

Quantitative Analysis of Unemployment and Government Funding for Adult Education

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Abstract

The study aims to measure quantitative relationship among unemployment and government funding initiatives towards adult education in India. It also identifies the core areas of the usefulness about government funding schemes for unemployed youth in the state of Tamil Nadu. The study involves mixed method approach in attaining the objectives of research which focus on primary data and secondary data. The quantitative relationship among the unemployment and government funding is evaluated based on the secondary data using the time series evaluation for the period of ten years. The secondary data related to the unemployment and government funding will be tested using the multiple regression method to estimate the accurate relationship among these dimensions. The second objective deals with the collection of primary data which estimates the opinions of the people got adult education towards the impacts created by government funding schemes on adult education. The study will involve the population frame which consists of the major cities of Tamil Nadu involving Chennai, Coimbatore, Madurai and Trichy. The sample was selected from these four districts based on systematic random sampling method. The people with adult education details were collected from the regional offices. The study involved a sample size 390 which is well above the 5% Cochran sampling formula specification. The study has a sample size of 390 for evaluation of the impacts created by the government funding on adult education. The collected data were analysed using the multiple regression model and factor analysis which forms the base of statistical framework. The secondary data was collected for the period of 2014-2023 while the primary data was collected for 9 months period of November, 2023 to April, 2024. The government funding creates impact in the areas of Self Actualisation, Usage of Modern Techniques and Enhances Job Opportunities. The model justifies the presence of relationship among the three variables of unemployment, government funding and adult education. The variables are significantly related which is evaluated by beta values. The government funding and adult education are playing vital role in reducing the unemployment among the people in study area.

Keywords: *Quantitative Analysis, Unemployment, Government Funding, Adult Education and Rural Areas*

RESEARCH OVERVIEW

With regard to human development, economic progress, and empowerment, education is a significant indicator. Furthermore, it is the foundation upon which all social and human development philosophies are built. The current state of an education process and system in a nation is commonly regarded to be an indicator of the future prosperity of that country [1]. New problems have been introduced to the field of higher education as a result of the liberalisation and globalisation of the Indian economy, as well as the revolution initiated by information technology. In light of the aforementioned shifting circumstances, the role of educational institutions of higher learning is not limited to the provision of education alone; rather, it also includes the prediction of the requirements that the economy will have in the future. Therefore, it would be inappropriate to combine Adult Education with literacy initiatives since Adult Education is a more advanced type of learning goal than simple literacy [2]. The majority of nations who are grappling with the issue of literacy have, however, made continuing education an essential component of their literacy programmes.

This may have been done unknowingly or otherwise. As a result of this integration, the launch of adult education in certain countries will be delayed owing to the slow development of literacy programmes, and the curriculum that is recommended for adult education will continue to be burdened with literacy-related programmes. This is an adverse consequence of integrated education. The scheme is still being run by the same umbrella group by officials and non-professional unpaid volunteers in various states of India, particularly in Tamil Nadu. This is notably true in Tamil Nadu [3]. Adult education has, in the process of establishing course outlines, appropriately abandoned basic literacy and replaced it with equivalency programmes, income-

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generating programmes, quality of life programmes, and marketing programmes that promote individual interests. This is the most reassuring aspect of the overall confusion that has been created. The Hamburg conclave has, as a result, appropriately addressed all of these initiatives, which are essential goals of adult education. However, the discussion has been conducted from a much broader global perspective.

Unemployment and underemployment are two of the most pressing issues in South Asia. Both of these issues have been made more challenging by a condition known as "unemployability," which refers to the fact that a substantial number of young people in both urban and rural regions are unable to find work [5]. The issue of rural unemployment and underemployment has had its repercussions and influence on rural production on account of undesired congestion of the primary sector, which, thanks to the present green revolution, has only begun looking up. The urban scenario, which has already been reeling further under severe weight of unemployment and unemployed spaceability, has been made worse by the continual movement of people from rural regions to metropolitan areas in pursuit of nonexistent work opportunities.

