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LIST OF ABBREVIATIONS

AI	Access to Information
AI	Artificial Intelligence
CAPTCHA	Completely Automated Public Turing Test to Tell Computers and Humans Apart
CDC	Center for Disease Control
CLIR	Cross-Language Information Retrieval
DLS	Dual Language System
ELS	E-Learning System
GPAs	Grade Point Averages
HCI	Human Computer Interaction
IR	Retrieval of Information
KSA	Kingdom of Saudi Arabia
LSI	Latent Semantic Indexing
MVS	Mongolian Vowel Separator
NEE	Named Entity Extraction
NGO	Non-Governmental Organization
NLP	Natural Language Processing
NNBSP	Narrow No-Break Space
ODL	Open Distance Learning
OECD	Organization for Economic Co-operation and Development
OSS	Open-Source Software
REM	Rapid Eye Movement
SDD	Semi-Discrete Decomposition
SEL	Social-Emotional Learning
SHSMLD	Students with Handicaps, Social Maladjustments, or Learning Difficulties
SLM	Speech Learning Model
SVD	Singular Value Decomposition
SVM	Support Vector Machine

THC	Tetra Hydro Cannabinol
TMSDL	Traditional Mongolian Script Digital Library
UDLR	Ecumenical Declaration of Linguistic Rights
ULS	Unitary Language System
UNESCO	The United Nations Educational, Scientific and Cultural Organization
VOT	Voice-Onset-Time
WEF	World Economic Forum
WHO	World Health Organization
YRBS	Youth Risk Behavior Survey

GLOSSARY

A

Academic – with relation to education and thinking, schools, colleges, and universities, not practical skills

Anxiety – an uneasy anxiety or concern for anything that is going now or may happen in the future

Arduous – full of difficulties; needing a lot of effort

Aristotle – Aristotle was a Greek philosopher and polymath during the Classical period in Ancient Greece

Artificial Intelligence – Artificial intelligence is intelligence demonstrated by machines, unlike the natural intelligence displayed by humans and animals, which involves consciousness and emotionality. The distinction between the former and the latter categories is often revealed by the acronym chosen

Auxiliary – providing supplementary or additional help and support

Axiom – an axiom, postulate or assumption is a statement that is taken to be true, to serve as a premise or starting point for further reasoning and arguments

B

Bilingual – is most commonly used to describe someone who can speak or understand two languages, especially with some level of fluency

Bullying – a person's behavior that hurts or scares someone smaller or less strong, frequently forces him to do something that he or she does not desire

C

CAPTCHA – is a type of challenge–response test used in computing to determine whether or not the user is human

Civil Rights – a person's legal right to freedom and equal treatment in society, whatever his/her sex, race, or religion

Cognition – Cognition is defined as 'the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses. ' At Cambridge Cognition we look at it as the mental processes relating to the input and storage of information and how that information is then used to guide your behavior

Cognitive – connected with the processes of understanding

Comorbid – denoting or relating to diseases or medical conditions that are simultaneously present in a patient

Credentials – Testimonials or certified documents showing that a person is entitled to credit or has a right to exercise official power a doctor's credentials

Cross – **Language Information Retrieval** – is a subfield of information retrieval

dealing with retrieving information written in a language different from the language of the user's query

Cyber-crime – criminal activity that either targets or uses a computer, a computer network, or a networked device

D

Data – Data are units of information, often numeric, that are collected through observation. In a more technical sense, data are a set of values of qualitative or quantitative variables about one or more persons or objects, while a datum is a single value of a single variable

Datasets – a collection of related sets of information that is composed of separate elements but can be manipulated as a unit by a computer

Deployment – The act of moving something or someone into a strategic position or a position of readiness, or the condition of being in such a position. Delays in the deployment of armored vehicles and body armor can cost lives on the front lines

Depressant – Depressant substances reduce arousal and stimulation. They do not necessarily make a person feel depressed. They affect the central nervous system, slowing down the messages between the brain and the body

Depression – feelings of severe despondency and dejection

Disorder – A disorder could be defined as a set of problems, which result in causing significant difficulty, distress, impairment and/or suffering in a person's daily life

E

Edifiers – to instruct especially so as to encourage intellectual, moral, or spiritual improvement

Embezzlement – form of fraud wherein a person or entity intentionally misappropriates assets for personal use

Enthusiastic – in modern usage, enthusiasm refers to intense enjoyment, interest, or approval expressed by a person

Ethnolinguistic – ethnolinguistics (sometimes called cultural linguistics) is an area of anthropological linguistics that studies the relationship between a language and the nonlinguistic cultural behavior of the people who speak that language

F

Foster – to care for a kid without the legal parent of the child, generally for a short amount of time

G

Gamification – Gamification is the strategic attempt to enhance systems, services, organizations, and activities in order to create similar experiences to those experienced when playing games in order to motivate and engage users

H
Hypothesis – an idea that is suggested as the possible explanation for something but has not yet been found to be true or correct

