

Establishing the Relationship Between Learner Profile and Retention of Learning: A Case of Adult Literacy Program in India

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Abstract

The aim of this study is to examine the relationship between learner profile and retention of learning in adult education programs in India. To achieve the objective, learner profile was divided into three measuring factors as social, economic and learning factors. A survey method was used to collect the required data. A testing method was executed to examine the retention level of learners. Factors responsible for the retention of learner profile were further analyzed with the use of a statistical technique (ANOVA). Results of the study show that the economic factors of learner profile have an impactful relationship with the retention level but customized contents of relevant study material with sustainable infrastructural facilities of learning centers can maximize the retention level of learners of such programs.

Keywords: *retention of learning, adult literacy*

Introduction

India recognised education as a fundamental right with the enactment of the Right to Education Act in 2010. It took almost 63 years, post-independence, to establish education as a fundamental right. Although there have been many efforts undertaken by central and state governments to provide education to all and to eradicate illiteracy from the country. Education is the foundation stone

for the social and economic development of a nation. Education improves the quality of life in terms of an increase in life expectancy, an increase in healthy living, increased nutritional levels of women and children, increased capability to contribute towards social, cultural and economic development.

Adult education refers to the illiterate population between the ages of 15 and 35 years. Illiterate adults are the outcome of failure of elementary and compulsory education programs. The educationists who have conceptualized adult education believe that formal education has not been able to achieve its objectives. Elementary education refers to formal education, which is designed for children up to 15 years of age. Hence, adult education can be referred to as formal education for adults with different ways of teaching. The major focus on the execution of adult education started in 1950 with the objective of teaching (reading, writing and arithmetic) to the illiterate population in the desired age group. Adult education, due to the low literacy rate, is mainly confined to adult literacy only, although continuing education and skill development enhances the overall idea of adult education in India.

Different stages of education are identified as learning, retention, recall, recognition and application. Adult literacy also undergoes the same stages of education. There are various efforts made by the governments and allied functionaries to improve the adult literacy rate of the country. The learning environment and resources have been made available for the illiterate population over 15 years of age. The next stage in the education system is retention, which enables operationalisation of other stages like recall, recognition and application. Retention of learning in the adult literacy programme also ensures success of such programmes. Poor retention of learning in adult literacy programmes affects the adult literacy rate and results in decreasing all efforts of adult literacy programmes. Thus, retention is the most important factor in adult literacy programmes. It is of paramount importance to study the factors that influence higher retention rate among learners in adult literacy programmes, numerous factors responsible for retention among neo-literate in the learning campaign.

The purpose of the study was to identify the relationship between the demographic profile of a learner and retention of learning in adult literacy programmes. To achieve this objective, the following sub-objectives were designed:

1. To identify the relationship between sociological factors (gender, age, marital status, previous educational status and highest education in family) and retention of learning in adult literacy programmes.
2. To ascertain the relationship between economic factors (employment status, major family occupation and family income) and retention of learning in adult literacy programmes.

3. To assess the relationship between learning factors (regular attendance, availability of learning resources and self-motivation level) and retention of learning in adult literacy programmes.

Methodology

Research Design and Sample Design: Descriptive/diagnostic research design was adopted for the study with simple random sampling.

Sample Area and Sample Size: The study was conducted in Uttarakhand, an Indian state which was created in 2000. As a sample area, two districts were selected, i.e., Udham Singh Nagar (US Nagar) and Champawat. US Nagar was selected for the obvious reason of having the lowest literacy rate among the 13 districts in the state and Champawat has the highest disparity between the male and female literacy rates. Champawat and US Nagar comprise four blocks and seven blocks respectively. One block of each district was selected and five villages of each district were selected

Table 1. Population of sample villages

Champawat; Block Barakot		Udham Singh Nagar; Block Bajpur	
Villages	Population	Villages	Population
Raighaon	1257	Bajpur	5746
Barakot	1122	Barhani	5662
Kakrah	969	Bannakhera	5660
Baira Badwal	777	Chakarpur	5464
Sigda	772	Maheshpura	5328

Source: www.censusindia.gov.in/handbookPartAChampawat/ and www.censusindia.gov.in/handbookPartAUdhamsinghnagar/

The survey was conducted with the use of a structured questionnaire given to 292 learners in order to collect data of learner profile. The required information was segmented into three measured factors as socioeconomic factors, economic factors and learning factors.

