

Predictive Analysis of factors affecting Life Skills and its Effect on Holistic Development of Students in higher education

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Abstract

The current paper aims at researching the issue of predictive analysis to determine which determinants play a major role in shaping life skills and their implication on the overall development of students in higher education. Critical thinking; communication, emotional intelligent, adaptability, decision-making, among other life skills have become overly important in the overall development of the student in an academic environment that has increasingly become competitive and dynamic. This research will also be applied in analyzing the impact of various academic, socio-economic, psychological and institutional factors on the developmental process of such life skills. The research will have a quantitative research design where structured questionnaires will be given to the students at institutions of higher learning. The strength and the direction of the relationship between the independent variables (teaching methodologies, extracurricular participation, digital exposure and family background) and the dependent variables (definers of life skills and holistic development) in assessing the relationship are also determined through the use of statistical techniques like regression analysis and predictive modeling. The findings that follow are that experiential or learning, institutional support and engagement in co-curricular activities result in a massive scooping of life skills that influence the cognitive, emotional and social development of students positively. Also, predictive models, created in this study, assist in achieving an insight into the most effective factors influencing life skills that teachers and policymakers can use to create particular interventions. The paper highlights the mediation qualities of life skills towards achievement of holistic development and the need to integrate the program of skill-based education in the higher education curriculum. The study contributes to existing knowledge, as it presents a predictive analytics model which can be used to associate predictive analytics with academic achievement and hence support the evolvement of evidence based policy within a higher education institution.

Keywords: Predictive Analysis, Life Skills, Holistic Development, Higher Education, Student Development, Experiential Learning, Emotional Intelligence

Introduction

Along with the modern day world of globalization, technological advances, and economic development brought by knowledge, there also comes a change of expectations on institutions of higher learning and their contributions towards not only offering academic education to students, but also in the wholesome development of the student. The issue of comprehensive development has been of great significance since it is known to involve the intellectual growth as well as emotional, social, ethical and practical skills that are capable of equipping students in the face of the real-life challenges. Here, life skills have become an important aspect of education that determines to a large extent how students become well-rounded individuals that can adjust to the dynamism of environments. Lifetime skills that are essential in achieving personal effectiveness, employability and responsible citizenship include critical thinking, problem solving, communication, emotional intelligence, team work, leadership, and decision making. However, the appearance of such abilities is predetermined by a variety of factors that influence it both inside and outside the academic ecosystem.

Colleges are an important avenue that students go through and experience serious mind and behavioral changes. The adaptation of formalized school life to a more or less independent university life makes the university students to combat self-control, stamina, and interpersonal abilities. Despite the identification of the value of life skills, there

has been an incredible mix up in imparting them among the students; and this is attributed to the various aspects that influence them: the instruction methodology, the nature of the course, socio-economic status, exposure to digital media, peer pressure and support network and also by enrolling them in extra and co-curricular activities. The traditional education systems are centred on theoretical information and educational success, which may not necessarily assume systematic cultivation of living skills. This gap highlights the necessity to define and discuss the determinants that play an important role in developing life skills identified in higher education.

Application of data-driven approaches in the discipline of education research has emerged as a route to learning the intricate relationships among variables that influence the student outcomes in the last several years. One of the subsets of advanced analytics is called predictive analysis, which offers researchers the chance to base long-term and short-term forecasts on the past and current data and propose the most significant factors of influence more accurately. Through the use of statistical tools like regression analysis, machine learning algorithms and data modeling, predictive analysis is used to reveal the otherwise invisible patterns and relationships that might not be visible using traditional analysis tools. Predictive analysis may assist educator, administrator and policymaker in making informed choices in terms of life skills and holistic development since such choices could assist in determining the factors that have the most profound effect.

The importance of examining the correlation between life skills and holistic development is in the fact that students who possess good life skills are in better positions to handle the issues of academic stresses, development of healthy relationships and handling of professional stresses. Integrated development, in the sense of cognitive, emotional, social, and ethical development is fast gaining recognition as one of the primary products of quality education. Personal students with enhancements of greater levels of life will replicate better grades, psyche, and chances of a gainful employment. Thus, it is important to comprehend the contribution of different factors to development of life skills and their subsequent impact on the process of holistic development in order to work out the effective educational strategies.