I
Indemnity – is a contractual obligation of one party to compensate the loss incurred to the other party due to the acts of the indemnitor or any other party
Injunction – injunction is a legal and equitable remedy in the form of a special court order that compels a party to do or refrain from specific acts
Intractable – hard to control or deal with

K
Kineticism – (usually uncountable, plural kineticism) Kinetic art; energetic movement, particularly applied to any visual arts

L
Lexical – lexical definition of a term, also known as the dictionary definition, is the definition closely matching the meaning of the term in common usage
Life Expectancy – the age to which a person is expected to live, or the remaining number of years a person is expected to live
Limpidly – characterized by transparent clearness; pellucid. See Synonyms at clear. 2. Free from clouds or haze: a limpid sky
Linguistics – is the scientific study of language. It encompasses the analysis of every aspect of language, as well as the methods for studying and modeling them

M
Magnitude – in mathematics, magnitude or size of a mathematical object is a property which determines whether the object is larger or smaller than other objects of the same kind
Microcosmically – a mall, representative system having analogies to a larger system in constitution, configuration, or development:
Monetarily – definition of monetarily relates to currency, money or money flow in an economy
Multilingualism – multilingualism is the use of more than one language, either by an individual speaker or by a group of speakers

N
Neurobiology – nervous system studies and how the brain functions is neurobiology. The area examines functions of the neurological system, brain function and associated tissues like the spinal cord
Nursing – A licensed health-care professional who practices independently or is supervised by a physician, surgeon, or dentist and who is skilled in promoting and maintaining health compare licensed practical nurse, registered nurse

P

Paradox – a situation or statement with two or more parts that seem strange or impossible together

Paramountcy – the state or fact of being of greater importance than anything else

Pedagogy – most commonly understood as the approach to teaching, is the theory and practice of learning, and how this process influences, and is influenced by, the social, political and psychological development of learners

Peers – a person of the same age or social status as them

Peregrination – a journey, especially a long or meandering one

plethora – a very large amount of something, usually more than is needed or can be used

Pluralism – a condition or system in which two or more states, groups, principles, sources of authority, etc., coexist

Psycholinguistic – Psycholinguistics or psychology of language is the study of the interrelation between linguistic factors and psychological aspects; or is the study of the mental aspects of language and speech

Psychopathology – the study of mental diseases

Q

Quandaries – a state of perplexity or uncertainty over what to do in a difficult situation

R

Racism – the belief that some races of people are better than others; unfair ways of treating people of different races

Retention – the action of absorbing and continuing to hold a substance

Rudimental – relating to or denoting an immature, undeveloped, or basic form

S

Salubrity – the quality of being salubrious and invigorating

Snippets – is a programming term for a small region of re-usable source code, machine code, or text

U

Unemployment – is a term referring to individuals who are employable and actively seeking a job but are unable to find a job

V

Verbalization – is a process by which different psychological events in an individual are made in verbal form, i.e., described "in their own words"

Volunteering – is a voluntary act of an individual or group freely giving time and labor for community service

PREFACE

This book takes the readers through different aspects of the social benefit of education, its role, the benefits of learning, the role of higher cognition and edification, the role of multilingualism in education. This book sheds light on the several trends prevailing in E-learning, challenges in the school environment, interventions for successful health, as well as the psycholinguistic perspectives on bilingualism.

The first chapter stresses on the basic overview of the social benefits of education, the role of education in shaping society, and talks about how education leads to higher income. This chapter will also emphasize how the implementation of education helps in reducing the crime rates, it addresses racism as well, the returns to education differ by race, and it mentions the implicit bias.

The second chapter takes the readers through the concepts of all the benefits of learning, such as the cultural and personal advantages of learning. This chapter will provide highlights on the individual benefits from training and development, organizational benefits from training and education, the benefits of learning outside the classroom, family life, and learning. It also focuses on the adult theory and why it is consequential.

Then, the third chapter explains the role of higher cognition and edification, the importance of higher education. It also illustrates the challenges to higher education's most essential purposes. This chapter also sheds light on the significance of improving the quality of higher education, along with the culture change for learning.

The fourth chapter introduces the readers to the roles of multilingualism in education, the human rights perspective, pedagogical perspective. This chapter also explains the advantages of bilingualism as well as the multilingualism, advantages of societal bilingualism, and the aspects and dimensions of bilingualism and multilingualism.

The fifth chapter throws light on the trends in E-learning. It gives an overview of new E-learning. This chapter contains different approaches of E-learning, such as the good, the bad, and the ugly side of distance learning in higher education, improving the student success rate in open distance learning, applying a usability technique, fixing the ready in E-learning readiness, as well as the research study on the importance of gamification.

The sixth chapter takes the readers through different challenges in the school environment, academic achievement relation with health, the psychological aspect such as stress and cognition. The readers are then told about the strategies for good academic performance like physical activities and proper sleep. It also sheds light on the bullying in school, and the influence of drugs on cognitive functions.

