

Critical Evaluation of Competency Mapping for Teachers in Traditional and ODL Environment

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Abstract

Key areas of the education sector like quality in delivery of the content, student-teacher interface, attitude or philosophy towards system, technological abilities and teaching-learning environment form the basis for differentiation in classroom-based education and ODL. Today where there exists a learner's drive towards increasing distance education component in higher education, a question raised is the equivalence of quality of the distance education offered in higher education and classroom-based education. Pupil understand ODL in two ways, some of them think that distance learning is an opportunity for those that could not usually attend university to participate in higher education and others treat it as a mode in which the focus is on teaching rather than on learning, and argue that, the flexibility is not reflected. Former group supports this system of ODL whereas latter perceive the converse attitude.

Ng in 2001, through his research highlighted some issues relating to problems of delivering distance learning content. He noted the basic inefficiency of the students to cope up with technological aspects in ODL¹. Also problems including the quality of instruction, hidden costs, misuse of technology, and the attitudes of

instructors, students, and administrators have an effect on the overall quality of distance learning as a product. In many ways, each of these issues relates to each other².

The existence of difference in basics of the mode of learning content in conventional and ODL demands the different instruction or teaching pedagogy. If this is true then it demands to have different skill-set for teachers accordingly. Harnar in 2000 concluded that, despite the need for upgrading, the future of distance learning appears to be bright. Increasing number of students enrolling in distance learning classes underscore the need for "comprehensive and thoughtful evolution of ODL if it is to become the educational model of the future".

Present study will highlight on the key differences in conventional class room based teaching and ODL in most of the parameters, but the emphasis will be given to the skill-set of teachers or instructors of ODL. The universe of ODL sector is infinite so the study will be concluded by analysing the replies traced with the help of structure questioner and popular statistical techniques. The sources of the data (secondary) includes the website of DEB/UGC, ODL institutions etc.

Teacher or instructor has his own skills and techniques to deal with different groups/types of students in a particular environment. When we agreed on the concept that there exist a difference between ODL and conventional learning style and environment, teachers shall either modify the pedagogy accordingly or develop the new competencies which best suit the present environment of ODL or conventional.

The present paper aims to justify the possibilities of amalgamation of teachers or instructors between conventional and ODL environment or there should exist a separate/exclusive trainer's programs for ODL faculties.

Keywords

On-line and distance learning, Competencies, Mapping, Technological advances, Pedagogy, Amalgamation of process.

Introduction

Today two terms that are being used almost inter-changeably and those are 'Open Learning' and 'Distance Education' and they are often combined to be known as Open and Distance Learning (ODL). Open learning is a philosophy and Distance Education is the mode used for translating it into reality as the two are complementary to each other³.

In ODL teaching-learning arrangements, the learner and the teacher are separated by space and time demanding accurate mapping of all the resources to ensure desired outcomes.

Competency mapping identifies an individual's strengths and weaknesses in an occupation or circumstances allocated to him/her. The aim is to empower the person to better comprehend himself or herself and to point out where the efforts taken to justify the duties allocated to the person are in right direction or not, also to cross-check the objectives behind appointing the person in specific job.

Competencies can be developed from specific jobs within the organization and are often grouped around categories such as strategy, innovation, relationships, risk-taking, decision-making, leadership, emotional and social intellect, governance, etc.

So far as the method to go about for competency mapping is concerned, the first step is job analysis, it is of utmost important to find out the job description and analysis for teachers, especially teachers in ODL environment where the institutions need to list core competency requirements for the job concerned. The next step should be development of a competency scale for the job on the parameters specially meant for teachers in ODL.

In continuation with the last statement about designing competency scales to measure the capabilities and competencies of ODL teachers in various areas like research, class-room presentations, student grievances handling ability, updating as per the requirements of time, ability to develop the courses and course contents, ability to evaluate or update questions, answers, manuscripts, projects, assignments, etc. need to be done with having realized the differences between conventional and ODL formats of learning.

The actual mapping of employees can be a self-identified exercises or done by others like superiors or experts of relevant areas of ODL. It can also be done by using the 360-degree method or any other performance measurement methods best applicable to measure the competencies.

