

# Scaling-up Quality in the Quantitative Papers Subscribed Through Distance Mode

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Formal Education

## **Quality Issues**

### **1. INTRODUCTION**

The all pervasive role of statistics in decision-making has impelled the curriculum developers to include a course of statistics in one form or another in almost all upcoming areas of studies. Unlike most of the physical sciences courses or the courses in social sciences, teaching of statistics has been quite a challenging task as it calls for amalgamation of the real life experiences with the abstractness of mathematics. The challenges become even more demanding when seen in the backdrop of emerging consciousness on quality and quality assurance in education. These challenges assume still more predominate proposition when the subject is to be taught in distance education mode. Primarily because the teaching of any subject is enlivened and enriched by the use of suitable anecdotes and analogies, and such material, however, is often passed on from teacher to student without appearing in print (Campbell, 1974). And secondly, most of the students, at least in India, undertake 'distance education courses' because of their poor previous academic score in comparison to their counterparts in the formal system (Mahajan, 1990).

Based on a set of exploratory studies on the cardinals of teaching-learning process in the courses of statistics in distance education system, the paper attempts to put forth a case for reorienting instructional process and evaluation process for certification towards 'scaling up quality'. The paper is divided into six sections. In the section 2, starting with some introductory references about quality in general and that in Open and Distance Education system, the methodology of for the paper is discussed. In section 3, based on feed-back of students in distance education, the 'extent of content utilization' is discussed. In section 4 'quality' in certification is discussed in the light of scores of students in 'internal assessment' and 'annual/term-end examinations'. After a discussion based on the results of sections 3 and 4, in section 6, a model, deemed more akin to the spirit of an open system, is proposed which promises to scale up the quality of instructions and evaluation.

### **2. DEFINING QUALITY**

Quality in education has been of interest to educationists and planners right from the day when human race stepped towards civilization. The issue remained largely unsung till the advent of modern education. Initially with terms; efficiency, effectiveness, equity and quality being used synonymously (Adams, 1993), the focus in educational endeavor revolved around ascertaining 'social targets', 'teachers and teaching practices', and 'students and learning practices'. However, with open and distance education (ODE) system becoming an integral part of educational edifice of almost all the countries, focus on quality in education has assumed an unprecedented dimension.

What does quality mean in the context of education? Many definitions of quality in education exist, testifying to the complexity and multifaceted nature of the concept. However, in the simplest of the terms one can bank on the traditional definition of quality which is based on the point that products and services must meet the requirement of those who use them. The quality means fitness for use, where there are two general aspects of quality, viz., Quality of design and Quality of conformance. All goods and services are produced in different levels of quality and these variations in quality are intentional. For example, every educational enterprise aims at communicating information and knowledge enrichment still they differ with respect to their orientation and thrust. It is called Quality of design.

By definition, 'Quality of conformance' means how well the product adheres to the specifications required by the design. In the context of education, it can also refer to the eventual certification of the learners.

Precisely, for any education program, the reference to quality of design or quality of conformance, leads to the components of 'curriculum', 'communication', and 'certification'.

Traditionally, what distinguishes an ODE system from the formal education system is the set of components of communication and certification, because the curriculum invariably remains the same for the course in the two streams. So the focus remains largely on 'communication', and 'certification'.

## **2.1 Methodology**

In this paper, the communication and certification process in a typical ODE institute and a modern National Open University, the Indira Gandhi National Open University (IGNOU) has been focused upon. The scope of study has been confined to Post Graduate Diploma in Statistics (PG DSt) being offered by the University School of Open Learning (USOL), Panjab University, Chandigarh and the MS-8 (Quantitative Analysis for Managerial Applications), a course in IGNOUS's Management Programme. The data for the study was collected through a questionnaire seeking information on aspects such as; on date/month of enrolment, date/month of receipt of complete study material, role of assignments in improving learning. In fact all the students of IGNOU's MS-8 enrolled at Study Centre No. 0601 for the December 2009 and the students of PG DSt at USOL enrolled for 2009-10 session were approached. In all, information from about 50 students from each of the two systems IGNOU and USOL could be collected. The information about students' grade in assignments and annual/term-end examinations were gathered from the official records. The empirical information gathered on counts/frequencies in the study was subjected to conventional statistical hypothesis testing procedure with chi-square.

