Back office	Technical support	Information management
26.	Which service sector the following service belongs? : Online shopping	eCommerce	Logistics	Hospitality
27.	Which service sector the following service belongs? : Latest news on mobile	Media	Education	Hospitality
28.	Which service sector the following service belongs? : Digital sketching of tourists at tourist places	Art	Travel and Tourism	Education
29.	Which service sector the following service belongs? : Free jokes on mobile	Entertainment	Hospitality	Telecom
30.	Which service sector the following service belongs? : Catering at a hospital as per prescription by the doctor	Education	Healthcare	eCommerce
31.	Which service sector the following service belongs? : Income tax returns filing	Accounting	Insurance	Legal

Course: Front Office Customer Services and Management

Sr. No	Question	Option Text 1	Option Text 2	Option Text 3	Option Text 4
1.	Imagine you are front office executive. A visitor comes to see your senior. However, your senior does not want to attend the visitor as he is extremely busy. How will you handle this situation?	Tell the visitor that the senior does not wish to meet him	Ask him to wait without giving any idea how long he has to wait	Give a substantial reason without telling a lie to the visitor and take his details and note to be passed on to the senior.	Ask the visitor to go away
2.	Mr. Sunil is a jain. He had to go to Goa on an official tour. He was very happy that he is going to Goa, but being a jain he was a strict vegetarian. He checked in the hotel where he had made his booking. With little hesitation he asked the receptionist that if he can get some vegetarian food. But to his surprise, the receptionst quickly replied that they take care of all their guests and they not only have vegetarian food but also serve jain food in the	Customer concern was demonstrated by the receptionist	Sunil had liked the ambiance of the hotel	The quality of food was good at the hotel	

	<p>hotel. Mr. Sunil was very happy that he can comfortably stay in the hotel since his problem of food was solved. Question: After some days, Mr. Sunil's friend wanted to go to Goa and had the same criteria. He asked Sunil to suggest some hotel. Mr. Sunil suggested him the same hotel. What must be the reason?</p>				
3.	<p>_____ management plays an important role to satisfy customers from different cultures.</p>	Same Culture	Different Culture	Cross Culture	
4.	<p>Which of the following are duties of a Front office Executive of a hotel?</p>	meeting and greeting the guest	organising porter service	parking the visitor's car	all of the above
5.	<p>_____ is a business term that refers to a department that comes in contact with clients.</p>	Front office	Back office		
6.	<p>A Customer has called you. He is complaining that he is not getting good support from your company. Which of the following should be avoided in such circumstances?</p>	Listen to what the customer has to say	Give feedback to the concerned department within your company	Immediately forward the call to the concerned department	Give assurance to the customer that his problem will be resolved

7.	A Customer had called you. He was complaining that he is not getting good support from your company. He hung up the phone in anger. Which of the following should be done to achieve customer delight?	Note down the issue reported by the Customer	Give feedback to the concerned department within your company	Follow up with the concerned internal team of the company and proactively give feedback to the Customer about the status of his issue.	Call back and give assurance to the customer that his problem will be resolved
8.	What are the multiple things a front office executive of a hotel has to do at the time of check in of a guest.	Check the room's condition	arrange for porter	fill up registration form	talk with subordinate
9.	Mr. A wants to meet Mr. C. You are the front office executive. Mr. C is not in office but will be back after few hours. You have passed on this message to Mr. A, still he prefers to wait. How would you make Mr. A comfortable since he will be waiting for few hours.	Offer him water, tea/coffee and offer him seat	Tell him to go out of office and come back after few hours	If Mr.A prefers to wait, don't offer him anything nor offer him a seat	Gossip with the visitor about Mr. C and tell him that he has habit of taking long hours in meeting.