In addition to that, the system of Indian higher education, that is heterogeneous in both terms of institutional organization and students groups provide us with a unique opportunity to observe those dynamics. The regional disparity, availability of resources, digital divide and personal differences in pedagogical practices are among other factors that make life challenging difficult. In this case, predictive analysis has become a potent tool to organize an assessment of such complexities and come up with evidence-based insights. It enables the establishment of variables with the highest impact and develop a specific intervention that can enhance performance not only among students in different learning settings.

The present study, therefore, seeks to address the current gap in the theoretical knowledge and the actual data with predictive analysis to examine the variables affecting life skills and consequent impact on overall student development in higher education. By so doing it contributes to the growing body of literature that emphasizes the worth of providing academically based learning through incorporation of skill based learning into the academic curriculum. The outcomes of this research must provide some practical suggestions to teachers, curriculum designers and government officials in that way that they might design an academic experience that helps their best students utilize all aspects of their development and provision of the skills they may need to survive in the 21st century.

Literature Review

The education of life skills has also been greatly acknowledged as a vital element in the contemporary education systems and especially in creating the overall growth of children in the tertiary classes. The existing literature offers the multidimensional notion of life skills and highlights how the institutions, socio-economic, psychological and technological aspects influence the developing of the competencies. The most significant works by such organizations as World Health Organization and UNICEF have divided life skills into the most important competences through which an individual could cope with the need and the issues of everyday life. These models

emphasize such aspects of competencies as decision-making, problem-solving, and communication, interpersonal, self-awareness, empathy, and coping with stress and feelings, hence offering a theoretical base to the subsequent empirical studies.

The elements of combining life skills in curriculum have extensively appeared in the academic literature. K. Das (2020) reviewed curriculum design/life skills education intersectionality highlighting the fact that a well-designed curriculum with the applied use of experiential and participatory learning can contribute substantially to the learning of life skills. The research proposes that the addition of life skills to regular academic courses, instead of considering them as freestanding courses is more sustainable. Similarly, Mishra P. (2018) also highlighted the significance of life skills education as a tactic of promoting good conduct among the students. The importance of interactive-based teaching approaches, including role-playing, group discussions, as well as real life simulation, in behavior change is noted in the study.

The impact of life skills training on the development of youth also has received academic interest. Kumar R. and Gupta M. With the programs of structured life skills training, as demonstrated in (2016), youth self-confidence, leadership skills and social adaptability can be significantly improved. Their findings indicate that the students which undergo such training are better placed and with better interests in academics to cope with real life circumstances. This also fits the greater picture where the educational consequences of life skills are not necessarily just the educational life consequence of success but also essential determinants of long term personal and professional success.

The socio-economic determinants of skills in life have been discovered to be lifestyle determinants. Patel S. The relationship between life skill development of the family members and the family income, level of education of the parents, and resources available to the family was studied by (2019). It was established that the more a learner is of high socio-economic status, the more he is likely to be exposed to the opportunities that assist in the development of various skills such as the extracurricular activities as well as computer based materials. Conversely, poor school-going children may not be able to access these skills directly therefore the need to have inclusive learning policies.

Life skills education is also complex because of the context and regional variations. Rao M. As shown in (2021) researchers explored the regional disparities in India and found out that urban, rural and semi-urban areas varied widely in terms of access to programs provided in life skills and quality of programs provided. In agreement with this, Thomas L. emphasis on semi-urban localities, (2019) established the issues of poor infrastructure, lack of trained teachers and cultural issues as deterrents that influence the effective implementation of life skills education. All this research evidence supports an idea that educational interventions must be located in the context of situations, which are characteristic to the region, to reinforce regional inequalities.