## **3. QUALITY IN CONTENT ASSIMILATION**

The quality carries a very interesting connotation in the formal and non-formal system. While traditional institutes in the formal education system, which thrive on 'quality of faculty' on their pay-rolls, virtually seldom talk about quality components, but in contrast the ODE institutes (ODIs) have to publicize their quality assurance measures they employ, whether the measures consist of in-house practices or accreditation by outside bodies. More so, in formal education system, governed by chalk and talk culture, the quality of communication is not open to any explicit evaluation, whereas in the ODE system all sort of communications are open to public evaluation that too over a period.

For communication of the curriculum ODE institutes largely bank on printed lessons, supplemented sparsely by audio-video material. Over the last five decades, particularly for the pioneer institutes catering to DE, the format of printed lessons has undergone tremendous change. The transformation of book/novel style lesson into Self Learning Mode or Self Instructional Mode has now become the cardinal for the ODE system. In contrast, driving rich experiences from ODIs, IGNOU, which was established after almost 25 years of initiation of correspondence era in India, took off with learning material in the Self Instructional Mode.

While no formal study comparing study material provided by IGNOU and USOL has been reported, but feedback studies carried out at respective institutes give positive vibes about the

material. A number of studies vouching for the study material have been reported almost since the launch for this non-contiguous mode of learning (Mahajan, 1987; Sujatha, 1988;; Mahajan, 2005).

Quality of material notwithstanding, the extent of the usage of the material is an issue which was addressed in the study.

The following table gives frequency distribution of the extent to which students in the two systems had utilized the study material;

No. of Students Per cent of Material Studied	System	
	IGNOU	USOL
More than 75 pc	5	8
50 pc -75 pc	14	19
25 pc – 50 pc	16	15
Less than 25 pc	11	9
Total	47	51

Following conventional statistical hypothesis testing procedure, with calculated values of chi-square being 1.64, the data suggest that there is no significant difference in the extent of study material utilization amongst the students in the two streams. Only 11 to 20 per cent of the student has acknowledged to have read more than 75 per cent of the study material, while the percentage of those who had studies less than 25 percent of study material had been more than that. There could be number of reasons for that. However, the prominent could be the delay in the receipt of the study material. For instance, in the case of fresh students in IGNOU, for most of the students the receipt of complete study material was just a month before the examinations, whereas students in USOL got the complete material about three months before the examinations. The time lag makes the difference as the students in IGNOU could take examinations within six month of the start of admission process, whereas students in USOL have to take examinations within almost nine months of start of admission process.

Besides relying on study material, the students in both the streams did harness the 'internet' and 'Personal Guidance', besides attending 'contact programs/Counseling sessions' to enrich themselves with the subject matter.

No. of Students Per cent of Material Studied	System	
	IGNOU	USOL
Internet	8	6
Personal Guidance	7	8
Contact Programs	14	13
Evaluated Assignments as feed-back	0	0
Total	47	51

Following conventional statistical hypothesis testing procedure, with calculated values of chi-square being 0.384, the data suggest that there is no significant difference between the students in the two streams in harnessing avenues, other than study material utilization, for learning. Precisely, no significant variation has been found in the proportion of students' harnessing 'internet' or availing 'Personal Guidance' for their enrichment. Also no significant variation has been found between the students in the two streams on their attending 'contact programs/Counseling sessions'. However a notable feature has been that none of the 98 students in the study acknowledged having any feedback from the evaluated assignments before the annual/term-end-examinations.

#### 4. QUALITY IN CERTIFICATION

As a measure of 'Quality of conformance', the certification process for students of Distance Education invariably is based on two components, i.e., Tutor- Marked-Assignments and Term-End Examinations.