10.	Mr. Rohan wants to meet Ms. Shruti. She has gone out of station for few weeks / months. As a front office executive, how would you handle this situation.	Take contact details of Mr. Rohan	Assure him that he will be contacted when Ms. Shruti joins back	Ask Mr. Rohan what is the purpose of meeting Ms. Shruti. If Ms. Shruti has some subordinate who can help Mr.Rohan, then ask Mr Rohan meet the subordinate in Ms. Shruti's absence.	all of the above
11.	Imagine you are a front office executive. A visitor comes to see your senior. However, your senior does not want to attend the visitor. You inform the visitor that your senior is in a meeting, hence will not be able to meet him. Still the visitor prefers to wait till the meeting gets over. In this situation how would you try to convince the visitor not to wait.	Tell him that the senior does not wish to meet him.	Tell him that the meeting would go for long hence theres no point in waiting for him.	Still if the visitor insists on waiting then convey this to the senior.	all of the above

12.	Imagine you are a front office executive. A visitor comes to see Mr. Tom. But Tom has left the job. What would you do?	Inform the visitor about Tom	Give the visitor Tom's details.	Do not give the details without being asked	all of the above
13.	Mr. Ramesh has gone for a meeting and is not in office. Mr. Suresh, a senior guest comes to meet Mr. Ramesh. It is a pre-decided meeting, however Ramesh's earlier meeting is getting extended. He is keen to meet Mr. Suresh and wants front office executive to convince Mr. Suresh to wait. What would the front office executive do?	Communicate an apology on behalf of Mr. Ramesh	Inform Mr. Suresh that Mr. Ramesh is keen to meet him	Give Mr. Suresh an idea of how long he has to wait and make him feel comfortable	all of the above
14.	A visitor comes and he wants to handover his bio data, if there are any vacancy in the company. The HR is in a meeting. You have gone through his bio data and realised that he is not a suitable candidate. Even the visitor knows that he is not eligible yet he wants to meet the HR. You are aware that the HR does not entertain any biodatas or candidates who do not fit into their criteria. How would you convince the visitor to leave?	Take the visitor's bio data.	Tell him that he is not at all suitable for the job.	Tell him that he will be informed by the HR if there is any vacancy suitable for his candidature.	all of the above.

15.	You are a new front office executive. A visitor comes who is very upset about the services offered by your company. He has started the arguments with you. How would you handle this visitor?	Tell him that you are a new joinee	Call your senior to handle the situation	Do whatever you feel right	Keep quite
16.	As a front office executive what is necessary for a good telephonic communication?	Authoritative tone	Stressing your point of view	Casual Approach	Clear Pronunciation
17.	You are a front office executive of a big learning institute. You have got a student enquiring about a course. The student is very keen to join for the course. Yet he is very poor and cannot afford the fees to be paid at one go. How would you handle this situation?	Tell him that if he cannot afford he should not enroll for the course	Make him feel comfortable and tell him that you will try to find out if there is any alternative or option available	Talk to your senior	all of the above
18.	You are a front office executive. A visitor wants to invite your senior on an event. What would you do?	Make the visitor feel welcome by offering water and seat	Assure her that you will contact the concerend person	Contact the concerned person	all of the above

19.	Mentioned are some desired qualities of a front office executive. Find the odd man out.	Polite	Excellent communication skills	Pleasant and welcoming	Excellent hockey player
20.	Mr. R wants to meet all the employees of your company since he is a LIC Agent. He wants to inform all of them about policy. You are the front office executive. You inform all the employees, but only 2 employees turn up. This is a very odd situation for you since out of 300 employees only 2 have turned up. How would you handle this situation?	Explain Mr. R with an apology why there is such a low count of employees attending the lecture.	Propose him to have another session some day when it is convenient to other employees	Tell him that no one else is going to come and request him to continue with the two employees	all of the above
21.	Why is having a good front office in hotel important?	It helps the guests to decide whether to choose the hotel or not.	Helping the hotel 'stand out' from its competitors.	One point of contact for all the services	all of the above
22.	You are a front office executive of a 5 star hotel. You have a visitor who after having dinner, at the time of paying the bill realises that his wallet is lost and he is not able to pay the bill right away. How would you handle this situation?	Ask the visitor to serve the hotel with some services like cleaning vessels etc.,	Try to gauge the mentality and capability of the guest and ask him to get the money later and pay the	Call the police	all of the above

			bill.		
23.	What would happen if there is no efficient staff in the front office of a hotel?	The guests would be unhappy and unsatisfied.	The complains of the guests would not be communicated to the concerned staff.	The mouth to mouth publicity about the hotel would be bad	all of the above
24.	You are a front office executive. An elderly visitor comes near your desk. He has some enquiry. You are absolutely busy in handling calls and other tasks. How would you suffice the visitor's requirements. Arrange sequentially. 1) Offer him a seat 2) Offer him some water 3) Welcome the visitor, even though you are handling calls and you are busy 4) Apologize for being on call and would talk to him in few minutes.	3,4,1,2	1,2,3,4	2,3,1,4	