Competency Mapping – Concept

There are many definitions available for competencies and capabilities few of them are as follows:

Competence can be defined as a collection of associated abilities, knowledge, commitments, and skills which allow an organization or a person to act efficiently in an occupation or circumstances allocated to him/her.

Competence is adequacy of skills and knowledge that allows someone to act in a wide variety of situations. Since individual level of accountability has its own requirements, competence can occur in any period of a person's life or at any stage of his or her career.

The general question people asks while taking admissions to the programs in distance education is about the quality of the learnings and the effectiveness of replacing classroom teaching with virtual sessions. The teachers from conventional education environment when asked for the special skill-set requirement for ODL, contributed towards its requirement by adding that the training shall be required in following areas:

- How to conduct the virtual sessions?
- Technology aspects of lecture
- Coverage of syllabus in particular session

- Medium of instruction is static or flexible while conducting the sessions
- Timings of the sessions to reach maximum crowd
- How to make a virtual session interactive etc.

The requirement to critically evaluate the differences in methods of delivery of content, examinations, assignments, marking scheme, degree or diploma award and nature of the same and many other aspects of educational concern in both traditional class room teaching and ODL arises due to following broad realities:

1. In traditional class-room teaching learning mechanism, timings and schedule are static and pre-planned. Teachers and students have minute say in this concern. Whereas in ODL (Virtual sessions), timetable can be flexible, according to the needs of both teacher and students. (This can be superscript by providing recorded sessions/archived sessions to the student). Same could be applicable to class duration too. In traditional environment it is very much easy to conduct the extra sessions to complete the portion or revision. But in ODL the same cannot done easily.
2. An important aspect of difference can be a homogenous nature of student group in conventional class-room teaching, sharing corresponding social groups and customs. But in ODL environment, students can be of heterogeneous group, even worldwide, with a variety of non-intersecting social

groups and customs. In traditional class-room teaching learning mechanism, students naturally fall within a similar age, profession, or academic background but in ODL, student composition may vary greatly in age, profession, and academic background.

3. In traditional/conventional, classes are usually learner-centric and teacher-driven and in ODL virtual classes are teacher-centric and techno-driven, with the teacher as an organizer or facilitator. Teachers are with teaching tools to effectively participate learners. Even teaching tolls and aids are different in both mode of learnings. Further learning environment too is not identical.
4. Teacher and students team up in the physical classroom in traditional setup but in ODL teachers and students team up online via audio, video, and text chat.
5. In case of traditional setup evaluation includes taking tests/surprise test, and handing in physically rated assignments which are time consuming and comparatively slow whereas in ODL computerized evaluations conducted over and done with online tests. Results are speedy, accurate, and completely transparent.
6. Coming to an important aspect which is cost, setting up classroom infrastructure is expensive than to have setup for virtual sessions. In traditional set up it is tough for professionals to attend courses for

professional development, due to work commitments making it difficult to find something that fits their schedule and location but in ODL, Professionals can take classes from home, anytime (even late nights or early mornings). Technology Based Training (TBT) yields a time savings of 35-45% over traditional classroom instruction⁴.

7. For students overheads result in high fees for a course in a physical school whereas sessions conducted in virtual classrooms are comparatively cheaper, as much as 80% or even free as offered by Symbiosis Centre for Distance Learning, Pune.

ODL in India

In India on-line and Distance learning comes under the purview of a Bureau of University Grants Commission (UGC) called as Distance Education Bureau.

According to DEB, the growth of distance education has been considerably increased in country over last 40 years. In 1982, a new chapter in the distance education system commenced when full-sized Open University with the mandate to provide distance education was established, with Dr. B. R. Ambedkar Open University, Hyderabad. This was followed by establishing IGNOU in 1985. The idea of having institutions or organizations imparting ODL was accepted by many states and 1987 witnessed the emergence of two more Open Universities, like, Nalanda Open University (NOU) Patna, Bihar and Vardhman Mahaveer Open University (VMOU), Rajasthan. Consequently, Yashwantrao Chavan

Maharashtra Open University (YCMOU), Nashik, Maharashtra was established in 1989. The Open Universities offer all kinds of programmes ranging from vocational to general to professional to technical. ODL mode programmes in dual mode Universities started with the Delhi University which started offering programs as correspondence courses in the year 1962. As on date there are about 250 distance education institutions in the dual mode universities and institutions which are offering programmes through distance mode there are about 22 lakhs students who have enrolled in the DEIs of dual mode universities. The table given below reflects the year wise growth of ODL Institutions in the country.

