

## EFFECT OF OER BASED COURSES ON THE EMPLOYABILITY OF UNIVERSITY GRADUATES

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### ABSTRACT

Employability as quoted by Higher Education Academy is “a set of skills, knowledge and personal attributes that make an individual more likely to secure and be successful in their chosen occupation(s) to the benefit of themselves, the workforce, the community and the economy”. CEMCA, through its interventions, has engaged in providing support to University teachers for learner development and institutional Capacity development with the help of need based courses as Open Educational Resources (OER). This intervention was carried out in Uttarakhand Open University (UOU), Haldwani, and Netaji Subhas Open University (NSOU), Kolkata. **Objective:** The main objective of the study was to explore the effect of OER based courses by CEMCA which must be improved in order to offer more employability opportunities to learners. **Intervention:** The courses were developed based on blended learning approach using OER. This intervention was executed in NSOU and UOU. The university teachers and academic staffs were initially given training to develop e-Content using OER, Online facilitation including student support, Blended learning, etc. The need-based courses were developed as OER and offered using different modalities i.e. video and text medium in a self-learning module style. **Methodology:** The study follows a quasi-experimental design including mixed method approach. The data was collected using a self-developed questionnaire which was administered through online means and qualitative data was collected from faculty members using the opinionnaire. The data was collected from all students who successfully completed the eight courses during 2015–2018. The researchers included all the students of the selected courses as population, and the random and purposive sampling technique was used. **Findings:** The intervention given to the University students with the help of CEMCA have tangibly progressed the learners’ engagement in learning and thereby impacted employability. The learners perceived that the modality of course delivery and structure have enhanced their soft skills and digital skills are improved which is helping them in seeking employment. The study also revealed, in certain areas more improvements in the course structure, pedagogy and delivery mechanism is required at the institutional level.

### INTRODUCTION

The Millennium Development Goals (MDGs) are eight international development goals that were set for the year 2015, and the Sustainable Development Goals (SDGs), which are a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030 are No Poverty, Zero Hunger, Good Health and Well-Being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation, and Infrastructure, Reduced Inequalities, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life on Land, Peace, Justice and Strong Institution, and Partnerships. Decent Work and Economic Growth is one of the major goals and it is noteworthy to mention that all these indicators are closely interrelated and have strong correlation with Quality Education and Employability (UNDP, 2015). The skills which are most desired by recruiters/employers nowadays are communication, teamwork, leadership, organisation, perseverance, motivation, negotiation, persuasion, problem solving, initiative, learning, and technology.

In these times of knowledge economy. Higher Education has become one of the most essential constituents of growth. The Gross Enrollment Ratio (GER) must, at least, be doubled, so that we remain active contributors to growth in the present scenario. Many policy planners, commissions and thoughtful intellectuals have already acknowledged this fact. Such a context makes the role of Open and Distance Learning (ODL) significant and distinct. The experiences worldwide suggest that the ODL system has been a powerful tool in the educational empowerment of different sections of the society who have missed out on the privilege of formal ‘face-to-face’ education. The system also has the ability to reach out to the ‘unreached’ and create possibilities for the marginalised and excluded, who stay in remote areas or terrains that are difficult to reach, by being flexible and open in many aspects like methods and pace of learning, combination of courses, eligibility for enrolment, age of entry, conduction of examination, operation of the programmes etc.

The problems and issues haunting Higher Education in all the developing countries are manifold including lack of resources, inadequate infrastructure, shortage of qualified and trained faculty and dearth of quality teaching/learning resources. The quality and quantity both are emerging issues which together lead to bigger

challenge of access. There is also a dire need for all higher education institutions and graduates to gear and be ready for the Education 4.0 era. Online and blended learning particularly OER-based courses can play a very important role while mitigating the effects of these challenges. The need of the hour is also to explore vocational and skill-based education as the new frontier which can be a great enabler to increase the employability of graduates.