25.	<p>You are a front office executive of a hotel. A guest has made advance booking through phone with Mr. Mohan (another front office executive). Mr. Mohan's shift has changed and he has forgotten to enter the details and book a room for the guest. When you are on duty the guest comes and asks for the room. The hotel is full and there are no rooms left. How would you handle this situation? (Arrange sequentially) 1) Inform him with apology that there is some miscommunication between you and Mr. Mohan 2) Welcome the guest, offer him some water and welcome drink 3) Request him and make his arrangements in other equivalent hotel with some add on priviledges. 4) See to it that the guest is taken to the other hotel in a chauffer driven car.</p>	1,2,3,4	2,1,3,4	4,3,2,1	
26.	<p>The front office executive needs to have excellent communication just with the guests.</p>	TRUE	FALSE		

27.	What are the opening and closing duties of a front office executive	When one executive's duty ends and other executive's duty starts, the time between their transition is called opening and closing duties	opening and closing hours of hotel		
28.	Head of front office department in hotel is known as _____ Manager	Front desk	HR	PR	Administration
29.	A visitor comes to your office. You are the front office executive. She has come from some charitable organization and wants donation for small children. You empathize with her but no one from your office is ready to give charity. How would you handle this situation?	You will give charity and tell her that others are busy in some event hence they are not able to do much for her	Ask her to go away from office	Take her details and tell her that her details would be shared with the employees so that they can contact her directly	Will not entertain her at all
30.	A customer care executive should sound _____ over a call and try to help the customer with the appropriate information.	happy	impolite	considerate	authoritive

Course: Back Office Customer Services and Management

Sr. No	Question	Option Text 1	Option Text 2	Option Text 3	Option Text 4
1.	Your appraiser has assigned you a new task to call some students and take their feedback about a course. Which of the following should not be done first?	Start calling the students	Analyse the List of Students	Analyse the List of courses	Plan the calling schedule
2.	You have been receiving many calls from the customers about a bug in your company's software which deletes their files. What should you do in such circumstances?	Prepare a list of calls received	Continue taking the calls	Inform your senior and concerned software department immediately	Check the software bug yourself
3.	A role that is primarily back office is:	loan officer at a bank	a taxi driver	the hostess at a restaurant	
4.	What is using organizations from developing countries to write code and develop computer systems?	Insourcing	Business Process Outsourcing	Outsourcing	Offshore outsourcing
5.	What is KPO	Knowledge	Knowledge	Knowledge Pure	Know Process

		Process Outsourcing	Process Overseas	Outsource	Outsourcing
6.	Which of the following is a challenge of outsourcing back office function?	Competitive edge	Contract length	Confidentiality	All of these
7.	Which of the following is a benefit and organization can receive from outsourcing?	Increase technical abilities	All of these	Financial savings	Market agility
8.	Outsourcing is	A firm having someone else do part of what it previously did itself.	Exporting	Going out of business	Importing
9.	What is the best way to manage following task in a Back Office Process?: Receiving paper items	Collecting, counting, copying (in case something is lost), and distributing the paper	Scanning and indexing work items	Stacking the papers in a shelf	

10.	What is the best way to manage following task in a Back Office Process?: Distributing work	Bulletin boards	Email	verbal assignment	Using a work allocation and management solution
11.	What is the best way to manage following task in a Back Office Process?: Tracking work items	Tracking at the item level without knowing the work type and activities required to get the job done	Using an activity tracking system to log	categorize and identify appropriate resources	determine service level at the task level for each work item
12.	Key areas that make the Back Office Function efficient are:	Workflow engine	Database	Reporting	Analytics
13.	Which of the following activity is not a part of back office function?	Receiving walk in customers	Receiving guests	Receiving calls	
14.	What do you understand after reading following address? Income Tax Department – CPC, Post Bag – 1, Electronic City Post Office, Bangalore – 560 100, Karnataka.	Income tax department call center is at Bangalore	CPC - Central processing center of Income tax	Need more information to understand	