Testing Method was used to analyse the retention level of learners, a simple test of learning was administered to 292 learners, containing three sections, i.e., reading, writing and arithmetic. The same test was administered to the 292 learners twice with an interval of 30 days. The test contained 30 questions pertaining to the

recent lessons. The tests paper was prepared in collaboration with the volunteering teachers of the adult literacy programmes. The respondents were divided into three groups according to the percentage marks obtained, i.e., low scores comprising marks under 40%; average scores comprising marks between 40% and 60%; and high scores comprising marks over 60%.

Data Analysis and Interpretation

A. Survey Method

Profiles of 292 learners were collected through the survey method and it was observed in the socio-economic profile of the learner that there were more female participants (78%) than the male participants in the adult literacy program (cf., Table2). The survey revealed that married participants were more concerned about their literacy, the motivation level of school drop-outs was equal to that of the illiterate.

The survey showed that there were more unemployed people and agricultural labourers participating in the program. An interesting finding of the survey was that a few learners the high income group (annual income more than Rs 10,000,000) also participated in the program. The learners attended the classes on the regular basis. The survey revealed a very interesting fact related to the motivation level of the learners, i.e., they were motivated enough to attend the program.

Table 2. Learner Profile

Socio-Economic Factors	Options	Number of Respondents	% of Respondents
Gender	Male	64	22%
	Female	228	78%
Age	>15-25	85	29%
	>25-35	88	30%
	>35-45	61	21%
	>45-55	35	12%
	>55	23	8%
Marital Status	Married	237	81%
	Unmarried	55	19%

Socio-Economic Factors	Options	Number of Respondents	% of Respondents
Previous Educational Status	Illiterate	161	55%
	Drop-out	131	45%
Highest education in family	Illiterate	12	4%
	Up to 5th grade	50	17%
	6th – 8th grade	55	19%
	9th – 10th grade	64	22%
	11th – 12th grade	70	24%
	> 12th grade	41	14%
Economic Factors	Options	Number of Respondents	% of Respondents
Employment Status	Unemployed	216	74%
	Employed	76	26%
Major Family Occupation	Farming	61	21%
	Agricultural Labor	105	36%
	Non-Agricultural Labor	50	17%
	Business	76	26%
Family Annual Income	up to Rs 50,000	111	38%
	Rs. 50,000 – Rs. 5,000,000	91	31%
	Rs. 5,000,000 – Rs. 10,000,000	58	20%
	>Rs. 10,000,000	32	11%
Learning Factors	Options	Number of Respondents	% of Respondents
Attendance	Attend classes daily during the week	55	19%
	Attend 5 classes a week	61	21%
	Attend 4 classes a week	55	19%
	Attend 3 classes a week	53	18%
	Attend 2 classes a week	35	12%
	Attend 1 class a week	32	11%
Willingness to continue learning beyond basic literacy	Yes	164	56%
	No	128	44%

Learning Factors	Options	Number of Respondents	% of Respondents
Availability of Learning Resources	Adequately Available	96	33%
	Marginally Available	114	39%
	Least Available	82	28%
Motivation Level	Highly Motivated	105	36%
	Average Motivated	152	52%
	Least Motivated	35	12%

B. Testing Method

To understand the retention level of the learners in the adult education program, two tests with the same questions, in the interval of 30 days, were administered. Test Score I represents the percentage marks obtained by the respondents for the test administered immediately after a lesson, whereas Test Score II represents percentage marks obtained by the respondents for the test administered 30 days after a lesson. The respondents' percentage marks were grouped in three categories, i.e., low, average and high, representing marks obtained 'under 40%', 'from 40% to 60%' and 'over 60%'. Table 3 presents the number and percentage of the respondents for each of the three factors bifurcated as per the percentage marks obtained category-wise.