Commonwealth Educational Media Centre for Asia (CEMCA) headquartered in Delhi, was established in the year 1994, in response to the needs expressed by the Commonwealth Countries of Asia urging for a better utilization of educational media resources for ODL, to assist governments and institutions in expanding the scale, efficiency and quality of learning with the aid of multiple media in open, distance and technology-enhanced learning. Five strategies that have been formulated by COL/CEMCA to achieve the outcome and impact are: partnership, capacity development, materials, building sustainable models and policy (CEMCA, 2015).

With the new focus of COL-CEMCA being to learn for sustainable development (strategic plan 2015-2021) and identifying the challenges higher education institutions have to face in this dynamic tertiary education landscape, COL-CEMCA extended its support in strengthening the capacity of Higher Education Institutions to create an impact on sustainable livelihoods (CEMCA, 2015). It is believed that graduates with a Higher Education degree will have better employment prospects, leading to social empowerment and innovation which eventually leads to a better and sustainable livelihood. Hence, COL-CEMCA developed a conceptual model to reflect the relationships between the different players in the higher education area ranging from a micro level (the learner), going through a meso (department/ faculty/ institutional) to a macro level (national). The integrated model analyses the whole value chain or the lifecycle of the learner across the Higher Education system; from enrollment to graduation and entering the job market. The Open and Distance Learning mode was adopted to increase the access, while maintaining the quality and decreasing the costs, with the ultimate objective to create more employable graduates and contribute to the socioeconomic development. In this regard, CEMCA is supporting eight Higher Education Institutions in three countries i.e. Bangladesh, India and Sri Lanka, in a project mode.

## CONTEXT AND INTERVENTIONS

The study includes only two Higher Education Institutions from India i.e. Netaji Subhas Open University (NSOU), Kolkata and Uttarakhand Open University (UOU), Haldwani. CEMCA provided continuous support to both the universities for capacity building on Open Educational Resources (OER), e-Content development, online learner support, development of video content, Moodle LMS, etc. As a result, institutions adopted the OER policy, providing all educational resources as OER through Institutional OER repository, developing need-based courses, including vocational courses, using OER, offering courses through blended learning using Moodle LMS, conducting online counselling and providing learner support for employment by conducting job mela since 2015. This Research study on “Effect of OER based Courses on the Employability of University Graduates” has been conducted as a part of CEMCA’s Monitoring and Evaluation (M&E) which will lead to assessment of Outcome and Impact of the OER-based Courses that were implemented. The interventions provided to both the institutions are presented in the following Figure 1.