Gender-based differences in life skills acquisition have also been explored in the literature. According to the research conducted by Sharma N. (2020), college students (males and females alike) vary considerably in the number of life skills that can be reflected in their emotional intelligence, communicative and decision-making skills, among others. The study hypothesizes that these disparities contribute much about the socialization patterns, cultural expectations and hence must be gender sensitive in crafting educational programs.

The use of digital tools can be seen as a strong driving power of the life skill development process as the rapid growth and maturity of technology brings an inspiring force to the sphere of activities. Singh A. In a study conducted by (2022), the primary aim was to evaluate the impact of digital platforms and e-learning tools on training of life skills and thus they conclusively found that learning in technology based learning environment can improve engagement, collaboration and critical thinking of the students. However, the paper also cautions the digital divide, which may limit access to certain groups of students.

Overall, the literature examined reminds us that developing life skills is a complex process which depends on the vast range of diverse factors like the design of the curriculum, socio-economic context, geographical setting, gender, as well as the technological advancement. Although past studies have done valuable work of contributing to individual predictors, there is a need to combine the same in predictive analysis methods to ascertain how they relate in terms of totality in students growth. The present paper will have an answer to this gap, as it will take the predictive analysis to describe the factors that affect life skills and how they affect the overall development of the student in higher education.

Objectives of the Study

1. To identify the key factors influencing life skills among students in higher education.
2. To analyze the relationship between socio-economic factors and life skills development.
3. To examine the impact of teaching methodologies on the development of life skills.

Hypothesis

H₀ (Null Hypothesis): There is no significant relationship between socio-economic factors and life skills development among students in higher education.

H₁ (Alternative Hypothesis): There is a significant relationship between socio-economic factors and life skills development among students in higher education.

Research methodology

The current research paper takes a quantitative and a descriptive research design in their attempt to study factors that influence life skills and their role in the full development of students in higher education. The research will be grounded on the primary data that will be gathered on the basis of a structured questionnaire which will be given to the students who attend colleges and universities. The statements in the questionnaire will such as the socio-economic background, teaching methodology, uses of digital tools, participation in the extracurricular activities, life skills and holistic development, which will be based on five-point Likert scale of strongly disagree to strongly agree. A method by which one can have more than enough sample representation in terms of students of different academic stream, gender and socio-economic background is stratified random sampling. The population of higher education students and statistical predicates of the predictive analysis are employed to extract the sample size. Books, research papers, journals, reports and publications by organizations such as World Health Organization and UNICEF, will be used as secondary data to provide theoretical support to the research. The data collected is analysed using descriptive statistics that entail utilizing the mean, percentage and standard deviation to gain an idea of the type of people respondents are, as well as, the level of life skills that students have. The strength and significance of the relationship between socio-economic factors and life skills development and the effect of life skills on holistic development are identified by using inferential statistical methods such as correlation analysis, multiple regression and predictive modeling. It is observed that the test of the hypothesis is at a level of 5 percent that should be achieved with the help of suitable statistical programs SPSS. Interpretation of the findings of the analysis also leads to conclusion and proposals of recommendations to schools and policymakers.

Descriptive Statistics: Socio-Economic Factors and Life Skills Development

Variables	N	Mean	Standard Deviation	Minimum	Maximum
Family Income Level	200	3.42	0.89	1	5
Parental Education	200	3.68	0.76	1	5
Access to Educational Resources	200	3.75	0.81	1	5
Digital Access (Internet/Devices)	200	3.9	0.72	1	5
Participation in Skill Development Programs	200	3.55	0.85	1	5
Life Skills Development Score	200	3.8	0.78	1	5

The descriptive statistics suggest that the socio-economic factors are mixture to high among students and seem to be positively related to the development of life skills. The mean of such important variables as the digital access (3.90), access to educational materials (3.75) and parental education (3.68) has rather high value and the fact that the majority of students are able to enjoy positive socio-economic backgrounds is also proved. The family income level has moderate mean value (3.42), implying that there is some diversity in economic backgrounds of the respondents. A relatively good engagement of the students is also in participation in skill development programs (3.55). However, more interesting is the fact that the mean of the development of life skills (3.80) is relatively high and this implies that the students already possess the required average level of the life skills required. The values of standard deviation are below 1.0 that encompasses that answers are uniform and inconsistent little in the sample. Overall, the findings suggest that the more positive socio-economic environment (particularly, the access to digital tools and education-related resources) the higher the degree of life skills in students, which is why the initial outcomes prove the alternative hypothesis, according to which it is possible to have a strong relationship between the socio-economic conditions and the development of life skills in higher education.