			department is at Bangalore		
15.	You get a mail from Indian Railways confirming your booking with a subject line: 'Do not reply'. What does this mean?	They are not interested to receive my mails	The mail is sent by automated system of back office	There must be some mistake in the subject line	
16.	You get a mail from a shopping mall informing you about new offers. How this must have happened?	You might have submitted a form communicating your email id while you visited the shopping mall	You might have subscribed to a website which is presenting offers available at the shopping mall	Your relative might have shared your email id	
17.	In following situation, what minimum data will be required for back office function. "Auto reminders are to be sent to candidates who have not submitted	Candidate roll number	Candidate assignment status	Candidate mobile number	

	the assignments"				
18.	In following situation, what minimum data will be required for back office function. "Promotional emails to be sent to students informing about new programs"	Student email ids	Student names	Student fees paid status	
19.	In following situation, what minimum data will be required for back office function. "Communicating document discrepancy in PAN card applications"	Permanent Account Numbers of applicants	District wise PAN applications	PAN applications with document discrepancy	
20.	In following situation, what minimum data will be required for back office function. "Communicating Status of speed post parcel to the customer"	Speed post item number	Name of the person who paid the charges for sending the parcel	Dispatch date	
21.	In following situation, what minimum data will be required for back office function. "Tracking Lost and found baggage at Airport"	Name of the passenger	Baggage code	Boarding pass of passenger	
22.	In following situation, what minimum data will be required for back office function. "Sending eGift to	Customer birthday	Customer ID	Customer name	

	customers"				
23.	A person is involved in back office operations primarily, if s/he is:	Processing insurance claims	Processing exam forms	Managing inward-outward register at front desk	
24.	Which of the following is a correct statement regarding Back Office?	Back office executives are not answerable to customers as they do not interface directly with the customers many times	Back office needs less staff as compared to call centers	Back office executives do not require communication skills	None of the above
25.	In following situation, which data is not required for back office function. "SMS alert for payment of electricity bill with due date"	Mobile numbers of consumers	Bill Amount	Consumer ID	Due Date

26.	In following situation, which is the most essential data required for back office function. "Sending email reminder for insurance premium payment to customers"	Premium payment due date	Premium amount	Email id	Policy date
27.	In following situation, which is the least important data for back office function. "Birthday sms to students"	Student ID	Student Birthday	Student Name	Student Address
28.	In following situation, which data is not required for back office function. "Communicating eligibility verification status to students by student facilitation center"	Student ID	Document verification data	Student's fees paid status	Student Address

Course: Service designing: Banking, Finance and Insurance

Sr. No	Question	Option Text 1	Option Text 2	Option Text 3	Option Text 4
1.	Service Sector is also called	Primary Sector	Secondary Sector	Tertiary Sector	None of the above
2.	Merchant banking is the private equity activity of investment banks.	TRUE	FALSE		
3.	When two or more persons open an account jointly, it is called as a _____ account.	current	joint	partnership	
4.	All the risks can be insured.	TRUE	FALSE		
5.	The bank acts as an agent of its customers.	TRUE	FALSE		
6.	Ms. Sonal took a health insurance from ABC Insurance Company. One day, it was her birthday and she received a call and a greeting card from the insurance company. Ms. Sonal was very happy with the surprise she got on her birthday. What was the need of customer relationship management to call her and send her a birthday card on her birthday?	Because the customer relationship manager was her friend	This is value added service provided by the bank.	Sonal likes surprises	
7.	Who are the customers of Banking BPO?	Banks	Lending institutions	Both Banks and Lending	None of the above

				institutions	
8.	Out of the following what are the types of banks?	National	Travel insurance	Health insurance	Commercial
9.	Out of the following what are the types of lending institutions?	Credit unions	Brokerage firms	Mutual fund companies	
10.	Out of the following what are the types of insurance customers?	National	Travel insurance	Health insurance	Commercial
11.	Which tool do banks use to be in touch with the customers and maintain long term relationship with them?	Banking facility	ATM	Telebanking	CRM
12.	Ms. Sonal opened an account with ABC bank. Ms. Reena (bank employee) gave her a call informing her that she is her personal banker, whereby she would be helping her in getting the bank formalities done easily and quickly. She would be attended by Ms. Reena for her assistance when she comes in the bank. Ms. Sonal was very happy to see this change in the services given by bank. What is the changing trend in bank service before and after?	Personalized services	Automated Services	Flexible investment options	Better rates for investments
13.	What does consumer banking services include?	Retail service	Card service	Consumer lending service	All of the above