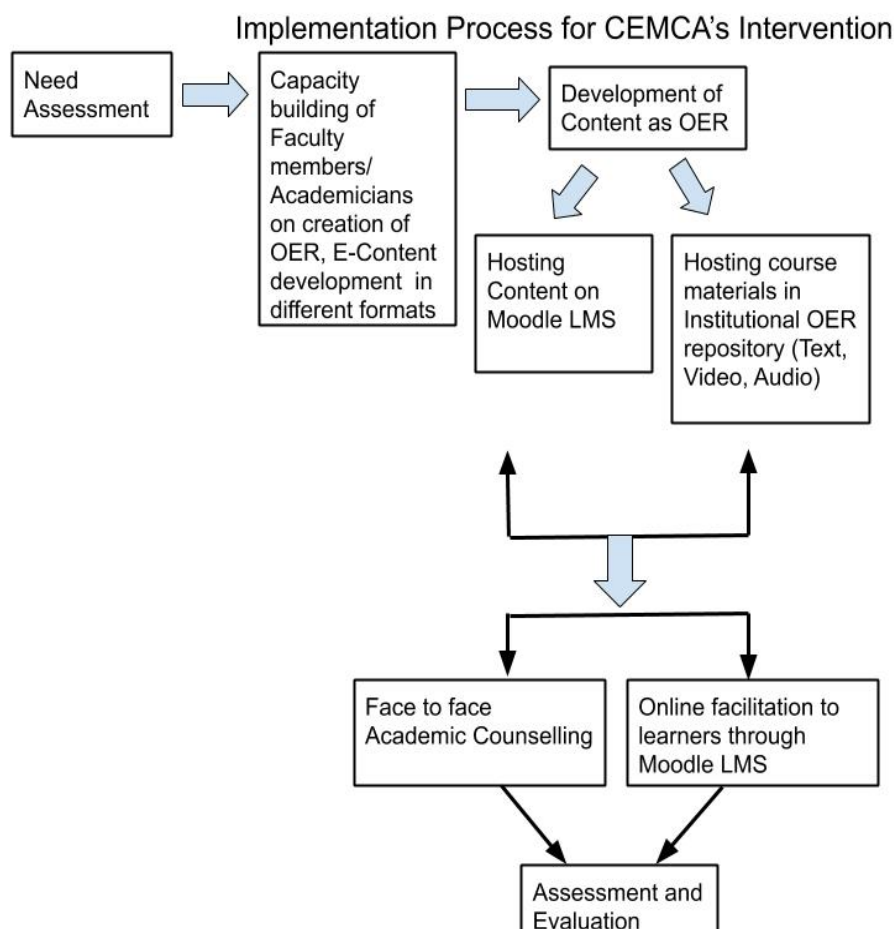


Figure 1: *Structure and procedure of interventions for Higher Education Institutions*

Within the implementation process, NSOU reached 2258 learners with six need-based courses and UOU reached 599 learners.

Table 1: Learners completed the need-based courses as OER during (2015 – 2018) three years

S.NO	University	Year of passing	Course Name	No of Learners Completed
1.	NSOU	pass out in 2016, 2017 and 2018	1. Inclusive Education 2. Pre-Primary Teachers' Education Montessori 3. Tailoring and Dress Designing: Apparel and Textile Design 4. Post Graduate Diploma in Export Import Management 5. Post Graduate Diploma in Travel & Tourism 6. Diploma in Safety Skills and Security Management	2258
2.	UOU	pass out in 2016, 2017 and 2018	1. Cyber Security (Diploma, PG Diploma and individual course (paper/module) 2. Certificate in Computer Application (CCA1: Introduction to Information Technology, CCA2: Introduction to Tools for Office Automation, CCA3: Introduction to DTP)	599

## OBJECTIVES OF THE STUDY

The objectives of this study were to:

1. Explore the distribution structure of OER-based courses and its effect on the employability of the university graduates.
2. find out the influence of selective demographic parameters in preferring OER-based courses.
3. find out how does graduates' employability vary in terms of selective demographic factors.
4. assess the influence of OER-based courses on the employability of the university graduates.
5. identify key aspects of OER-based courses offered by CEMCA which must be improved in order to offer better employability opportunities to the target learners.

## HYPOTHESES

1.  $H_{01}$ : There is no significant relationship between OER-based courses and the employability of university graduates.
2.  $H_{02}$ : There is no significant difference between the assessments of quality of CEMCA's intervention by NSOU & UOU university graduates.
3.  $H_{03}$ : There is no significant difference in the employability status of NSOU & UOU university graduates.
4.  $H_{04}$ : There is no significant influence of selective demographic parameters in preferring OER based courses.
5.  $H_{05}$ : The graduate's employability does not vary in terms of selective personal factors.

## METHODOLOGY

The study follows a quasi-experimental design. The mixed method (qualitative and quantitative) is used for data collection and data interpretation.

## SAMPLE AND SAMPLING

The total population size of the learners was 2857. Only 10% percent of the total population, i.e. 285 learners, were selected from the two Open Universities using simple random sampling technique. A questionnaire was sent online to the selected learners, out of which 127 responded. Hence, the total sample is considered as 127 learners for this study. Purposive sampling was employed for the selection of 15 educational leaders and teachers because they are responsible for the implementation of CEMCA interventions in their respective universities.

## INSTRUMENTS OF DATA COLLECTION

### • Questionnaire

A questionnaire was prepared for learners to get the data on "Qualities of CEMCA-Supported OER-based courses" and "Graduates' Employability". The response category set was a likert type five-point rating scale ranging from Strongly Agree to Strongly Disagree. Further, researchers piloted the questionnaire and determined its validity and reliability. The questionnaire was sent to five identified experts drawn from education professionals working in the area of OER, particularly in Higher Education system to ensure internal consistency and face validity of the questionnaire. The questionnaire was further revised after feedback and suggestions received from the expert group. The reliability of the questionnaire was calculated using Split Half test which was found for Part B: 0.69 and Part C: 0.71. The results are presented in Table 2.