The seventh chapter explains the interventions for successful health, relationships and school success, relationships with peers and teachers. This chapter also emphasizes the prevention of internalized problems of a child, health, and academic achievement, along with the academic self-efficacy approach to learning.

The last chapter of this book sheds light on the psycholinguistic perspectives on bilingualism, the speech learning model. This chapter also mentions the linguistic system models, bilingualism and self-perception, cross-language and cross-chronological information access to multilingual historical documents, and addresses the algorithm technique.

This book has been designed to suit the knowledge and pursuit of the researcher and scholars and to empower them with various aspects of social benefits of education, bilingualism, and multilingualism so that they are updated with the information. I hope that the readers find the book explanatory and insightful and that this book is referred by scholars across various fields.

Chapter 1

Introduction to The Social Benefits of Education

CONTENTS

Education is responsible for various relevant benefits to society. It renders individuals to develop skills, grab better job opportunities, raise their social status, and enjoy a healthy and peaceful life and environment.

The current chapter sheds light on the numerous social benefits of education; namely, increased life expectancy, higher engagement in civic activities, better employment opportunities, a happy and civilized society, the creation of equal opportunities, and the emancipation of women and girls. These wide-ranging and far-reaching benefits are discussed in great detail in the chapter.

1.1. INTRODUCTION

Education has multiple benefits on the society as well as on the individual. When an individual receives education, not only does the individual benefit in terms of income, career advancement, skill development, and employment opportunities, but the society and community also reap its benefits.

Societies with higher rates of degree completion and levels of education are found to be healthier, have higher rates of economic stability, lower crime rates, and greater equality. Educated individuals are mostly found to enjoy higher incomes, enjoy access to more and better opportunities in their lives, and overall tend to be healthier. As a consequence of this, societies benefit as well. Societies with high rates of education completion witness less crime, better overall health, and more civic involvement.

Since many decades, the foremost rationale to justify the spread of education has been laid on its direct economic outcomes. However, education provides additional "social benefits" for both individuals as well as society at large, i.e., being self-sufficient, and thereby creating a better society to live in. Since these social benefits cannot be comprehended through data, it requires a more methodical approach to understand the social benefits of education better and provide a foundation for policy formation.

Many countries have commissioned experts in the four fields of health, parenting, the environment, and crime to study and measure these social benefits of education. For example, The Office of Research of the United States Department of Education commissioned a series of papers on measuring these effects of education.

Education has time and again proved to be a creditable and praiseworthy investment for the government, as it brings huge social and economic benefits. Research suggests that graduates and individuals who have access to quality

education throughout primary and secondary school in all likelihood are to find better employment opportunities, enjoy stability within the family structure, and turn out to be better and more productive citizens. It is often found that individuals who have low chances of committing serious crimes, and are less likely to place high demands on the public health care system, as also have slim chances of enrolling in welfare assistance programs. Thus, there are far-reaching impacts and benefits to public education. These benefits are enjoyed by the individual and are further accumulated throughout a community, creating broad social and economic benefits. Therefore, investment in public education turns out to be comparatively more cost-effective for the state than paying for the social and economic repercussions of poorly financed and managed low-quality schools.

1.2. ROLE OF EDUCATION IN SHAPING A SOCIETY

Kofi Annan, former Secretary-General of the United Nations famously said, "Knowledge is power." Information is liberating. Education is the premise of progress, in every society, in every family." Education plays an indispensable role in shaping a new generation of individuals that are capable of fighting the ills of society and taking it forward. In contemporary times, an ever-growing dissatisfaction is seen amongst many individuals in terms of their basic education and thus they try to get secondary or tertiary education in order to meet the demands of contemporary society. They are faced with not just financial hurdles in their endeavor to uplift their educational credentials and standards. Ill-health and mental stress are also the hazards that come along with this process and thus they make many compromises and sacrifices because they realize that education is their passport to the future and for tomorrow.

Figure 1.1. Role of education in shaping a society.

Source: Image by unsplash.com.

Education brings about a transformational change in the individual and alters the behavior and attitude towards life. It empowers the individual to improve and enhances the ability of making choices and opting for the best alternative under any circumstance. Studies have consistently linked higher educational attainment with greater levels of cognitive performance.

Education offers an individual to evolve and helps develop clear judgement and an ability to discern and adapt the best approach to a problem at any given time. Education has been rightly defined as 'adjustment ability to a changing situation and environment.'

Education is a vast concept and its scope is not restricted to mere economic investment: it is a crucial value addition in one's life and it determines the progress and the very survival of man. It has been seen that it is the responsibility of everyone in a country to educate; whether we are parents, adults, children, or teachers, in the public or private sector, education is the responsibility of everyone.

Irrespective of how different the needs and problems are of the various sections of society, the primary role of education is to provide equal and fair opportunities for all people and develop further to their maximum potential however we see the needs and problems, most of us would agree that the role of education is to help provide the opportunity for all people to develop as fully as possible. Education could be a means to empower children and adults alike to become active participants in the transformation of their societies.