#### 4.1 Assignments

The component of 'assignments' have been made an integral part of the scheme of distance education primarily to strengthen the element of two-way communication. And to encourage that practice, scores in the assignments have been given some weight-age towards the course completion. For instance, in IGNOU the score of Tutor Marked Assignment have been assigned 25 percent weight-age and in the USOL it is 10 percent. The cumulative scores in Assignments in USOL were adjusted to grades to match the scoring pattern with that of the IGNOU. The following table gives information on the scores in assignments in the streams:

No. of Students Grades in Assignments	IGNOU	USOL
A	18	23
B	5	14
C	13	9
D	7	4
E	4	1
Total	47	51

In both the stream a vast majority of the students obtained more than C-Grade (50 percent) in the internal assessment. Following conventional statistical hypothesis testing procedure, with calculated values of chi-square being 7.7, the data suggest that there is significant difference in the scores obtained in the internal assessment between the students in the two streams. Weight-age of internal assessment in the course completion notwithstanding, students in USOL obtained higher score on that count in comparison to their counterparts in the IGNOU.

#### 4.2 Performance of the students in the Annual/Term End Examinations and Assignments

The following table gives information on students' grades in the Annual Examinations (AE)/Term End Examinations (TEE) and Assignments.

No. of Students Grades	IGNOU		USOL	
	TMA	TEE	RSA	AE
A	18	1	23	0
B	5	2	14	4
C	13	10	9	11
D	7	17	4	14
E	4	21	1	23
Total	47	47	51	51

The analysis suggests that there is not a healthy correlation between the scores obtained in the internal assessment and the marks obtained in the annual/ or Tern End Examinations in both the streams.

### 5. DISCUSSION

Constraints due to time and space notwithstanding, the study makes a case for an extensive discussion emanating from the following points

- A majority of the students in Open and Distance education system fail to make full utilization of study material.

- Between the internal assessment and the annual examinations/term-end examinations, 'Di-polar performance' of students has been observed. While in the internal assessment the performance has been skewed in favour of higher grades, in the term-end-examinations/annual examination it has been skewed in favour of lower grades.

It may not be out of context to mention an extreme case in IGNOU's certification process. A student in IGNOU can plan to clear a paper, particularly in the paper that matches with the nature of MS8, by focusing just on one lesson unit so as to get the Grade A in one of the question in the TEE and in rest of the questions even if s/he gets Grade E, then by virtue of weighted averages s/he gets overall Grade D in the TEE in the paper. And in the assignments managing Grade A will not be a tough ask for a little smarter or resourceful person. Thus one may manage certification for the paper with just a thorough study of one unit.

With due regards to its constraints, the study tantamount to challenge the very compliance of the concept and philosophy that goes to the making of assignments an obligatory component in ODE system in the backdrop of ground realities, particularly when students do not get evaluated assignments back before the TEE for improving and enhancing their learning.

While debate is inconclusive on whether a student who undertake Distance Education program does it for enhancing his knowledge or mere certification, in the contemporary competitive world no institute, particularly an upcoming trend setter nontraditional institute like IGNOU, can hardly afford to compromise on its 'certification'.

In this regard the role of Assignments in ensuring two-way communication and the credit awarded on the performance of students in the form of internal assessment needs to be thoroughly reviewed

## 6. PROPOSED MODEL

On the basis of some observations and issues emerging from the study, the following model is proposed. The model particularly invites the attention of those institutes where internal assessment is based on 'scores of the assignments only' and where the students are supposed to attempt assignment at their own place.

Suggested model proposes to offer an option to the students to take an 'open book assignment tests' instead of 'submitting the assignments prepared at their own place for evaluation'.

These scrupulously developed 'open book assignment tests' could be held sometimes in the third quarter of an academic session or a semester, says in the month of April (for January –June Semester) and October (for July – December Semester) on the pattern of an examination. And in the case of annual examinations system, it could be in the month of January of the session which began in July/August of the previous year

These 'open book assignment tests' should be held as per a pre-announced schedule, in the Study Centres during the counseling sessions or at the centres where Personal Contact Programs are organized. The results of the 'open book assignment tests' should be made available to the students before the commencement of their AE/TEE.

To encourage students adopt the alternative scheme, weight-age of 'open book assignment test' be put at 40 per cent and that of the term-end examination be put at 60 per cent.

This introduction of 'open book assignment tests' will have some implicit advantages. For instance, it will impel students to go for an in-depth study of the material. More so, besides checking any impropriety inbuilt in the scheme of assignments; the model will be a step toward meeting the real spirit of distance education andragogy, as adult learners clutched with constrains on retention and recollection on precision despite having comprehension on concepts. Last but not the least, the scheme will also add to the credibility to the certification of course or program.

## 7. REFERENCES

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