14.	What does commercial banking services include?	Trade finance services	Commercial lending service	Card service	Payment and cash management services
15.	What does capital markets services include?	Retail service	Card service	Asset management	Commercial lending service
16.	Identify key trend behind growth of service sector in banking, finance and insurance domain.	Growing customer base	Automation	Growing customer demand	Technology advancement
17.	What does the Profit and Loss statement of a Company show?	Profits or Losses	Assets	Liabilities	None of the above
18.	What does a Balance Sheet of a Company shows?	Liabilities	Assets	Both- Assets and Liabilities	Profit and Loss
19.	What is/are not a type of Insurance policy?	Life	Non life	Food	Marine
20.	What is Export of Goods and Services with respect to India means	Goods received from Outside India in India	Services received from Outside India in India	Goods transferred from India to Outside India	Goods and Services transferred/given from India to Outside India

21.	What is the meaning of TDS in Income tax?	Transfer Deposit System	Trade Deficit System	Tax Deducted at Source	None of the above
22.	What are two type of Taxes?	Commodity tax	Service tax	Direct Tax and Indirect tax	Direct tax
23.	Income tax is a type of:	Indirect tax	Direct tax	Tax	None of the above
24.	What is the full form of VAT?	Vacation Allowance transfer	Volume analysis test	Value Added Tax	None of the above
25.	Service tax is a type of:	Direct tax	Tax	Indirect tax	None of the above
26.	What is the amount borrowed from Bank called as?	Funds	Capital	Loan	Gift.
27.	What is retail banking?	dealing directly with individuals and small businesses	providing services to mid market businesses	directed at large business entities	
28.	What is business banking?	providing services to mid market	directed at large business entities	dealing directly with individuals and small	

		businesses		businesses	
29.	What is corporate banking?	dealing directly with individuals and small businesses	directed at large business entities	providing services to mid market businesses	
30.	Which of the following is/are not direct customers of a BFSI BPO?	Bank	Insurance Companies	Individuals	

Course: Service designing: Accounts and Legal

Sr. No	Question	Option Text 1	Option Text 2	Option Text 3	Option Text 4
1.	Accounting services include	Setting up accounting functions	internal control functions	interpretation of financial needs	
2.	It is important to have business credit separate from personal credit.	TRUE	FALSE		
3.	Companies outsource their finance functions because:	Companies do not need to hire employee to handle financial matters	They have less space for accounts department left	In some cases, it is difficult to find well trained, independent employees with experience to complete accounting procedures inhouse.	When outsourced, the company will be up to date on tax changes and will have needed materials to complete accounting functions.

4.	X is a company with empanelled accountants. Y is a company who has empanelled X for its accounting function. Z is another company who wants to tie up with company Y for a joint project and sign an agreement with Y. For this, an Employee E of company Z is working with company Y for 3 months. In this case, who would process the salary of E of those 3 months?	Accounts team of Y	HR Team of Y	Accounts Team of X	Accounts Team of Z
5.	_____ is the recording of financial transactions of the company.	Book keeping	book keeper	payroll processing services	
6.	Who is a book keeper?	The one who keeps the books of accounts	Person who records day-to-day financial transactions	Librarian	
7.	What does a daybook consist?	purchases, sales, receipts and payments	only receipts	only payments	only purchases
8.	What are the services of Book-Keeping?	General ledger Reconciliation	Hourly rate	Cash Accrual Accounting	Wages

9.	What does payroll processing services include?	Prepare tax returns and forms for various countries	Calculation of standard deductions as per the rules and regulations of various countries	Create paychecks	all of the above
10.	Taxation services can be further divided into :	Tax management	Create paychecks	Tax structuring	Advisory services
11.	X is a company with empanelled accountants. Y is a company who has empanelled X for its accounting function. Z is another company who wants to tie up with company Y for a joint project and sign an agreement with Y. For this, an Employee E of company Z is working with company Y for 3 months. In this case, who would process the agreement between company Z and Y?	Legal team of X	Legal team of Z and Y	Legal Team of Z	All X, Y and Z
12.	What does the Profit and Loss statement of a Company shows?	Profits or Losses	Assets	Liabilities	None of the above
13.	Large KPO providers have invested millions of	on site	off shore	in site	in house