The research revealed that 64% of the male respondents and 49% of female respondents scored high marks in the second test whereas only 6% of the female respondents and 47% of the male respondents were able to score high marks in the second test. This data reveal that the female respondents were not able to retain the learned lesson, which may be caused either by the unattractiveness of study material or other family assignments. The same sort of difference in test score I and test score II was observed in most of the measuring factors such as age group between 15 and 25 years, school drop-outs, employed, unemployed, agricultural or nonagricultural laborers, learners who attended the maximum number of classes or learners who attended the minimum number of classes and those who are highly motivated or those who are less motivated.

ANOVA was used to analyse data for each factor with the two test scores. The ANOVA computation of socio-economic factors with two test scores. The calculated value of F-ratio is greater than the table value for each of the factor at 95% confidence level, which signifies that the null hypothesis is rejected and alternative hypothesis is accepted. Thus, it is concluded that there is a significant relationship between the sociological factors of retention of learning in adult literacy programmes.

Table 3. Test scores of learner retention

Socio-economic Factors	Options	Test Score I						Test Score II							
		Low		Average		High		Low		Average		High			
		No	%	No.	%	No.	%	No.	%	No.	%	No	%		
Gender	Male	4	6%	19	30%	41	64%	64	12	19%	22	34%	30	47%	64
	Female	42	18%	75	33%	111	49%	228	121	53%	94	41%	13	6%	228
	Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292
Age	>15-25	4	5%	24	28%	57	67%	85	36	42%	41	48%	8	9%	85
	>25-35	9	10%	27	31%	52	59%	88	39	44%	38	43%	11	13%	88
	>35-45	9	15%	16	26%	36	59%	61	27	44%	13	21%	21	34%	61
	>45-55	13	37%	19	54%	3	9%	35	18	51%	16	46%	1	3%	35
	>55	11	48%	8	35%	4	17%	23	13	57%	8	35%	2	9%	23
Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292	
Previous Education Status	Married	32	14%	81	34%	124	52%	237	112	47%	98	41%	27	11%	237
	Unmarried	14	25%	13	24%	28	51%	55	21	38%	18	33%	16	29%	55
	Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292
	Illiterate	29	18%	69	43%	63	39%	161	72	45%	58	36%	31	19%	161
	Drop-out	17	13%	25	19%	89	68%	131	61	47%	58	44%	12	9%	131
Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292	
Highest Education in Family	Illiterate	3	25%	5	42%	4	33%	12	9	75%	2	17%	1	8%	12
	Up to 5th grade	13	26%	20	40%	17	34%	50	29	58%	18	36%	3	6%	50
	6th - 8th grade	15	27%	20	36%	20	36%	55	32	58%	18	33%	5	9%	55
	9th - 10th grade	7	11%	18	28%	39	61%	64	33	52%	21	33%	10	16%	64
	11th - 12th grade	4	6%	21	30%	45	64%	70	25	36%	32	46%	13	19%	70
> 12th grade	4	10%	13	32%	24	59%	41	5	12%	25	61%	11	27%	41	
Total	46	16%	97	33%	149	51%	292	133	46%	116	40%	43	15%	292	

Economic Factors	Options	Testing Method Score I															
		Low		Average		High		Total		Low		Average		High		Total	
		No	%	No.	%	No.	%	Total	No.	%	No.	%	No.	%	No.	%	Total
Employment Status	Employed	9	12%	29	38%	38	50%	76	11	14%	44	58%	21	28%	76		
	Unemployed	37	17%	65	30%	114	53%	216	122	56%	72	33%	22	10%	216		
	Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292		
Major Family Occupation	Farmer	8	13%	14	23%	39	64%	61	28	46%	24	39%	9	15%	61		
	Agricultural Laborer	19	18%	39	37%	47	45%	105	56	53%	38	36%	11	10%	105		
	Non-Agricultural Laborer	13	26%	13	26%	24	48%	50	27	54%	19	38%	4	8%	50		
Family Annual Income	Business	6	8%	28	37%	42	55%	76	22	29%	35	46%	19	25%	76		
	Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292		
	Up-to 50,000	22	20%	45	41%	44	40%	111	65	59%	40	36%	6	5%	111		
Family Annual Income	> 50,000-500000	12	13%	31	34%	48	53%	91	45	49%	38	42%	8	9%	91		
	>500000-1000000	8	14%	12	21%	38	66%	58	15	26%	27	47%	16	28%	58		
	>1000000	4	13%	6	19%	22	69%	32	8	25%	11	34%	13	41%	32		
Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292			