Education becomes an essential instrument in order to make it possible for every member of the community to take part in the typical activities of the national life. On top of that, in a society that is split up according to socio-cultural and class hierarchy, people who are unable to take advantage of developmental chances because of unavoidable impediments need to be given priority consideration for corrective action. Those persons who, up to this point, have obtained a limited amount of education should be given precedence in a welfare state, as opposed to those individuals who have the potential to achieve greater degrees of education [6]. Considered to be a step in the right direction, the adult education curriculum is well regarded. Adult education comprises a wide range of learning styles, ranging from informal and accidental learning to formal institutionalised learning. This is because adult education is an expansive notion. Adult education is defined as the action of an external educational agent in purposefully ordering behaviour into planned systematic exercises that can result in learning for those individuals for whom this activity is supplemented to their primary role in society and which involves some continuity in an exchange relationship between the agent and the learner. Consequently, for those individuals, adult education is defined as an action.

LITERATURE SURVEY & RESEARCH GAP

One of the most significant indicators of human development, economic progress, and empowerment is education. This is the fundamental principle that underpins all social and human development ideologies. One of the most frequently held beliefs is that the current state of an education process and system in a nation might serve as an indicator of the future prosperity of that country. Higher education has been confronted with new problems as a result of the liberalisation and globalisation of the Indian economy, as well as the transformation brought about by information technology [7]. Higher education institutions are not only tasked with the duty of imparting education in the context of the aforementioned changing reality, but they are also tasked with the obligation of predicting the future requirements of the economy. Due to the fact that Adult Education is a more advanced kind of learning agenda than simple literacy, it would be inappropriate to combine it with literacy initiatives.

Continuing education, on the other hand, has been included into the literacy plan in the majority of the nations that are grappling with the issue of literacy, whether this was done intentionally or not. As a result of this integration, the launch of adult education in certain nations will be delayed owing to the slow development of literacy programmes, and the curriculum that is recommended for adult education will continue to be burdened with literacy-related programmes. This is an adverse consequence of the integration. The scheme is still being supervised by the same umbrella body of officials and non-professional unpaid volunteers in various states of India, particularly in West Bengal [8]. This association is responsible for managing the programme. The fact that adult education has, in the process of establishing programme outlines, appropriately abandoned basic literacy and replaced it with equivalency courses, income-generating programmes, quality of life programmes, and programmes that promote individual interests is the most reassuring aspect of this pervasive uncertainty. All of these initiatives are essential to the goals of adult education, and as a result, they have been effectively addressed in the Hamburg conclave, although from a much more comprehensive and international level of view.

The issues of unemployment and underemployment are of the utmost significance in South Asia. Both of these difficulties have been made more difficult by the condition known as "unemployability," which refers to the fact that a substantial number of young people in both urban and rural regions are unable to find work. The issue of rural unemployment and underemployment has had its repercussions and influence on rural production on account of undesired congestion of the primary sector, which, thanks to the present green revolution, has only begun looking up. On the other hand, the urban situation has been made worse by the ongoing migration of people from rural regions to urban areas in pursuit of economic opportunities that are difficult to come by. The urban scenario has been reeling further under the considerable strain of unemployment and the spaceability of unemployed people [9].

Education is a tool that becomes essential in order to make it possible for every member of the society to participate in the mainstream of national life. Furthermore, in a society that is separated on the basis of socio-cultural and class hierarchy, people who are unable to take advantage of developmental chances owing to unavoidable impediments have to be given priority consideration for corrective action.

That is to say, under a welfare state, those persons who have, up to this point, obtained a limited amount of education need to be given precedence over those who are capable of achieving greater levels of knowledge. It is generally agreed that the adult education curriculum is a step in the right direction within this approach. In a broad sense, the idea of adult education comprises a variety of different modes of learning, ranging from informal and accidental learning to formal and institutionalised learning [10]. Therefore, adult education is defined as the deliberate ordering of behaviour by an external educational agent into planned, systematic exercises that can lead to learning for those for whom this activity is a supplement to their primary role in society and that involves some continuity in the agent-learner exchange relationship.

The education impacts the adult skill levels in positive way which is reflected in the review of literature. The level of impacts caused by the education based on government funding is lacking studies in the literature. The role of adult education on unemployment status is also another area where there is significant research gap. The study focuses on solving this research gap which aims to assess the relationship among the unemployment and government funding on adult education.