	dollars in the creation of _____ delivery centers.				
14.	What are the specific skill sets required for accounting service executive?	Solid analytical skills	Solid fundamental valuation skills	Ability to build financial models	all of the above
15.	Ability to write _____ acts as an advantage in accounting services.	research reports	profit and loss reports	balance sheet reports	MIS reports
16.	What makes accounting functions so important?	to make sure a company pays its utility bills	to make sure a company pays its payroll taxes and other governmental obligations when they are due.	Does not minimize company's taxes	all of the above
17.	Software generally used for Accounting services is	MYOB	Quick books	Simply accounting	Tally
18.	_____ is one of the detailed type of accounting service	Courier service	Payroll processing service	Administration service	Call center service

19.	What are the benefits of outsourcing accounting?	Freedom	Business continuity enhancement	Elimination of hiring cost	
20.	What is the freedom for a company when it outsources accounting?	The employees of the company can focus on their work and accounting will be handled by outsourced agency	Employees get free time	Accounting partner can be held responsible for all the business performance of the company	
21.	Skills required for accounting service executive are	consulting capability	domain knowledge around finance and accounting	both a and b	None of the above
22.	If you want to start a new business outside country which service provider would you need to get your legal formalities done	KPO	LPO	BPO	
23.	BPO is	Transaction Intensive Service	Knowledge Intensive Service	Banking Process Outsourcing	

24.	KPO is	Transaction Intensive Service	Knowledge Intensive Service	Key Process Outsourcing	
25.	Mention some prime challenges in doing LPO business	Confidentiality issue	Risk management	Quality assurances	all of the above
26.	Can corporations use Legal outsourcing?	Yes	No		
27.	What are the important services of LPO?	Document drafting	Legal research	Making profit and loss account	all of the above
28.	In LPO it is the duty of the _____ to keep client's information confidential	lawyers	accountants	clients	
29.	_____ presents the most dynamic and complex challenge in the context of financial planning	Taxation	Law	Accounts	
30.	Business credit management involves determining company's ability to pay debts	TRUE	FALSE		

Course: Service designing: Hotel, Restaurants, Hospitality and Event Management

Sr. No	Question	Option Text 1	Option Text 2	Option Text 3	Option Text 4
1.	The safety and security of guests is the legal and moral responsibility of the hotel	TRUE	FALSE		
2.	Identify customers in following scenario: A hospital with a facility of day care	Kids of patients	Kids of relatives attending patients	Relatives of patients who are attending patients and are having kids	Visitors of patients with kids visiting patients
3.	Identify customers in following scenario: A restaurant with a ramp at the entry	Guests with disability	Models at fashion designing events	Senior citizens	
4.	Identify customers in following scenario: Welcome drink to guests at a family function	Guests who are on fast	Guests who come early	Guests who come late	All Guests
5.	Identify customers in following scenario: Hi tea at a corporate event	Special guests	Media persons	Spectators	
6.	Identify customers in following scenario: Mid day meal scheme at schools	School Children	Community	Parents of children from poor families	

7.	Which domains of Hospitality sector are covered in following scenario: A seminar is organized on 9th floor of a hotel with cultural program, food and stay arrangements on 8th floor	Restaurant	Art	Event Management	Accommodation
8.	Which domains of Hospitality sector are covered in following scenario: A road side Vada Pav center with a parcel counter.	Accommodation	Restaurant	Event Management	
9.	Which domains of Hospitality sector are covered in following scenario: Catering to a company at special meetings	Food	Event Management	Transport	
10.	Who is primarily responsible to show hospitality in following scenario: At a huge Book exhibition, a lady senior citizen needs assistance to climb stairs.	Relatives of the lady	Fellow visitor at the exhibition	Person at the billing counter	Exhibition in-charge
11.	Who is primarily responsible to overcome following scenario: In a corporate event organized in a seminar hall of a hotel, the projection screen is missing.	Event manager of the hotel	Corporate company's IT infra manager	Waiter serving tea at the counter outside seminar hall	
12.	Who is primarily responsible to handle following scenario: Board members are coming to registered office of a corporate company for board meeting and the security officer is not allowing the car to enter the	Front desk executive of the corporate company	Facility administrator of building	Driver of the car	