Learning Factors	Options	Testing Method Score I													
		Low			Average			High			Total				
		No	%	%	No.	%	%	No.	%	%	No.	%	%		
Attendance	Attend classes daily during the week	4	7%	12	22%	39	71%	55	17	31%	25	45%	13	24%	55
	Attend 5 classes	7	11%	14	23%	40	66%	61	16	26%	36	59%	9	15%	61
	Attend 4 classes	7	13%	17	31%	30	56%	54	26	48%	20	37%	8	15%	54
	Attend 3 classes	10	19%	19	36%	24	45%	53	29	55%	18	34%	6	11%	53
	Attend 2 classes	9	25%	15	42%	12	33%	36	23	64%	9	25%	4	11%	36
	Attend 1 class	9	27%	17	52%	7	21%	33	22	67%	8	24%	3	9%	33
	Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292
Willingness to continue learning beyond basic literacy	Yes	21	13%	45	27%	98	60%	164	50	30%	83	51%	31	19%	164
	No	25	20%	49	38%	54	42%	128	83	65%	33	26%	12	9%	128
	Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292
		Adequately Available	10	10%	18	19%	68	71%	96	22	23%	54	56%	20	21%
Availability of learning resources	Marginally Available	24	21%	28	25%	62	54%	114	52	46%	43	38%	19	17%	114
	Least Available	12	15%	48	59%	22	27%	82	59	72%	19	23%	4	5%	82
	Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292
Motivation Level	Highly Motivated	13	12%	13	12%	79	75%	105	33	31%	46	44%	26	25%	105
	Average Motivated	21	14%	63	41%	68	45%	152	79	52%	58	38%	15	10%	152
	Least Motivated	12	34%	18	51%	5	14%	35	21	60%	12	34%	2	6%	35
	Total	46	16%	94	32%	152	52%	292	133	46%	116	40%	43	15%	292

Table 4. ANOVA analysis

Social Factors		Sum of Squares	df	Mean Square	F-Ratio (Calculated)	F-Ratio (Table Value)	Sig.	
Gender	Test Score I	Between Groups	95.916	1	95.916	437.326	3.8415	0
		Within Groups	63.604	290	0.219			
		Total	159.521	291				
	Test Score II	Between Groups	39.225	1	39.225	104.327	3.8415	0
		Within Groups	109.035	290	0.376			
		Total	148.26	291				
Age	Test Score I	Between Groups	118.185	4	29.546	205.143	2.3719	0
		Within Groups	41.336	287	0.144			
		Total	159.521	291				
	Test Score II	Between Groups	118.172	4	29.543	281.794	2.3719	0
		Within Groups	30.089	287	0.105			
		Total	148.26	291				
Marital Status	Test Score I	Between Groups	27.495	1	27.495	60.395	3.8415	0
		Within Groups	132.025	290	0.455			
		Total	159.521	291				
	Test Score II	Between Groups	80.516	1	80.516	344.669	3.8415	0
		Within Groups	67.745	290	0.234			
		Total	148.26	291				
Previous Education	Test Score I	Between Groups	96.403	1	96.403	442.928	3.8415	0
		Within Groups	63.118	290	0.218			
		Total	159.521	291				
	Test Score II	Between Groups	96.244	1	96.244	536.583	3.8415	0
		Within Groups	52.016	290	0.179			
		Total	148.26	291				
Highest Family Education	Test Score I	Between Groups	133.906	5	26.781	299.029	2.2141	0
		Within Groups	25.614	286	0.09			
		Total	159.521	291				
	Test Score II	Between Groups	134.317	5	26.863	551.032	2.2141	0
		Within Groups	13.943	286	0.049			
		Total	148.26	291				