Statement of the Problem

The discussion about adult education is referred to the entire body of organised educational processes, regardless of the content level or method, whether they are formal or not, whether they are meant to supplement or replace initial education in which adults are able to develop their skills, increase their knowledge, improve their technical or professional qualification, and bring about changes in their attitude or behaviour [11]. It is anticipated that such a shift in conduct would have an effect on their perspective about personal growth and engagement in communal life experiences. The concept of adult education encompasses all sorts of educational experience that are required by people in line with their interests and needs at various levels of understanding and aptitude, in addition to the shifting societal roles and obligations. It is of the utmost significance to have a curriculum that focuses on the education of adults in a nation that is experiencing widespread illiteracy and a lack of progress in the area of education [12]. It is estimated that millions of people in India do not have any level of education. The neglect of education in this country throughout the most vital moment in the history of the globe, when advanced countries were competing with each other to make their people literate and to make higher education accessible to a big majority of their inhabitants, has been a significant contributor to her inability to progress. As a result, the plan of adult education is essential because it is possible to alter the perspective of the people via education alone, which in turn enables them to gain the necessary advancement in the society that is growing at a very rapid pace [13]. It is necessary to equip adults or the masses with a shifting set of functionally oriented literacy skills, values, and attitudes, as well as to cultivate improved norms, since this is a result of the poorly developed social and economic conditions in the nation. Adult education is the only method that has the potential to be used on a wide scale in order to bring about this transformation. The transformation has significant impact based on the government funding and level of adult education that is imparted which is major problem focused by this study.

Importance of the Research

The rate of literacy reveals the nation's civilization can be represented, and the rate of literacy is a factor that is reliant on the expansion and development of the quantity of these institutions as such. Civilization and education are the two sides of the same coin, and they constantly travel side by side. This is a widely held belief that has achieved widespread acceptance. In the event that there is even the slightest gap in the aspect of paying attention to the development of these educational institutions, there would simultaneously be a blow to the sober optimism of the progression of civilization [14]. Therefore, literacy and civilization are interconnected variables that, in turn, aim for the social, cultural, political, and economic progress of every country as a whole. This growth can only be achieved by elevating the prominence of educational institutions in today's society, which is the only way that this growth can be made feasible. Therefore, education is the foundation upon which a progressive country is built. One of the primary purposes of education is to ensure that the culture of a nation is passed down to the generations who will come after it. The spirit of a nation is inherently rooted in its culture. Adult education encompasses all sorts of education and experiences that are required by men and women according to their different interests and needs, at their different levels of understanding and aptitude, and due to the fact that their roles and responsibilities change during the course of their lives [15]. Adults in today's society need an awareness of the fast-changing world and the expanding complexity of society [16]. Even those who have received the most advanced education are required to continue their education in order to get this understanding. When it comes to a society in which a large number of individuals have not received an education and in which the education that is provided must be irrelevant to the requirements of progress, this is an especially pressing matter. It is essential that the populace acquires a basic understanding of the rules of life and develops an appreciation for individual responsibility in relation to family planning schemes. For Adult Education to be successful, it is essential to get assistance from a variety of organisations, notably public institutions and universities. For adult education to be successful, it is necessary to have administrative machinery that is capable of fulfilling its duties. The study focuses on above areas which are vital for improving the skill levels and employment status of people.

Objectives of the Research

- To measure the quantitative relationship among unemployment and government funding initiatives towards adult education in India.
- To identify the usefulness of the government funding schemes for unemployed youth in the state of Tamil Nadu.

Research Framework

The study involves mixed method approach in attaining the objectives of research which focus on primary data and secondary data. The quantitative relationship among the unemployment and government funding is evaluated based on the secondary data using the time series evaluation for the period of ten years. The secondary data related to the unemployment and government funding will be tested using the multiple regression method to estimate the accurate relationship among these dimensions. The mixed method approach is used for evaluating both the objectives which involve different tasks. The descriptive research is adopted in relation to establish the quantitative relationship among the variables. The various dimensions related to these variables will be estimated based on the assumptions of linear estimation

The second objective deals with the collection of primary data which estimates the opinions of the people undergone adult education towards the impacts created by government funding schemes on adult education. The core areas will be evaluated based on opinions given by the beneficiaries of government funding schemes across the state of Tamil Nadu. The study will involve the population frame which consists of the major cities of Tamil Nadu involving Chennai, Coimbaore, Madurai and Trichy. These four major cities are vital higher level of employment opportunities in skilled sector. The people who have got adult education in these districts will have better understanding about the combination of government funding and unemployment. The sample was selected from these four districts based on systematic random sampling method. The persons who have got adult education and their details were collected from the regional offices. The study involved a sample size

390 which is well above the 5% Cochran sampling formula specification. The study has a sample size of 390 for evaluation of the impacts created by the government funding on adult education.