According to the statistics given by DEB upto 2010 there were about 256 (242 Dual Mode Universities/Institutes and 14 Single Mode Open Universities) Distance Education Institutions in India. There is remarkable growth in the percentage share of the ODL institutions from 0.147% in 1962–63 to 23.35% in 2009–10.³

Literature Review

Academic and training societies have been continuously inspecting, measuring and criticizing applications of ICT in educational deliverables. Without uncertainty, ODL is of the highest relevance and importance to educators, students, and all other stakeholders of these societies or institutions. It is changing the somatic face of academic institutions. Students can now learn from the comfort of their homes or offices with no need to travel to college grounds. Study material accessibility and availability is not an issue today. Virtual sessions and online libraries are replacing traditional campus facilities. Rather than requiring students to travel to a

specific physical classroom or library, the Internet has facilitated the delivery of (nearly) unlimited learning resources to students⁵.

Above stated view demands the appropriate mapping of skills and competencies of teachers associated with ODL environment.

According to Orooj Siddiqui, Senior Lecturer, Faculty of Management and Research, Integral University, Lucknow, for an individual to outshine in a particular job, competency mapping is mandatory. The inter adjustments between various components of competency mapping are essential. Knowledge advances skill and real skill displays noble knowledge, the third component “behavior” reveals both knowledge and skill. In the lack of behavior the competency is unseen.

Competencies are noticeable behavior that is replicated in a design of actions based on the knowledge and skill levels of an individual⁶.

Competency mapping involves individual assessment on the basis of

- Behavior
- Knowledge
- Attitude
- Skills
- Values and ethics

Research Methodology and Hypothesis

Universe of the study: The study creation and development of competencies for teachers to map the requirements of ODL is done in Pune city. The views, comments and suggestions on the said topic is

collected from various stakeholders of ODL institutions in Pune, Maharashtra⁷.

Sample Design: Random sample of 100 respondents is tested on the basis of a structured questioner.

Data Analysis and Interpretation: Appropriate statistical tools like regression, correlation, factor analysis, etc. will be used according to the requirements of the data. The responses collected from respondents will be analysed using appropriate techniques and inferences will be drawn to study the ODL environment.

Hypothesis

H₀: There exists significant similarity between the competencies (skill set) of the teachers in conventional and ODL environment.

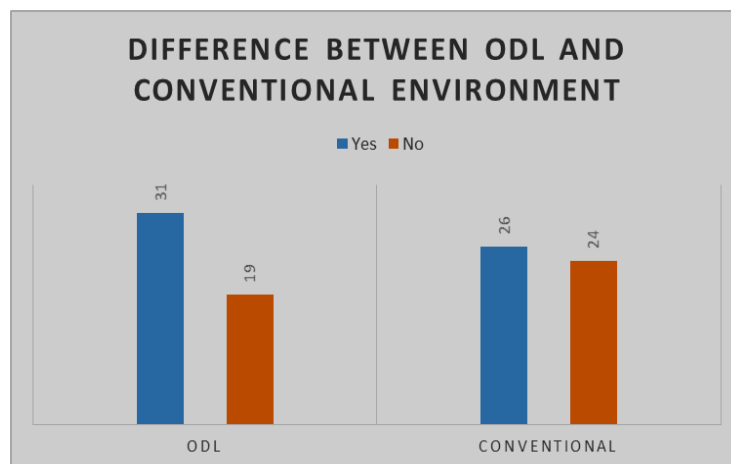
H₁: There does not exist significant similarity between the competencies (skill set) of the teachers in conventional and ODL environment.

Data Analysis

The differences in skill sets of both conventional and ODL environment is studied with the help of structured questionnaire, analysis of the same is as follows.