Learning should also lay emphasis on the values, attitudes and behaviors that enable individuals to learn to live together in a world characterized by diversity and pluralism. Education therefore has a crucial long-term role in developing a knowledge and understanding of human rights, the values base they represent and the skills required to strengthen a democratic culture.

In the world, education serves as a big blessing. Society is nothing but an assemblage of those particular people who form it on the basis of mutual beliefs and values; these is believed to have a direct impact the way we think and act. It consists of social stratification and social structures that we get to know through education. The people in the society formulate the education system that transmits knowledge at various levels.

The topics that are always part of our discussion are how education has impacted society or what are the positive and negative impacts of education on the society. But the most important thing is seldom discussed and that is in what ways education has shaped our present society. This education

shapes the society in ways we cannot imagine; the main idea behind it is to realize that society is itself an education.

1.3. SOCIAL BENEFITS OF EDUCATION

Education brings about enormous benefits along with itself. Philosophers from ancient ages such as Aristotle and Plato pointed out that education was an integral to the moral fulfillment of individuals and the well-being of the society in which they live.

In the past few decades, continuous research is found to be hinting at this traditional wisdom, revealing that education not only boosts the performance of individuals and helps them to not only perform better in the labor market, but also helps them in their overall a lesson to their justice, health, promote active citizenship and contain violence.

1.3.1. Life Expectancy

The study mentioned hereafter proves with the help that a relationship between education and social outcomes including health, civic engagement and subjective well-being can be established across many Organization for Economic Co-operation and Development (OECD) countries.

Life expectancy reflects a long trajectory of individuals' socio-economic circumstances that affect their health conditions and other mortality risks. In OECD countries, life expectancy at birth, on average, reached 80 years in 2010. Women live almost six years longer than men, averaging 83 years vs. 77 for men.

Data show that life expectancy is strongly associated with education. On average, among 15 OECD countries with available data, a 30-year-old tertiary-educated man can expect to live eight years longer than a 30-year-old man who has not completed upper secondary education.

Among men in Central European countries there are particularly large differences in life expectancy by level of education. A 30-year-old tertiary-educated man in the Czech Republic can expect to live 17 years longer than a 30-year-old man who has not completed upper secondary education.

In the 15 OECD countries analyzed, differences in life expectancy by level of education are generally much smaller among women. On average, a tertiary-educated woman can expect to live four years longer than a woman without an upper secondary education.

Whether these observed associations also reflect causal effects is a matter of debate. The associations may, for instance, reflect the fact that healthier children not only achieve more education but also become healthier adults.

1.3.2. Education Increases Participation in Civic Activities

A unified society symbolizes trust and faith of the citizens in the functioning and management of public institutions. Such a society exists only in countries where the citizens and community at large sincerely and voluntarily take part in civic activities.

Figure 1.2. Education increases participation in civic activities.

Source: Image by unsplash.com.

Research suggests that adults with higher education credentials are normally more likely to display stronger civic engagement, vis-à-vis voting, volunteering, political interest, and interpersonal trust than those with poor educational qualifications. For example, among 25 OECD countries with available data, the gap in the self-reported voting rate between adults with high and low levels of education are on average 15% points. This gap widens considerably to 27% points among younger adults (25–34-year-old).

For younger adults in Germany, the corresponding figure is as high as 50% points. Education at a Glance 2011 and 2012 show that similar associations also exist for the relationship between education and volunteering, political interest, interpersonal trust, institutional trust and engagement in social activities.

1.3.3. Education Creates More Employment Opportunities

Securing a decent job is a tough task especially if the nation is an economic crisis. An individual is often required to compete with thousands of other potential candidates for a single vacant position. Additionally, in cases where the educational levels of the applicants are lower, the number of applicants, for the low-paying entry-level job is found to be significantly higher.

Contrastingly, if an individual is armed with higher educational qualifications and a strong academic background, the chances of securing a fulfilling and high-paying job are automatically higher. Therefore, education and higher qualifications and degrees and necessary skills enable an individual to better employment opportunities.

The relationships between education and employment are determined not only by the function of education to prepare learning for subsequent work tasks and other life spheres, but also by the fact that education selects: in an educational meritocracy, the monetary resources and the social recognitions are largely determined by the individuals' level of educational attainment and their competencies fostered during the course of learning.

The levels and the types of education, however, never are closely 'matched' to professional positions and job requirements. Imperfections are unavoidable, because individuals have to be trained to cope with imperfections and to be able to change employment and work themselves proactively. National traditions of education and training persist to a certain extent according to which education might vary from being understood as the general foundation for professional learning on the job toward being understood as specific training for respective jobs.

Figure 1.3. Education creates more employment opportunities.

Source: Image by unsplash.com.

The dramatically rapid expansion of education is interpreted as serving the needs of the knowledge society as an oversupply which might be absorbed and as stimulating changes of the system of employment and work. Greater access to quality tertiary education helps create greater and more decent job opportunities for young men and women in developing countries, according to a study conducted by the International Labor Organization (ILO), in partnership with the Master Card Foundation.