Table 2: Reliability of the Learners' Questionnaire.

Part-B: Assessment of qualities of CEMCA-Supported OER-based courses	Correlation (split half)	0.69
Part-C: Assessment of Graduates' Employability	Correlation (split half)	0.71

### • Opinionnaire Response Sheet

A qualitative Opinionnaire Response Sheet was prepared and sent to 15 educational leaders and teachers as they were involved in the implementation of CEMCA interventions.

## METHODS OF DATA ANALYSIS

The quantitative data was analyzed by descriptive statistics such as mean, frequency, percentages, and standard deviation; and inferential statistics i.e. t-test, Regression, Correlation, ANOVA. The data collected from questionnaire was quantitatively analyzed using tables. Each table was followed by interpretation of analysis. Triangulation was used to validate the data collected through various sources.

## ANALYSIS AND DISCUSSION

Higher Education Institutions are analyzing the methods practiced enhancing student employability and are taking different measures to expand and strengthen it. The 'employability agenda' is significantly important to any leading university and there is no doubt that an ineffective one will adversely impinge the student recruitment, retention and satisfaction. Both prospective students and their parents carefully investigate their future employment prospects by consulting information from different sources that talk about factors like graduate destination data, starting salaries etc. before opting for degrees and choosing universities. With the hike in tuition fees, students look forward to a better return of their investment.

It is a trend nowadays to keep going for more and more degrees or diplomas until one is gainfully employed. But more qualifications don't necessarily assure better employment prospects. British sociologist Ronald Dore (1976) studied this interesting phenomenon and presented his analysis, 'The Diploma Disease', opining that this tendency among youth to gather qualifications only leads to devaluation of degrees. Mr. Rajiv Gandhi, the former Prime Minister, also insisted on delinking degrees from jobs.

Table 3: Effect of OER Based Courses on the Employability of University Students

Sections of Questionnaire	Correlation value	Regression value(R <sup>2</sup> )
Part-B: Assessment of qualities of CEMCA-Supported OER-based courses and; Part-C: Assessment of Graduates' Employability	.775**	.601

\*\*significant at 0.01 level

It was found that there is a significant and positive correlation between the CEMCA's intervention and the employability status of the learners. It means that more such interventions in the future will lead to higher employability levels. Thus, Null Hypothesis is rejected.

The table 3 also indicates that the regression value as .601 which indicates that 60.10% of variance in the employability status of learners is due to their shift to the usage of OER for their academic program. Thus, it can be inferred that the usage of OER is highly and positively correlated with the employability status and is a significant enhancer of their employability. It shows that 60.01% variance in the scores of Part-C is due to the variance in Part-B scores.

Table 4: Difference Between the Universities on Quality of CEMCA Supported OER based Courses

University	Number of Learners	Mean	Standard Deviation	F-value	Level of significance
NSOU	75	102.57	14.282	5.234	0.05
UOU	51	96.75	13.664		

Table 4 indicates significant difference in the views of NSOU learners and UOU learners regarding the quality of OER course materials and its delivery processes. The difference was quite significant at 0.05 level. Thus, Null Hypothesis is rejected. It can be inferred that NSOU learners have found CEMCA's intervention more useful in comparison to UOU learners. The plausible reasons may be access to the OER materials and lack of learners' support through online and awareness among the learners about the availability of OER in the institutional repository.

CEMCA conducted a comprehensive study on OER in Netaji Subhash Open University (NSOU), Kolkata and Odisha State Open University (OSOU), Sambalpur, India. The findings suggested a strong inclination for OER. A careful browsing of the OER repository revealed excellent preparedness (Mukhopadhyay et.al., 2018). The OER Policies with Vision and Missions are available on their respective portals; CEMCA's intervention has resulted in well-designed OERs and OER repositories within a short period of about one year, during 2017. Students further need guidance related to the use of OER so that the benefits related to OER repository can reach the end users.