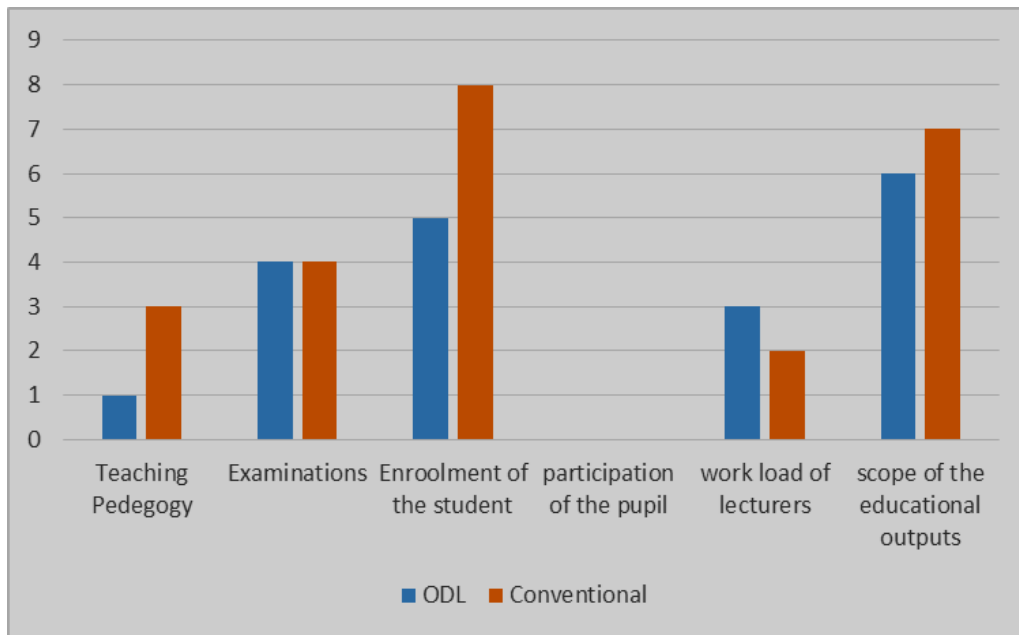
1. Do you think there exists any difference between ODL and conventional environment?

	ODL	Conventional	Total
Yes	31	26	57
No	19	24	43
Total	50	50	100



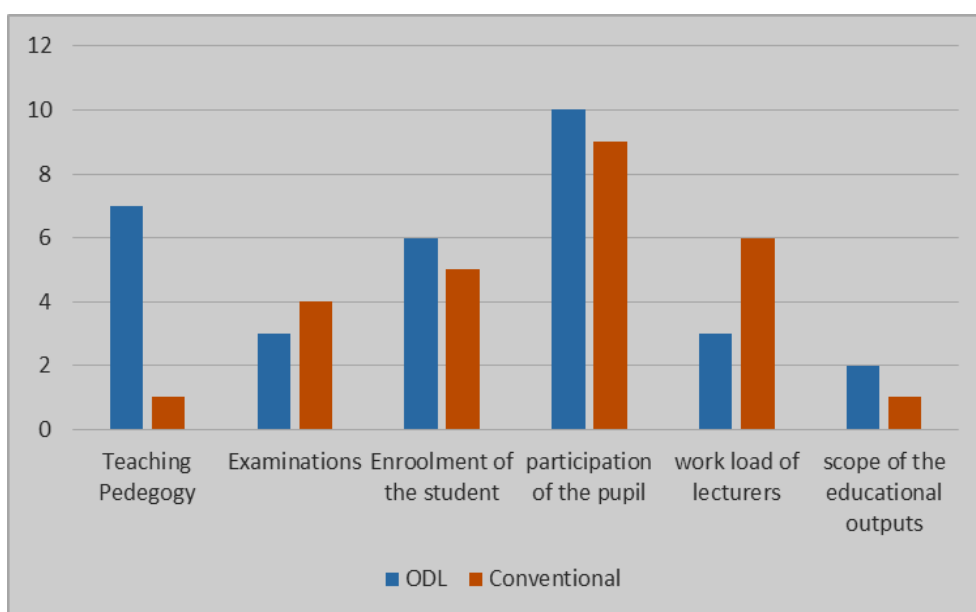
1a. If no, in which of the following parameters they are similar?

	ODL	Conventional	Total
Teaching Pedagogy	1	3	4
Examinations	4	4	8
Enrolment of the student	5	8	13
Participation of the pupil	0	0	0
Work load of lecturers	3	2	5
Scope of the educational outputs	6	7	13
Total	19	24	43



1b. If yes, in which of the following parameters they are different?

