

An Empirical Analysis to Determine Poverty as Key Issue of Fewer Enrollments: e-Learning as the Best Remedy to Enhance GER of Higher Studies in West Bengal

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Abstract—According to the investigated data of higher education ministry of West Bengal, the GER of West Bengal in higher education is 26.23%. Most of the dropout students have shown poverty as a ground for which they are unable to carry on higher education even getting admitted to it. In this paper an approach is followed through which poverty is determined as a significant factor along with other factors in less enrollments in higher education in West Bengal and distribution of funds all the way through electronic-monitoring founded on web enabled applications may be one of the best remedies to eradicate poverty so that the already dropped out candidates or candidates just going to be dropped out can be lessen and gradually the Gross Enrollment Ratio (GER) in higher education of West Bengal will enhance.

Index Terms—Dropout, e-learning, e-monitoring, enrollment, GER

I. INTRODUCTION

Considering the different factors those are accountable for the dropouts in higher education in West Bengal we get the factors are like, poverty, expensive higher education, distance from higher education institutes and residence, limited seats in higher education institutes, early marriage, no secured job or prospect after completion of higher education, no such opportunities for mediocre students, becoming earning member to family etc. Of these factors, poverty is the most considerable reason as has been reflected in survey in remote regions of West Bengal.

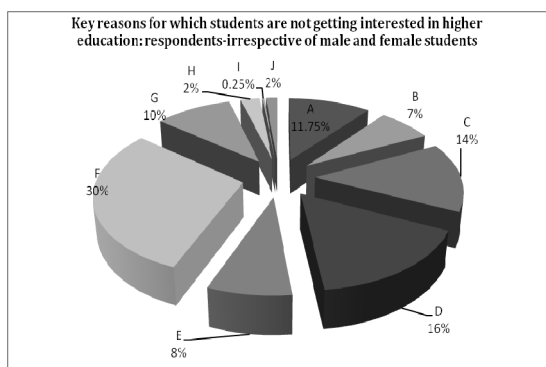


Fig. 1. Factors responsible for students' less interests on higher education enrolments in West Bengal.[1]

A=Improper guidance on higher education leads them least interested to it

B=Less number of higher education institutes

C=No secured job after doing higher education

D=opportunity for average or below average students is not present in higher education

E=expensive higher education

F=poverity

G=Limited seats for desired subjects in higher education institutes

H=early marriage

I=Distance from home to higher education institutes and bad transportation

J=They become earning member of family

From students' response data it is transparent that poverty is a key factor for less enrollments in higher education in West Bengal as mostly one third student pool opined in favor of poverty.

II. METHODOLOGIES AND RESULTS

An empirical approach was taken place in 8 districts of West Bengal. In each and every district 5 schools (schools are categorized like, rural, semi urban and urban) were selected and from each school only 10 below secondary or secondary students, who are going to face secondary examination, are selected as sample respondent i.e. primary respondent at a random basis. Besides, some associated teachers' and parents' comments are also entertained.

As we have emphasized on the major most factor poverty for less enrollments in higher education, the reasons of poverty is also collected from respondents like big population of family, less education of family members, irregularity of job because of physical unfitness hamper daily family maintenance. Reasons may also be considered as have been reflected from the survey as non-availability of work, price effect, non adequate medical facilities, uncertainty of job, weather effects etc. In order to identify the main indicators of poverty, several surveys are conducted in different remote villages and depending on their comments we have conducted multiple correlation and coefficient of variance analysis. And, based on the analysis we have identified key factors which are responsible for measuring poverty in remote villages in West Bengal.

Manuscript received July 5, 2011; revised October 22, 2011.

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TABLE I: KEY PARAMETERS RESPONSIBLE FOR POVERTY

Reasons of poverty	Coefficient of variances
Big population of family	59.64
Less education of family	15.6827
Irregularity of work / job due to physical unfitness hampers daily family maintenance	44.0958
Irregularity of work / job due to scope/availability of work	19.6295
Price effect	9.9804
Inadequate medical facilities	38.56
Uncertainty weather effects	55.076

In reference to the TABLE 1 and Fig 1 we have considered the following parameters as key indicators of poverty in West Bengal like less education of family, irregularity of work / job due to scope/availability of work and price effect.