Table 5: Difference Between the Universities on Graduates' Employability Status

University	Number of Learners	Mean	Standard Deviation	F-value	Level of significance
NSOU	75	94.23	10.083	18.663	0.01
UOU	51	85.51	12.492		

The table 5 indicates significant difference in the employability status of NSOU learners and UOU learners at 0.01 level. Thus, Null Hypothesis is rejected. It can be said that the employability status of NSOU learners is quite high in comparison of UOU learners. The plausible reasons may be the courses offered under the CEMCA's intervention is not much suitable for the learners' locality. It might be creating awareness among the learners but there might be a lack of employment opportunity in comparison to NSOU.

OER Policy Implementation and Use in Open and Distance Learning System (Pulist, 2018) found that the institutions attach a great value to use of OER for teaching and learning and sharing OER enhances their personal and organizational reputation. They agreed that it gave them pleasure if somebody adopts/adapts their educational resources and majority of the respondents accepted that use of OER had helped the students in improving their performance (Pulist, 2018).

Table 6: Influence of Selective Demographic Parameters in Preferring OER based Courses

Variables	F-value	Level of significance
Gender	.582	.447
Age	2.47	.037*
Discipline	1.659	.151
Course program completed	11.301	.000**
Joining status	41.242	.000**
Salary	8.180	.000**

\*\* Significant at .01 level

\*significant at .05 level

The above table 6 shows that there is negligible difference in the qualities of CEMCA's intervention in terms of gender and discipline of the learners. Whereas a significant difference was found that at .05 level in the qualities of intervention was there in respect to age group of the learners. Thus, null hypothesis is rejected for age, course program completed, joining status and salary range but is accepted for gender and discipline. A significant difference at .01 level of significance was found in the assessment of qualities of CEMCA in terms of course program completed, joining status of the learners and salary range of the learners.

Table 7: Influence of Selected Demographic Factors on Employability of University Students

Variables	F-value	Level of significance
Gender	.127	.722
Age	2.425	.040*
Discipline	.646	.665
Course program completed	16.610	.000**
Joining status	51.789	.000**
Salary	18.490	.000**

\*\* Significant at .01 level

\*significant at .05 level

The table 7 proves that there is only a marginal difference in the employability status of the learners in terms of gender and discipline. Whereas, a significant difference at .05 level was found in the employability status in respect to the age group of the learners. The table 7 also shows a significant difference at .01 level in the employability status in respect to course program completed, joining status of the learners and salary range of the learners. Thus, null hypothesis is rejected for age, course program completed, joining status and salary range but is accepted for gender and discipline.

While expressing their views about CEMCA supported OER based courses, the educational leaders of UOU said that OER-based courses supported by CEMCA are based on online learning pedagogy. They act as an excellent supplementary material to the SLM they receive from the University and they are highly useful and influence the learning for the graduate students. They further said that most of the courses supported by CEMCA are skill-based. They are very useful in developing the skills required in the job market apart from the traditional degree.



## MAJOR FINDING

1. There is a significant difference in the assessment of quality of CEMCA's intervention in respect to their type of Universities, age, course program completed, joining status and salary range.
2. There is no significant difference in the assessment of quality of intervention and employability status of learners in reference to their gender and type of discipline.
3. It was found that there is a significant and highly positive correlation between CEMCA's intervention and the employability status of the learners.
4. The regression value is .601 which indicates that 60.10 % of variance in the employability status of learners is due to the variances in their usage of OER resources for their academic program.
5. The results indicate significant difference in the views of NSOU learners and UOU learners regarding the assessment of quality of intervention. The difference was quite significant at 0.05 level. It may be inferred that NSOU learners have found CEMCA 's intervention of high quality.

## CONCLUSIONS

During this intervention there is Capacity enhancement of the learner and content developers, hence institutional capacity extended, it was introduced through both OER Repository and Moodle LMS. The student support system also enhanced in addition to face to face counselling leading to more engagement due to online platform. There is also continuous engagement of the student through support system, Models to be scaled up in open and distance learning institutions including conventional higher education institutions. High GER is going to have high impact on the employability of students. More marginalized learners will get benefit from this strategy. On demand personalized learning thereby leading to lifelong learning. The learning matter is also available to learners after end of the course. They can refer to content anytime. This facility also helps the learners who wants to learn without enrolling in the university. Similar Implementation can be adopted for other courses in other universities.