	ODL	Conventional	Total
Teaching Pedagogy	7	1	8
Examinations	3	4	7
Enrolment of the student	6	5	11
Participation of the pupil	10	9	19
Work load of lecturers	3	6	9
Scope of the educational outputs	2	1	3
Total	31	26	57

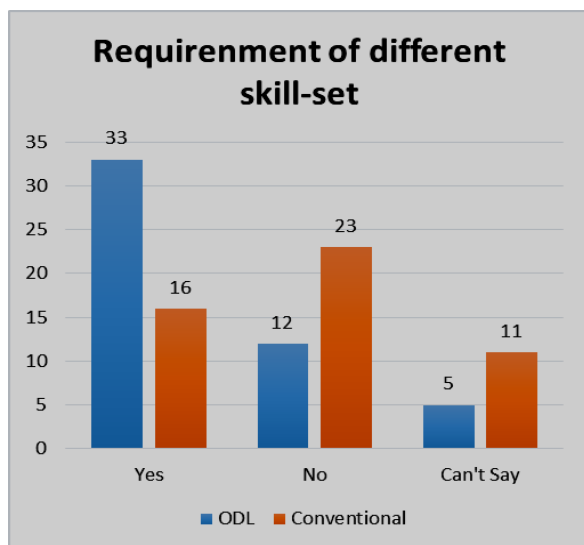


Inferences:

1. There exists a very small difference between number of people favoring difference in ODL and Conventional environment.
2. Majority of the respondents agrees that, factors like Enrolment of the student and Scope of the educational outputs are similar in both environments.
3. For differences the factors like Participation of the pupil contribute the highest count.

2. Do you think the teachers in ODL should have different skill set than in conventional?

	ODL	Conventional	Total
Yes	33	16	49
No	12	23	35
Can't Say	5	11	16
Total	50	50	100



Inferences:

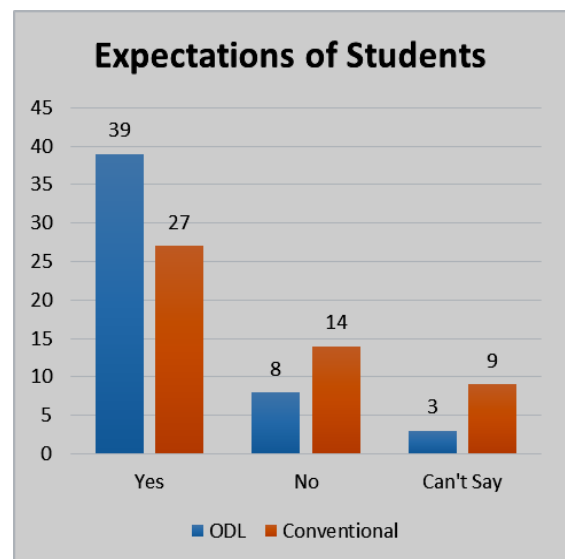
1. There exists a significant number of participant (about 60%) favoring the logic of requirement of different

skill-sets for ODL and Conventional teachers.

2. More people from conventional environment believes that different skill sets are not required, however this share is less than aggregate for favoring the logic.

3. Do you think, the student's expectations from teachers in ODL are different than in conventional?

	ODL	Conventional	Total
Yes	39	27	66
No	8	14	22
Can't Say	3	9	12
Total	50	50	100

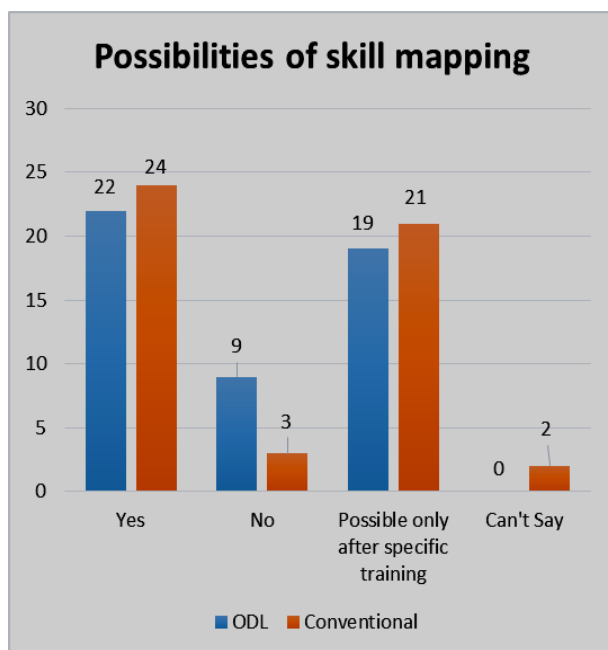


Inferences:

1. From the data above we can conclude that the student expectations varies with the mode of learning.

4. Does there exist any possibilities of amalgamation of teachers between conventional and ODL environment or a separate/exclusive trainer's programs required to map the competencies from conventional to ODL?

	ODL	Conventional	Total
Yes	22	24	46
No	9	3	12
Possible only after specific training	19	21	40
Can't Say	0	2	2
Total	50	50	100



Inferences

1. Significantly large number of participant (about 86%) favoring the possibilities of amalgamation of teachers between conventional and ODL environment.

2. According to 46% (of the above 86 respondents) such mapping can be possible after provision of specific trainings.
3. More people from conventional environment favoring the possibilities than from ODL.

Discussion and Analysis (Testing of Hypothesis)

The responses on skill-set requirement according to two groups (ODL and Conventional) was compared. Market research at local educational institutes was carried out. Half of the participants are from one aspect/environment, the other half gave ratings for the other mode of learning. For the similarity in the skill sets, hypothesis is tested as follows using Mann-Whitney U test.

For ODL:

$$T_1 = 10+5+4+11.5+7+2 \\ = 39.5$$

For Conventional:

$$T_2 = 8+6+1+11.5+9+3 \\ = 38.5$$

In this case the larger rank total is T_1 , and N_1 and N_2 (number of factors in each group) are 6 each, N_x (the number of factors in the group that gave the larger rank total) is 6 and T_x is the larger rank total which is 39.5 That is:

$$N_1 = 6, N_2 = 6 \text{ and} \\ N_x = 6, T_x = 39.5$$

Now we calculate the U value using following formula:

$$U = N_1N_2 + N_x ((N_x + 1)/2) - T_x \\ = 6*6 + 6*3.5 - 39.5 \\ = 36 + 21 - 39.5 \\ = 17.5$$

	ODL	% contribution	Rank	Conventional	% contribution	Rank
Teaching pedagogy	1	5.3	10	3	12.5	8
Examinations	4	21	5	4	16.7	6
Enrolment of the student	5	26.3	4	8	33.3	1
Participation of the pupil	0	0	11.5	0	0	11.5
Work load of lecturers	3	15.8	7	2	8.3	9
Scope of the educational outputs	6	31.6	2	7	29.7	3

To be significant, our obtained U has to be equal to or LESS than critical value⁸ for given data which is 5.

Our obtained U = 17.5

The critical value for a two tailed test at .05 significance level = 5

So, our obtained U is more than the critical value of U for a 0.05 significance level. Therefore, we can say that H_1 is true and there does not exist high degree of significant similarity between the competencies (skill set) of the teachers in conventional and ODL environment.

Conclusion

According to the statistical tests, H_1 is true and there does not exist high degree of significant similarity between the competencies (skill set) of the teachers in conventional and ODL environment. This can also be supported by inferences from second question implying existence of people favoring the logic of requirement of different skill-sets for ODL and conventional teachers. When the analysis is done for the expectations from the students, the general behaviors is observed. The parameters like guidance, mentoring,

classroom teaching, remedial classes and personal counselling are expected from a teacher from conventional environment whereas in ODL specific conceptual understanding, coverage of syllabus in short duration, online guidance, interactive sessions even through online mode and frequent personal sessions are expected from a teacher. To summing up, we can say in conventional class room, teacher is a “guardian faculty” and in ODL, teachers play a role of “mentor”.

Student’s expectations from their teachers vary with the mode of learning. Significantly large number of participant favoring the possibilities of amalgamation of teachers between conventional and ODL environment. More people from conventional environment favoring the said possibilities than from ODL.

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