Economic Factors								
Employment Status	Test Score I	Between Groups	96.326	1	96.326	442.036	3.8415	0
		Within Groups	63.195	290	0.218			
		Total	159.521	291				
	Test Score II	Between Groups	49.168	1	49.168	143.892	3.8415	0
		Within Groups	99.093	290	0.342			
		Total	148.26	291				
Major Family Occupation	Test Score I	Between Groups	128.647	3	42.882	400.025	2.6049	0
		Within Groups	30.873	288	0.107			
		Total	159.521	291				
	Test Score II	Between Groups	106.961	3	35.654	248.628	2.6049	0
		Within Groups	41.3	288	0.143			
		Total	148.26	291				
Family Annual Income	Test Score I	Between Groups	112.928	3	37.643	232.679	2.6049	0
		Within Groups	46.592	288	0.162			
		Total	159.521	291				
	Test Score II	Between Groups	122.689	3	40.896	460.598	2.6049	0
		Within Groups	25.571	288	0.089			
		Total	148.26	291				
Learning Factors								
Attendance	Test Score I	Between Groups	138.79	5	27.758	382.942	2.2141	0
		Within Groups	20.731	286	0.072			
		Total	159.521	291				
	Test Score II	Between Groups	129.779	5	25.956	401.664	2.2141	0
		Within Groups	18.481	286	0.065			
		Total	148.26	291				
Willingness to continue learning beyond basic literacy	Test Score I	Between Groups	99.426	1	92.313	149.351	3.8415	0
		Within Groups	68.295	290	0.196			
		Total	167.721	291				
	Test Score II	Between Groups	49.168	1	59.168	391.287	3.8415	0
		Within Groups	99.093	290	0.142			
		Total	148.26	291				
Availability of Resources	Test Score I	Between Groups	108.545	2	54.272	307.689	2.9957	0
		Within Groups	50.976	289	0.176			
		Total	159.521	291				
	Test Score II	Between Groups	102.818	2	51.409	326.945	2.9957	0
		Within Groups	45.442	289	0.157			
		Total	148.26	291				

The ANOVA computation of economic factors with two test scores. The calculated value of F-ratio is greater than the table value for each of the factors at 95% confidence level, which means that the null hypothesis is rejected and alternative hypothesis is accepted. Thus, it is concluded that there is significant relationship between the economic factors of retention of learning in adult literacy programmes. The ANOVA computation of economic factors with two test scores. The calculated value of F-ratio is greater than the table value for each of the factors at 95% confidence level, which means that the null hypothesis is rejected and alternative hypothesis is accepted. Thus, it is concluded that there is a significant relationship between the learning factors of retention of learning in adult literacy programmes.

Conclusion

It is evident from the findings that economic factors play a pivotal role in retention of learning in adult literacy programmes. The better the economic condition of the respondent and their family, the better the retention of learning. Similar reading is reflected through socio-economic factors like employment status. Thus, it may be suggested that adult literacy programme has to be designed in a manner that helps the respondents improve their economic condition. Moreover, retention is also affected by several other factors such as teachers, teaching resources, teaching process, application of learning, etc. Socio-economic factors are mostly unchangeable, whereas economic factors and learning factors can be improvised in a manner to improve retention of learning in adult literacy programmes.

The adult literacy programme need to address the more important question of the learners, "what's-in-it-for-me". This is prominently related to their economic status. Establishing the link between literacy and economic activity of the learners will keep them motivated and improve the retention level. Skill development lessons linked to literacy lessons may add plenty of value propositions for the learners. Once the economic benefit of learning and literacy is understood well by the learners, retention of learning in adult literacy programmes will occur naturally. In order to improve retention of learning in adult literacy programmes, adult learners learn by discussing, applying and sharing knowledge through group discussion. Learners need to be involved in formal group discussion forums under the supervision of teachers. This would enable the learners to discuss various lessons among themselves, which would help them to retain knowledge for a longer period of time. Learning by doing is another way of retaining the knowledge gained in the

classroom, which has to be applied in practice to ensure that the knowledge is retained for a longer period of time. Finally, teaching others is the most powerful tool to retain knowledge gained in a lesson. Involving learners in teaching new students allows them to retain learning permanently. It also encourages them to learn and increases their confidence and motivation levels.

It is a well-known fact that continuing education ensures retention of learning for a longer period of time. It is recommended to devise advanced courses linking to the learner's economic activities, beyond the basic literacy programmes. The availability of advanced curriculum would motivate learners to pursue education beyond basic literacy. More and more learners taking up advanced courses will resolve the problem of retention of basic literacy.

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