With India being one of the fastest growing economies and one of the youngest nations in the world with a median age of 32, the trends indicate that India will need a gross incremental workforce of 250 million by 2030 and it is important to groom and train young population using innovative programs so that we will be able to meet the target. Some of the suggestions to is further improve the OER-based courses so that more students can benefit from these courses are as follows:

Efforts are required to provide the course contents in the vernacular languages. Online counseling is required throughout the year from the experts and Multimedia and graphics should be used in the lectures.

As Professor Krishna Kumar rightly says, "Work satisfies a deeper urge than livelihood which, if denied, takes a significant political and social toll". There is a long way ahead as the whole educational ecosystem must focus on closing the employability gaps, to enhance the talent pool and thus taking the right measures starting from the school level all the way up to Higher Education level to encourage lifelong learning.

## REFERENCES

- CEMCA (2015). *CEMCA Strategic Plan 2015-2021*. New Delhi: Commonwealth Educational Media Centre for Asia. Retrieved from [https://www.cemca.org/ckfinder/userfiles/files/Lr-Strategic%20Plan\\_2015-2021\\_01-03-2017.pdf](https://www.cemca.org/ckfinder/userfiles/files/Lr-Strategic%20Plan_2015-2021_01-03-2017.pdf)
- Dore, R. (1976). *The Diploma Disease. Education, Qualification and Development*. University of California Press.
- Mukhopadhyay, Marmar; Chander, Subhash; Kumar, Rajesh (2018). *Comprehensive study of OER in NSOU and OSOU*. Commonwealth of Educational Media Center for Asia (CEMCA), New Delhi. Retrieved from [http://cemca.org.in/ckfinder/userfiles/files/Comprehensive%20Study%20of%20OER%20in%20NSOU%20and%20OSOU\\_Hi\\_res\\_file.pdf](http://cemca.org.in/ckfinder/userfiles/files/Comprehensive%20Study%20of%20OER%20in%20NSOU%20and%20OSOU_Hi_res_file.pdf)
- Panigrahi, Manas Ranjan (2018). *Quality Higher Education Opportunities through Open Educational Resources*. Commonwealth of Educational Media Center for Asia (CEMCA), New Delhi. Retrieved from <http://cemca.org.in/ckfinder/userfiles/files/Quality-Higher-Education-Opportunities-through-Open-Educational-Resource-By-Manas-Ranjan-Panigrahi.pdf>
- Panigrahi, Manas Ranjan (2018). *Vocational Education and Training: A study of Netaji Subhas Open University*. School of Vocational Studies, Netaji Subhas Open University (NSOU), Kolkata. Retrieved from [http://cemca.org.in/ckfinder/userfiles/files/Vocational%20Education%20and%20Training-A%20Study%20of%20NSOU%20By%20Prof\\_%20Anirban%20Ghosh.pdf](http://cemca.org.in/ckfinder/userfiles/files/Vocational%20Education%20and%20Training-A%20Study%20of%20NSOU%20By%20Prof_%20Anirban%20Ghosh.pdf)
- Pulist, S. K. (2018). *OER Policy implementation and use in Open and Distance Learning*. Commonwealth of Educational Media Center for Asia (CEMCA), New Delhi. Retrieved from

[http://cemca.org.in/ckfinder/userfiles/files/OER%20Policy%20Implementation%20&%20Use%20in%20ODL%20By\\_%20S%20K%20Pulist.pdf](http://cemca.org.in/ckfinder/userfiles/files/OER%20Policy%20Implementation%20&%20Use%20in%20ODL%20By_%20S%20K%20Pulist.pdf)

The difference between a job and work. (2019). Retrieved from <https://www.thehindu.com/opinion/lead/the-difference-between-a-job-and-work/article27041025.ece>

Truth, Technology & the teacher (2019) Retrieved from <https://www.thehindu.com/opinion/op-ed/truth-technology-and-the-teacher/article27819260.ece>

UNDP (2015). The Sustainable Development Goals (SDGs) 2030. Retrieved from <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>