	building.				
13.	Who is primarily responsible to handle following scenario: A reserved table is allotted to other guests by mistake and the guest who did advance booking is furious.	Guest	Waiter at the hotel serving the specific table	Hotel manager	No one
14.	Who is primarily responsible to show hospitality in following scenario: Guests coming late for a function organized in a hotel and the serving timings are over.	Kitchen department of the hotel	Booking department of the hotel	Hosts who made the bookings with the hotel	Guests who came late
15.	Identify service providers in following scenario: An online website providing information on restaurants available in specific area	Company who has launched online website	Restaurants who names are available on the website	Data management company compiling data	
16.	Identify service providers in following scenario: A group of past students managing events of their college for freshers	College management	Past students	Event management company	
17.	Identify service providers in following scenario: A welcome kit to all new students in college	Class Teacher	Principal	Students	
18.	Identify service providers in following scenario: A tiffin carried from home by a school girl.	Mother	Kitchen	School bus	

19.	Which of the following function does not come under hospitality?	Food transport	Home based catering	Road transport	
20.	Which of the following job role is related to hospitality?	Front office	Lobby Manager	Floor Manager	Facility Administrator
21.	Which of the following services is not related to hospitality?	Hospitalization	Hotel	Hostel	Homestay
22.	Find odd man out:	Guest	Visitor	Friend	Employee
23.	Identify the most appropriate process that will be required to be followed in case of following situation: Customer forgets expensive sun-glasses in his room	Lost and found	Guest record maintenance	Front desk facilitation	Customer grievance handling
24.	Identify the process that needs improvement in case of following situation: Online booking confirmed, however room is allotted to some other guest	Room Booking	Data Management	Front desk facilitation	Customer grievance handling
25.	Identify the process that needs improvement in case of following situation: Unclean room and guests are allowed to enter.	Lobby service	Quality checking	Supervision	Training
26.	Identify the process that needs improvement in case of following situation: No flower arrangements at the event, in spite of promised	Quality checking	Event Management	Supervision	Training

V. Post Test: Assignments

Course: Front Office Customer Services and Management

Assignment: Meeting

- Imagine yourself as the Front Office Executive. A visitor comes to visit your senior but he tells you that he does not want to meet anyone. What would be your expected actions in such a scenario?
- Instructions:
 - Record your voice in MP3/MP4 format
 - Compress the file into .zip and upload
 - Size of the zip file can be maximum of 5 MB

Course: Back Office Customer Services and Management

Assignment: Back office process

- Choose any service sector other than the one you are working currently.
- Study back office process for any operation
- Draw a Flow-Chart using MS Word

Course: Service designing: Banking, Finance and Insurance

Assignment: Maturity of bank's FD (Fixed Deposit)

- Ms. Arpana is in need of money. Her FD is there in a Bank. She does not want to renew the FD but want the money back. Imagine that Ms. Arpana comes to collect the money directly and you are the Bank's executive. Write the dialogue that may take place.

Course: Service designing: Accounts and Legal

Assignment: Presentation on LPO

- Visit following websites and read articles made available
 - <http://www.legalprocess4outsourcing.com/>
 - <http://www.rediff.com/money/2006/aug/01bpo.htm>

- <http://www.livemint.com/Companies/MPAVDIsoqGmC9bHu2qqWsM/India-holds-a-huge-opportunity-for-legal-process-outsourcing.html>
- Prepare a presentation in PowerPoint on Legal Process Outsourcing with following details
 - Scope of LPO
 - Different types of services offered
 - Job functions in LPO
- Presentation should be of 5 to 6 slides only

Course: Service designing: Hotel, Restaurants, Hospitality and Event Management

Assignment: Lost Sunglasses

A customer has forgotten his expensive sunglasses in a restaurant.

Which are the right and wrong situations you think? If you think the situation is wrong, imagine as if you are in the manager’s role and mention your reaction for these situations?

1. The guest with lot of hope calls up and the general manager replies to him in an uninterested tone.
2. Make the guest wait on phone for more than 12 minutes
3. The manager makes the guest comfortable and then informs him about the broken glasses.
4. The manager himself calls the guest immediately after the guest checks out and informs him that he has forgotten the glasses in the hotel.