To make this analysis more significant we have also relied on multiple correlation analysis to identify the main parameters for measuring poverty in remote areas of West Bengal.

TABLE II: IDENTIFICATION OF MAIN PARAMETERS RESPONSIBLE FOR POVERTY THROUGH MULTIPLE CORRELATION ANALYSIS

Selected parameters for measuring poverty	Pearson's correlation/ test of hypothesis	Less education of family	Irregularity of work / job due to scope /availability of work	Price effect
Less education of family	Pearson Correlation	1	.459(*)	035
	Sig. (1-tailed)	.	.032	446
	N	50	50	50
Irregularity of work / job due to scope/availability of work	Pearson Correlation	459(*)	1	188
	Sig. (1-tailed)	032	.	235
	N	50	50	50
Price effect	Pearson Correlation	035	.188	1
	Sig. (1-tailed)	446	.235	.
	N	50	50	50

* Correlation is significant at the 0.05 level (1-tailed).

From TABLE II, it can be standardized that to eradicate poverty the already mentioned factors are to be taken care of.

An electronic web based model of e-monitoring system can be developed targeting to eradicate poverty from West Bengal such as, through the e-monitoring systems from each and every block it is possible to know due to which factor that very block is affected with poverty like, flood affected zone, draught affected zone, hill areas, tsunami affected zone, seasonal storm or tornado affected regions and others. Information can be entered through the e-monitoring system in specific places of the system, so that the appropriation and regulation of funds can be distributed through the e-monitoring system where Government can control as well as allocate funds properly for controlling poverty in West Bengal.

Our target is to remove poverty first as it is the most significant factor for not getting involved into higher education, then the concentration will be there to establish e-learning in West Bengal so that the reasons of less

enrollments, as specified by the students, can be resolved.

As compared to the scenarios of web portals of Universities of West Bengal, the implementation of e-learning is not at all satisfactory. [2]

Today's higher education in internationally reputed universities is following the pedagogical approaches through e-learning education, as the pedagogical value through web based learning helps the intended students to acquire proper knowledge and skill sets.[3] But the scenario is completely different in West Bengal as the universities do not follow the education through e-learning. The average presence of e-learning attributes of educational websites of the countries i.e. Australia, USA and India especially West Bengal are considered. Some standard characteristics or properties of e-learning systems in web portal are considered like: P1, P2... P23, where there are the respective properties. [4][5][6][7]

- P1--> e-learning materials
- P2--> online examination
- P3--> online payment
- P4--> computer-based training
- P5--> web-based training
- P6--> instructor-led training
- P7--> online registration
- P8--> online career counseling
- P9--> web conferences
- P10-->online helpdesk
- P11-->study link to grow more
- P12-->e forum
- P13-->courses at per industry standard
- P14-->Group email for learners
- P15-->campuses in remote places to engage rural students
- P16-->online competitions like e-debates
- P17-->Online news to students regarding higher education
- P18-->online career workshops
- P19-->Intellectual Property Virtual Scholar Program
- P20-->blended learning
- P21-->mobile learning
- P22-->Digital library
- P23-->Digital Question paper access system

Firstly in TABLE III, A1 to A5 represents university's e-learning web portals of Australia; secondly in TABLE IV, U1 to U5 represents university's e-learning web portals of America and thirdly in TABLE V, W1 to W5 represents university's e-learning web portals of West Bengal. Through e-learning it may be possible to enhance the enrollments in higher education as it has been noticed that in those counties where education through e-learning has been applied enrollments have been increased. Still, the bottle neck is poverty in West Bengal, for which the interested students are also unable to go for higher education.