In a report of the study, Theo Sparreboom, a senior labor economist at the ILO, stressed that the lack of quality higher education had left millions of young people out of decent jobs who then subsequently relied on the informal labor market.

"On average, 83% of youth with quality tertiary education were in non-vulnerable employment in 27 low-to-upper middle-income countries that were examined," said Sparreboom, principal researcher of the study. Although the guarantee of getting jobs was slightly less prominent, particularly among low-income countries, 75% of young workers with Quality University degrees managed to find decent jobs, he said.

In sharp contrast, the labor experts concluded that merely the completion and attainment of secondary education alone was not enough to push young people in developing countries towards better labor market outcomes. "Between 2012 and 2013, only 40% of young secondary school graduates were engaged in non-vulnerable employment in low-income countries as compared with 72% in lower middle-income countries."

Azita Berar Awad, director of employment policy at the ILO, said the study confirmed the role of quality higher education in shaping labor market outcomes for young people globally. "The results of the study should be a wake-up call for most developing countries to improve their higher education systems in order to reduce unemployment and informal work arrangements among the youth," said Awad.

Is education the solution to decent work for youth in developing economies? The report highlights the situation that while developing countries have taken major strides towards ensuring universal access to primary education for all, they still face numerous hurdles when it comes to offering quality higher education. However, the report issues the warning that an increase in the level of education in the potential future workforce in developing nations will not necessarily result in the automatic absorption of higher skilled labor into non-vulnerable jobs.

"To continue pushing under-educated and under-skilled youth into the labor market is a no-win situation for the young person who remains destined for a hand-to-mouth existence, and for the economy which gains little in terms of boosting its labor productivity potential," mentions the report.

The conclusions of the report were based on labor market surveys conducted in the following areas: Sub-Saharan Africa, Asia and the Pacific, Eastern Europe and Central Asia, Latin America and the Caribbean, and Middle East and North Africa.

In Sub-Saharan Africa, Benin, Liberia, Madagascar, Malawi, Tanzania, Togo, Uganda and Zambia participated in the survey, while Asia and the Pacific had Bangladesh, Cambodia, Nepal, Samoa and Vietnam. Sampled countries from Eastern Europe and Central Asia included Armenia, Kyrgyzstan, Macedonia, Moldova, Russia and Ukraine. Latin America and the Caribbean were represented by Brazil, Colombia, El Salvador, Jamaica and Peru while the Middle East and North Africa had Egypt, Jordan, Palestine and Tunisia.

Dr. Anita Staneva, a labor economist and a co-author of the report, describes the situation in Sub-Saharan Africa; though the vulnerable employment rate is highest there due to an alarmingly low gross enrolment rate in tertiary education that is presently measured at 9%. A vast difference is found when comparisons are drawn with upper middle-income countries, such as Brazil, Russia, Ukraine and Macedonia which stands at 33%. "Such disparities in terms of human capital development between developing and developed countries have their roots in the quality as well as the quantity of education," said Staneva.

Researchers have constantly highlighted the plight of less developed nations. Most of these nations reflect strikingly poor levels of educational achievements coupled with extremely low standards of education and thereby a very limited skill set of the workforce. They also indicate lack of appropriate schooling as one of the primary reasons for the issues of under-qualification, skills shortages, skills gaps and skills mismatches in a society.

The analysis of the data obtained from ILO's baseline school-to-work-transition surveys for 2012–2013, made experts realize that some particular low-income developing nations had almost failed to manage university-level education for most of their young population. "For instance, in Bangladesh, Madagascar, Malawi, Tanzania and Zambia, less than 2% of the youth population has achieved a tertiary level of education," says the report.

Many other countries such as Benin, Cambodia, El Salvador, Liberia and Togo were found to have less than 5% of their youth with tertiary education. Out of the 28 countries that were studies, Ukraine leads the pack with 44% of its young population having acquired tertiary education.

Ironically, while most low-income countries grapple with the issue of rising cases of under-education, a new problem of over0education is on the rise simultaneously in these countries.as per the report, As per the report, over-education occurred in situations where a university graduate was employed as a clerk or in other low-skilled, non-manual occupation not meant for secondary education graduates.

Countries with over-educated youth included Samoa at 62%, Colombia 35%, Peru 30%, Moldova 28%, Zambia 25% and Vietnam 24%. Countries with the highest number of under-educated youth, where a high school graduate has a high-skilled, non-manual occupation include Benin 84%, Malawi 83%, Uganda 74%, Togo 67% and Madagascar 63%. Nevertheless, on average in the 28 countries, almost half of employed youth are well-matched at 47%, while more than a third – 37% – are under-educated for their jobs and the remainder over-educated at 16%. "Qualifications mismatch shows a remarkably wide range across countries, with over-education affecting less than 5% of young workers in Bangladesh, Benin, Cambodia, Malawi, Togo and Uganda," says the report.

The ILO states that under-education is a major issue especially in low-income countries where it is found that on an average, half of its youth population in non-vulnerable employment are under-educated, rising to 69% in vulnerable employment.