VI. Questionnaire: Mentoring

1. Are the Reflection Sessions / Mentoring Sessions relevant to you?

Yes

No

2. Are the Reflection Sessions / Mentoring Sessions interactive?

Yes

No

3. Are the Reflection Sessions / Mentoring Sessions conducted for you gainful?

Not much

To some extent

Very much

4. How would you rate the Reflection Sessions / Mentoring Sessions conducted by different mentors?

Not satisfactory

Satisfactory

Highly satisfactory

VII. Curriculum Details: Courses – Units

	Course	Contents in brief
	Course	Units
1	Information Technology Skills - Basics	Operating System
		Word Processing
		Spreadsheet program
		Presentation Graphics
2	Information Technology Skills - Advanced	Personal Information Manager
		Internet and Web
		Advanced use of Internet
		Advanced Excel, Word and Powerpoint
3	Business communication	Dealing remotely with customer queries
		Providing data/ information in standard formats
		Attend/Make customer calls
		Handling customer's query, request and complaint
		Cross cultural Communication
		Etiquettes and netiquettes
		Handling difficult customers
4	Workplace Ethics and Responsibility	Responsibility at workplace
		Responsible team member
		Maintain a healthy, safe and secure working environment
		Respecting diversity
		Ethical behaviour at workplace, family and extended family
5	Effective Collaboration and Listening Skills	Work effectively with colleagues
		Dealing with Cross functional team
		Effective speaking
		Effective listening

6	Learning and Thiking Skills	Self Learning
		Life Long Learning
		Critical Thinking
		Decision Making
		Problem Solving
		Creative Thinking
		Mathematical and Statistical skills
7	Presentation, Marketing and Selling Skills	Presentation techniques
		Planning and managing interactions
		Marketing Vs. Selling
		Ethics in Marketing
		Marketing Mix
		Consumerism
		Marketing Channels
		Marketing Communication
		Brand Building Exercise
		Prospecting, qualifying, Segmentation, Targetting and Positioning (STP)
		Different styles of sales presentation
8	Finance Literacy	Salary
		Business Income and Agricultural Income
		Taxation and Expenditure
		Banks
		Post Office
		Interest Income
		Debt
		Equity and Mutual Funds
		Other Investments and Retirement Planning
		Loans
		Taking a home loan
		Risk
		Insurance
		Budgeting

9	Digital Citizenship and New Literacies	Effective use of social media and networking
		Legal literacy
		Environmental literacy
10	Leadership and entrepreneurship	Building a team
		Leadership styles
		Being a good leader
		Being a good follower
		Personal relationship management
		Qualities to become an entrepreneur
		Planning and organization
		Budgets and finance
		Change management
Year: 2	Course	Units
1	Overview of Service Industry: BPO,KPO and LPO and Indian Scenario	Introduction to BPO
		Introduction to KPO
		Introduction to LPO
		Overview of service industry in indian context
2	Front Office Customer Services and Management	Functions and services
		Types of customers
		Types and Scope of services
3	Back Office Customer Services and Management	Functions and services
		Types of customers
		Types and Scope of services
4	MIS and Reporting - Part 1	Need, Purpose and Objectives
		Information as a strategic resource
		Application of MIS in different service sectors
5	MIS and Reporting - Part 2	Informatio Management and Decision making

		Attributes of information and its relevance to Decision Making
		Types of information
6	Science of Service	What is Service Designing
		Service Designing benefits
		Appreciating outstanding service designs
7	Service designing: Banking, Finance, Insurance	Types of customers
		Functions and services
		Types and Scope of services
8	Service designing: Accounting, Legal	Types of customers
		Functions and services
		Types and Scope of services
9	Service designing: Travel and Tourism	Types of customers
		Functions and services
		Types and Scope of services
10	Service designing: Hotels, Restaurants, Hospitality and Event Management	Types of customers
		Functions and services
		Types and Scope of services

VIII. Prospectus of B.A. in Services Administration

The program B.A. in Services Administration is being offered with a new name from Academic Year 2015-16. Revised name is B.B.A. (BPM) i.e. Bachelor of Business Administration (Business Process Management)

Prospectus of the program is published on YCMOU Website

URL Reference:

- <http://digitaluniversity.ycmou.ac.in>
- www.mkcl.org/mfs/bba – Downloads – Prospectus

Link: Prospectus for Role Based Degree Program by School of Computer Science