From the TABLE III, TABLE IV and TABLE V, it is shown that USA is having 14 as value unit in support of e-learning in their e-learning enabled university web portals, where as AUSTRALIA is having 13.6 unit in support of e-learning in their e-learning enabled university web portals and WEST BENGAL is having 4.6 unit in support of e-learning in their e-learning enabled university web portals out of 23 components of e-learning.

Moreover, Panigrahi, Das, Basu narrated the presence of a linear regression between gross enrollment ratio (GER) and

the e-learning enabled higher education system and established that electronic learning is the best alternative through which enrollments in higher education can be enhanced. [2]

From feedbacks of students of rural below secondary students it is shown that only 54% students are willing to go for higher education through traditional systems of higher education where as when they are explained about the merits and advantages of e-learning based education, 76% students opined to go for the e-learning based higher education. [1]

TABLE III: UNIVERSITY E-LEARNING WEBSITES' STATUS IN AUSTRALIA

Properties	A1	A2	A3	A4	A5
P1	P	P	P	P	P
P2	P	P	P	P	P
P3	P	P	P	P	P
P4	0	0	P	0	P
P5	P	P	P	P	P
P6	0	P	P	P	0
P7	P	P	P	P	P
P8	0	P	P	P	P
P9	P	P	P	P	P
P10	P	P	P	P	P
P11	P	P	0	0	0
P12	P	P	P	P	P
P13	P	P	P	P	P
P14	P	P	P	P	P
P15	0	0	0	0	0
P16	0	0	0	P	0
P17	P	0	0	P	P
P18	P	0	0	P	P
P19	0	0	0	0	0
P20	0	0	0	0	0
P21	0	0	0	0	0
P22	0	0	0	0	0
P23	0	0	0	0	0
Presence	13	13	13	15	14
Average	13.6				

TABLE IV: UNIVERSITY E-LEARNING WEBSITES' STATUS IN USA

Properties	U1	U2	U3	U4	U5
P1	P	P	P	P	P
P2	P	P	P	P	P
P3	P	P	P	P	P
P4	0	0	0	0	P
P5	P	P	0	0	P
P6	P	P	0	0	P
P7	P	P	P	P	P
P8	P	P	P	P	P
P9	P	P	0	P	P
P10	P	P	P	P	0
P11	P	P	P	0	0
P12	P	P	0	0	0
P13	P	P	0	P	0
P14	P	P	P	P	0
P15	0	0	0	0	0
P16	0	0	0	0	0
P17	P	P	0	0	0
P18	P	P	0	0	0
P19	0	P	0	0	0
P20	0	0	0	0	P
P21	0	0	0	0	P
P22	0	0	P	0	0
P23	0	0	0	0	0
Presence	15	16	9	9	11
Average	14				

TABLE V: UNIVERSITY E-LEARNING WEBSITES' STATUS IN WEST BENGAL

Properties	W1	W2	W3	W4	W5
P1	P	0	0	0	0
P2	0	0	0	0	0
P3	0	0	0	0	0
P4	0	0	0	0	0
P5	0	0	0	0	0
P6	0	0	0	0	0
P7	0	0	0	P	P
P8	0	0	0	P	P
P9	0	0	0	0	0
P10	0	P	0	P	P
P11	P	P	P	P	P
P12	0	0	0	0	0
P13	P	0	0	0	0
P14	0	P	0	0	P
P15	0	0	0	0	0
P16	0	0	0	0	0
P17	P	0	0	0	0
P18	P	0	0	0	0
P19	0	0	0	0	0
P20	0	0	0	0	0
P21	0	0	0	0	0
P22	P	0	0	P	P
P23	P	0	0	P	0
Presence	7	3	1	6	6
Average	4.6				

III. CONCLUSION

In this paper it can be concluded that by eradicating poverty it is possible to remove one of the key factors of less enrollments in higher education. Through electronic monitoring of complaints and feedbacks from region specific blocks it is possible to point out where the funds are to be allocated and for which purpose. And, e-learning is the best way out to engage the higher education aspiring students enrolled to it and that will lead to the overall enhancement of GER of West Bengal.

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