It is a well-known and accepted fact that decent jobs are a rarity for young workers in almost all nations; the ILO has requested governments of low-income economies to work upon plans to promote and impart quality higher education to the youth to tackle the rising problem of under-education and underemployment of their young population.

There is yet another burning issue in these economies. It has been observed that unemployment rates shoot up along with the rise in education, which is wrongly perceived as an indication of an abundant supply of university graduates.

"But the opposite is true, as the school-to-work-transition surveys data reveal the low educational profiles of youth in low-income countries," says the report.

There is a strong indication that the relatively high unemployment rates for better educated and qualified youth in developing economies reveal that they are not suitable for the careers that are in vogue in the market. In some cases, it was also observed that youngsters were willing to wait for a better opportunity of a high-paying, white-collar job.

But, as Awad has mentioned, in the absence of good standards of tertiary education, poverty begins to erupt across families of unskilled workers for generations to come. This happens because their wages are extremely low and they live on the brink of poverty and are thus unable to afford decent education for their children.

1.3.4. Education Leads to a Happy Society

Indicators such as life satisfaction and happiness have also become important benchmarks to assess the extent to which government policies address people's well-being beyond what can be captured using purely economic measures (OECD, 2011).

It has been concluded through various studies that adults who have obtained higher levels of education are typically found to display higher sense of satisfaction and achievement in life as compared to their peers who have lower levels of educational attainment.

On average, the gap in self-reported life satisfaction between adults with high and low levels of education is 18% points. In Europe, Nordic countries are found to reflect lesser differences by education as opposed to Central European countries.

Though overall education does lead to a more civilized and happy society, it is not imperative that education necessarily lead to better social outcomes. Certain studies have pointed out that with higher levels of education, the risk of indulging in potentially self-abusive behavior such as binge drinking also increases.

Mental health is an important social outcome, and education and depression are clearly correlated. Higher educational attainment is associated with a lower prevalence of depression but depression itself may be a reason for lower educational attainment.

People with lower cognitive skills tend to leave school earlier and may present some of the personal characteristics associated with depression. In any case, education systems have a role to play in tackling depression, an illness estimated to be the leading cause of disability and affecting over

300 million people worldwide (WHO, 2017). Most mental illness has its onset in childhood or adolescence and mental illness is at least as prevalent among young people as among adults, as the OECD report, Fit Mind, Fit Job recorded (OECD, 2015). Bullies and victims of bullying have a greater likelihood of depressive symptoms (Haynie et al., 2001).

Chronic stress related to the pressure to succeed in school, family instability, poverty, sleep deprivation, low self-esteem or self-confidence, and poor social relations with peers, parents and teachers are other factors positively associated with depression among students (Choi, 2017; OECD, 2015). Education systems can help to identify the individuals who are susceptible to developing a mental illness and give them appropriate support (OECD, 2015).

Data shows that highly educated and qualified people, in all OECD countries are found to be less affected by depression. It was also found that a larger number of women were reported to be suffering from depression in comparison to men but the share decreases more steeply for women than for men as educational attainment increases.

Employment too, correlated with a lesser degree of self-reported depression, particularly among low-educated adults. Since it is a well-known fact that mental illness starts during childhood or adolescence, these discoveries lay even more emphasis on how significant the role of education is the lives of students. It determines the completion of their education and is also responsible for their adaptation into their workplace after education.

1.4. EDUCATION LEADS TO HIGHER INCOME

A well-educated workforce is the key to a prosperous society. One of the most powerful and prominent benefit education creates is that of higher earnings and in turn better economic prospects. Higher income is probably the most frequently quoted social benefit associated with education at both school and college level. The term 'Return to investment in schooling' was coined to justify this reality.

In simple terms, the higher the education, the higher the income prospects. Schools offer the primary environments wherein young kids begin to hone their cognitive skills, and researchers agree that nations where higher and improved cognitive skills are found amongst labor force witness quicker economic growth rates over a certain period of time. The reason for the occurrence of these phenomena is the impact of cognitive skills on an individual's earnings.

To put it more exactly, better-skilled workers are more equipped to manage a range of situations in their work environment, improve their technical and domain expertise, and strive for higher positions within their current place of employment and elsewhere. Cognitive skills also improve a worker's efficiency and productivity, making them more attractive to employers.

More educated workers can also compete more effectively for high-paying and high-skilled jobs. In other words, the more knowledge someone has, the more effective they are finding work. The nation currently faces a shortage of skilled labor in a number of technical areas including machine learning and data science.

Education plays a decisive role in economic performance. Those in society with more education earn higher salaries over their lifetime as well as contribute more in taxes. An educated population also leads to economic growth at a national level. Better education has even been shown to create more cohesion in democratic countries and a heightened sense of trust between citizens.

In this regard, increased funds for public education generate a positive feedback loop for the economy. As education improves the economy improves, and as the economy improves education improves even more. In some countries, education has become the driving force of the economy.