The collected data were analysed using the multiple regression model and factor analysis which forms the base of statistical framework. The secondary data was collected for the period of 2014-2023 while the primary data was collected for 9 months period of November, 2023 to April, 2024. The study has made significant effort in minimizing the data errors and bias in the outcome.

DATA ANALYSIS AND INTERPRETATIONS

The parameters of the elements that have an impact in the assessment of jobless rates and government assistance for adult education have been used in the analysis of the data. The inquiries about the financing provided by the government are formulated on the basis of the much educational coverage that are implemented for the purpose of enhancing the levels of expertise and job status of individuals in the nation. Through the use of a Likert scale, the various facets of government financing were distributed in order to assess the influence that they have on adult education in the region under consideration. The exploratory factor analysis method was used in order to investigate the myriad of factors that were involved in the assessment of the impacts that were brought about by government financing on adult education.

Factor Analysis – Usefulness of Government Funding on Adult Education and Reducing Employment

The opinions of the people who have got adult education were used for estimating the usefulness of government funding in improving their skill sets. The diverse areas were grouped into factors based on factor loadings which deal with formation of factors which explains the usefulness of government funding. The following table provides the major results of factor analysis.

Table 1. KMO and bartlett's test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.724
Bartlett's Test of Sphericity	Approx. Chi-Square	956.369
	df	78
	Sig.	<0.001

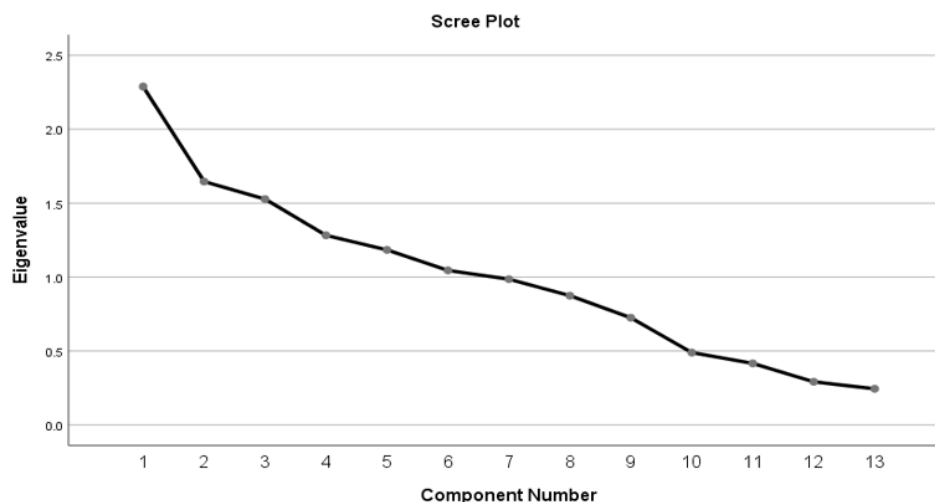


Chart – 1. Scree plot- usefulness of government funding on adult education and reducing employment.

The testing reveals that the opinions given by the people obtained adult education follows normal distribution which is vital for the generalization of results. The reliability assumption is satisfied based on significant value which is within the reference values. The normality assumption of the KMO test is satisfied which reveals that the factors are having higher level of effectiveness in measuring the impact caused by government funding.

Table 2. Rotated component matrix - usefulness of government funding on adult education and reducing employment.

	Component		
	1	2	3
Enhanced Learning Model and Experience	0.722		
Intensify self-realization and capability among individuals	0.689		
Enhanced level of motivation to find job	0.618		
Helps in higher level of community development	0.495		
Improves skill level of the individual	0.468		
Access to Adult Education is Improved	0.390		
Higher Level of Flexibility among the Participants		0.829	
Usage of Digital tools are improved		0.729	
Greater emphasis on Infrastructure Development		0.725	
Reduces unemployment issues			0.673
Pragmatic approach for adults towards learning			0.527
Awareness level towards various life standards is improved			0.503
Means to find new ways for employment			0.327

The matrix helps to understand the role of each variable in derivation of factors which explains the impacts of government funding on adult education and unemployment. The diverse areas of government funding and its impacts are examined using the opinions given by people benefitted from the adult education. The following represents the factors formed.