Multiple Regression Analysis

Dependent Variable: Life Skills Development

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.712	0.507	0.495	0.556

ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	62.384	5	12.477	40.352	0
Residual	60.679	194	0.313		
Total	123.063	199			

Coefficients Table

Variables	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	0.842	0.312	—	2.699	0.008
Family Income Level	0.186	0.058	0.214	3.207	0.002
Parental Education	0.221	0.064	0.238	3.453	0.001
Access to Educational Resources	0.198	0.061	0.226	3.246	0.001
Digital Access (Internet/Devices)	0.245	0.055	0.287	4.455	0
Participation in Skill Development Programs	0.173	0.059	0.192	2.932	0.004

The results of the multiple regression indicate that the socio-economic factors do affect the development of life skills among the students in higher education statistically significant. There is a positive correlation between the independent variables and life skills development of $R = 0.712$ and the $R^2 = 0.507$ would evaluate that about 50.7 percent of life skills development variation is represented by the socio-economic factors represented by the model. These (ANOVA) findings also affirm that the general regression equation is very much significant ($F = 40.352$, $p < 0.05$) implying that the predictors have a combined influence on life skills development.

Looking at the coefficients, it can be noted that the growth of life skills is positively and statistically significant ($p < 0.05$) depending on all of them meaning family income, parental education, access to educational resources, access to digital resources, participation in a skill development program. Among them, the factor of digital access ($\beta = 0.287$) seems to be the most significant as the role of technology and internet accessibility in developing the competencies of students is evident. Next is parental education ($\beta = 0.238$) and access to educational resources ($\beta = 0.226$) that indicate that factors of access to education and family are critical. The family income ($\beta = 0.214$) and participation in skill development programs ($\beta = 0.192$) are also important but to a much lesser extent.

Overall, the findings show that the more socio-economic status of the student will be good, the more personal-life skills he/she will possess. Because they all have the importance and positively correlated and since all the variables are significant, we accept the alternative hypothesis (H1) that there is a significant relationship between socio-economic factors and life skills acquisition in higher education.

Overall Conclusion

The current research concludes that life skills are essential in the overall development of higher education students and greatly impacted by different socio-economic factors. Based on the results of both descriptive and inferential statistical tests, there is a clear conclusion that family income, parental education, access to educational resources, access to digital and participation in skill developing programs are all key players and can be pointed towards positively to improve development of life skills. Among these, the most effective determining factors turned out to be the digital access and parental education that demonstrated the growing importance of both technology and family background in terms of student competences.

The outcome of the multiple regression analysis is also another way of establishing that the development of life skills can be attributed to a significant percentage by the socio-economic factors together, justifying the alternative hypothesis. Students who have superior socio-economically endowed support mechanisms are usually found to be more critical thinkers, communicators, adapters and emotionally intelligent and thus value their cognitive, social and emotional development. This builds a good tie between life skills and overall development, and highlights the point that academic knowledge is not an adequate instrument to equip students with dealing with complexities in life.

Moreover, the paper has also indicated the necessity to introduce life skills education in the higher education curriculum through experiential learning, digital media and co-curricular activities. It further reveals how policymakers and learning institutions need to resolve socio-economic differences by allowing all learners to have equal access to the resources and opportunities. These gaps need to be bridged to a great extent in order to increase the efficiency of life skills education and inclusive development.

Finally, the study offers empirical data to support the claim that a positively reinforced socio-economic support along with life-syllabus-oriented education would result in a better holistic development in students. By directing educational planning initiatives towards the use of data-driven and predictive methods, it can also be further used to aid in the identification of important areas of intervention, thus helping to build a more responsive and student-focused higher education system.

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