In many emerging economies, education and labor market experience are the only human assets for a vast part of the labor force, especially the poor. Therefore, it is important for students, their families, providers and funders to know the economic benefits of investments in schooling.

The rate of return to schooling equates the value of life-time earnings of the individual to the net present value of costs of education. For an investment to be economically justified, the rate of return should be positive, and should be higher than the alternative rate of return. For the individual, weighing costs and benefits means investing as long as the rate of return exceeds the private discount rate (the cost of borrowing and an allowance for risk).

An economy should invest in human capital (as in any other capital) up to the point where the rate of return yielded by the last bit of investment is just equal to the rate of return yielded by the best alternative use of the resources.

This means investing so long as the social return (which includes broader benefits to society, not of all costs) is greater than the social discount rate. Therefore, policy makers need to know the social returns to schooling.

We might not be able to obtain global estimates of the social benefits (externalities and non-market effects) of education, but we can estimate full social costs (what the government provides in terms of the supply of schooling). This is something our future research will address.

1.4.1. Education Helps Reduce Crime Rates in Society

Policymakers interested in fighting crime often focus on enforcement and punishment; yet, recent research suggests that other policy mechanisms can also be effective. This review focuses on growing international evidence that suggests that policies designed to increase educational attainment and improve school quality can significantly reduce crime rates.

The economics of education and crime How does education reduce crime and which types of crime are likely to be most sensitive to education policies? We offer a brief economic perspective on these questions. Lochner (2004) emphasizes the role of education as a human capital investment that increases future legitimate work opportunities, which discourages participation in crime.

If individuals could raise more monetary returns from being employed rather than indulging in crime then it is easily possible for human capital investment and schooling to bring crime rates to a minimum. Therefore, policies that promote effective schooling are capable of reducing a majority of street crime amongst adults. On the contrary with higher levels of education, the risk of certain specific white-collar crimes such as embezzlement, fraud, cybercrimes may increase.

Figure 1.4. Education helps reduce crime rates in society.

Source: Image by unsplash.com.

This would discourage crime, since forward-looking individuals place greater weight on any expected future punishment associated with their criminal activities. To the extent that time preferences are affected by schooling, crimes associated with long prison sentences (or other long-term consequences) should be most affected.

Education may also affect preferences toward risk. If schooling makes individuals more risk averse, it should discourage crime with its greatest effects on offenses that entail considerable uncertainty in returns or punishment.

Assuming more educated people interact more with other educated people who are less inclined to engage in crime, this is likely to compound any reductions in crime associated with schooling. In most cases, mechanisms related to changes in preferences or social interactions suggest that educational attainment is likely to reduce most types of crime among adults.

Early studies of the relationship between education and crime focused on their correlation conditional on measured individual and family characteristics using standard regression methods. These studies must be interpreted with caution, since a negative cross-sectional correlation between education and crime, even after controlling for measured family background and neighborhood characteristics, does not necessarily imply that education reduces crime.

Firstly, unobserved individual characteristics like patience or risk aversion are likely to directly affect both schooling and criminal decisions. Individuals who choose more schooling (even after conditioning on observable characteristics) might also choose not to commit crime regardless of their education level, in which case regression-based estimates do not identify a causal effect.

Secondly, using variation in crime and education across states or local communities may also produce biased estimates. Governments may face a choice between funding police or good public schools, which would tend to produce a false positive correlation between education and crime. Alternatively, unobserved characteristics of communities may directly affect the costs or benefits of both education and crime.

Thirdly, reverse causality is another important concern. Individuals who plan to heavily engage in crime (e.g., because they are particularly good at it, enjoy it, or live-in areas with plenty of illicit opportunities) are likely to choose to leave school at a young age (Lochner, 2004).

Arrests or incarceration associated with juvenile crime may also cause some youths to drop out of school early (Hjalmarsson, 2008). Recent empirical studies generally estimate the effects of average educational attainment on arrest, conviction, or incarceration rates.

To address concerns with endogeneity and unobserved heterogeneity, researchers have typically exploited exogenous changes in state or national rules that affect schooling decisions, examining the effects of these policies on subsequent crime. This ensures that estimates reflect causal effects of education on crime and not simply spurious correlations.

Firstly, increasing educational attainment and school quality can yield sizeable social benefits. Lochner and Moretti (2004) calculate that the social savings of a one percentage point increase in male US high school graduation rates (from reduced crime alone) in 1990 would have amounted to more than USD 2 billion.

This represents more than USD 3,000 in annual savings per additional male graduate. In the UK, Machin et al., (2011) estimated a social savings of over 10,000 pounds per additional student qualification (similar to high school completion in the US) from reductions in property crime alone (estimated effects on violent crime in the UK are statistically insignificant).

Deming (forthcoming) estimates that the reduction in crimes leading to an arrest realized from offering better quality school options to a high-risk youth would conservatively produce USD 16,000 in social savings to victims over the next seven years.

Because better schools are also likely to have reduced crimes that never lead to an arrest, total victimization savings are likely to be substantially higher. Total social savings should be still be larger after factoring in savings on prisons and other crime prevention costs.