Funding Impact Factor – I- Self Actualisation

This impact factor comprises of Enhanced Learning Model and Experience (0.722), Intensify self realization and capability among individuals (0.689), Enhanced level of motivation to find job (0.618), Helps in higher level of community development (0.495), Improves skill level of the individual (0.468) and Access to Adult Education is Improved (0.390),

Funding Impact Factor – II- Usage of Modern Techniques

This factor is evaluated using the rotations involving the variables of Higher Level of Flexibility among the Participants (0.829), Usage of Digital tools is improved (0.729) and Greater emphasis on Infrastructure Development (0.725)

Funding Impact Factor – III- Enhances Job Opportunities

This factor consists of variables involving Reduces unemployment issues (0.673), Pragmatic approach for adults towards learning (0.527), Awareness level towards various life standards is improved (0.503) and means to find new ways for employment (0.327).

These are the major factors extracted from the factor analysis which explains the impacts caused by the government funding on adult education and unemployment in study area as derived using the opinions given by participants.

Multiple Regression Model – Impacts of Government Funding on Adult Education and Unemployment

The study measures the impacts caused by the government funding on the necessity of adult education and unemployment in the study area based on longitudinal approach using the time series data. The data were collected from the government database which is used in least squares method of regression. The following provides the outlay of information about the quantitative relationship among the variables.

Table 3. Model summary- impacts of government funding on adult education and unemployment.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1 <i>DV - Unemployment</i>	0.796		0.655	0.350
				0.69506

The R-square values reveal that the changes in the independent variables cause a 65 percent changes in dependent variables of unemployment which is clear from the measured relationship using the regression.

Table 4. ANOVA summary- impacts of government funding on adult education and unemployment.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.425	2	37.713	78.063	<0.001**
	Residual	137.202	284	0.483		
	Total	212.627	286			

DV - Unemployment

The above table explains that the overall model fit is significant based on the variance analysis and model involving the unemployment, government funding and adult education are significant as p-value of the test.

Table 5. Co-efficients summary- impacts of government funding on adult education and unemployment.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.989	0.183		10.844	<0.001**
	Government Funding	0.004	0.074	0.002	0.051	<0.001**
	Adult Education	0.531	0.043	0.595	12.343	<0.001**

DV - Unemployment

The regression estimates are vital for predicting the future estimates based on time series evaluation. The study reveals that the government funding is playing significant role in reducing the employment levels and improving education level among the people. The model reveals that the adult education is significant improved which reduces the unemployment level which is explained by positive beta values. The government funding is also creating minimal impact on the unemployment level which is revealed by lower beta values. The following equation explains the relationship among the variables in quantitative forms.

$$\begin{aligned} \text{Unemployment} = & \\ & 1.989 + \\ & 0.004 (\text{Government Funding}) + \\ & 0.531 (\text{Adult Education}) \end{aligned}$$

The model justifies the presence of relationship among the three variables of unemployment, government funding and adult education. The variables are significantly related which is evaluated by beta values. The government funding and adult education are playing vital role in reducing the unemployment among the people in study area.

CONCLUSION

It is essential to have skill development programmes, which should be a component of any organization's strength, in order to empower women and provide them the ability to combat economic injustice and gender inequality. Over the course of the last twenty years, there has been a significant amount of transformation in the policies, programmes, and practices that pertain to adult education. There have been several instances in which these modifications have been implemented without enough input from the field. A clear connection exists between the adult education curriculum and the issues that individuals are working through. The people may become more self-sufficient and find solutions to their difficulties as a result of this. On the other hand, if there were action and applied research accessible, these problems might be efficiently handled. In a significant way, the study and inquiry that serves as the basis for an adult education programme is directly responsible for determining the program's quality and efficacy. A more active public enlightenment approach should be implemented by the government in order to raise awareness among both males and females about the reality of the Adult Education Programme and to highlight the benefits that they stand to gain from participation in the programme.

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