Secondly, given that the most sizeable reductions in crime appear to result from the final years of secondary school, policies that encourage high school completion would seem to be most promising in terms of their impacts on crime.

Because crime rates are already quite low among high school graduates, policies that encourage post-secondary attendance or completion are likely to yield much smaller social benefits from crime reduction. Thirdly, policies designed to encourage schooling among more crime-prone groups are likely to produce the greatest benefits from crime reduction. Deming (forthcoming) estimates that improved school choice for middle and high school students

leads to significant reductions in arrests for high-risk youth, but not for others. Consistent with this, the school-age Fast Track program appears to have reduced juvenile crime only among very high-risk children, showing little impact on even moderately high-risk children (CPPRG 2007; 2010).

Fourthly, education policies can reduce property crime as well as violent crime. In both the US and Sweden, the estimated effects of educational attainment or school enrollment on property and violent offenses appear to be quite similar in percentage terms (Lochner and Moretti, 2004; Anderson, 2009; Hjalmarsson et al., 2011). Even murder appears to be quite responsive to changes in educational attainment and school quality (Lochner and Moretti, 2004, Weiner et al., 2009). Fifthly, higher wages increase the opportunity costs of both property and violent crime.

Lochner and Moretti (2004) show that the estimated effects of educational attainment on crime can be largely accounted for by the effects of schooling on wages and the effects of wages on crime. This is important since it suggests that policymakers can reduce crime simply by increasing labor market skills; they need not alter individual preferences or otherwise socialize youth.

Lastly, education-based policies need not increase educational attainment to reduce crime. Studies on school choice lotteries (Cullen et al., 2006; Deming forthcoming) suggest that providing disadvantaged urban youth with better schools can substantially reduce juvenile and adult crime, even if it has a little effect on traditional education outcomes.

1.4.2. Education Helps Create Equality of Opportunity

Equal opportunity implies that every youngster gets a fair and equal chance to achieve success in life. Equal opportunities implies that irrespective of where you are born and what social standing you come from, you still have a chance and access to take up any job, choose any preferred profession and be at any position within a society.

It also implies that children born into wealthy and privileged families should not exercise any unjust advantage in access to educational opportunities or career prospects, that further helps them secure better job opportunities and a lavish lifestyle.

Education is the most important tool for promoting equal opportunities. Education qualifications are one of the major determinants for university acceptance and job offers. If people have equal opportunity to gain education and skills, this goes a long way to promoting equal opportunities in the labor

market. If people have the opportunity to gain the relevant qualification, in theory, children can overcome any disadvantage they may have from their family background.

To create equal opportunities in education is a big issue itself. In theory, if everyone in society is entitled to go to school and university, then that ensures a certain degree of equal opportunities. But, some schools (usually in prosperous 'middle class' areas) tend to be more successful than others.

If a child goes to a 'failing' school, it will prove much harder to get the same qualifications as a student who goes to a school with better teaching, better resources and a positive atmosphere. To overcome this problem of unequal education, the government could spend more money on failing schools, e.g., pay the best teachers a premium to teach in deprived areas with poorer results. However, money alone may not solve the problem. Schools in deprived areas may need more than extra money. Improved facilities themselves cannot change the prevailing attitude to academic studies in different areas.

1.4.3. Education Empowers Women and Girls

Education is one of the major milestones for the emancipation and empowerment of women and it sets the benchmark for their progress as it strengthens them to fight the conventional society and its restrictions, it helps them attain a stature in society and transform their lives.

The United Nations upholds the provision of quality education as its fourth sustainable development goal while gender equity comes next. Though these are two separate goals and are differently categorized, yet these two are interconnected.it is a known fact that women and girls all around the globe have notably less access to education than their male counterparts. The figure is so skewed that nearly 66% of the world's 774 million illiterate population are women. The shocking data itself explains the dire urgency to expedite education for women.

Poverty supports sexism and thus, like the majority of the socioeconomic issues, poverty impacts women more than men globally. Gender stereotypes, accidental pregnancies, lack of access to good jobs, and a myriad of other factors cause this inequality.

According to Global Citizen, it is estimated that just one year of secondary school education can increase a woman's lifetime earnings by up to 20%. Thus, promoting educational access for women and girls worldwide is undoubtedly the solution to eradicate poverty and start a journey towards

prosperity. Namita Datta of the World Bank once said that women not only need more jobs, but better jobs. A variety of factors force women into professions they do not choose voluntarily, for instance occupational segregation and illiteracy. Educating women and girls can help eradicate these problems.

Education not only provides them the advantage of acquiring better skills and higher knowledge, it also prepares them for higher-paying jobs. It also helps reduce the rampant societal gender stereotypes. By busting these gender stereotypes, a new wave of acknowledgement of women in power and higher-earning and decision-making positions takes place.

Pregnancies and marriages are blessings when they are wanted and expected. Tragically, for a majority of women and girls all over the world, it is not true. According to the NGO Girls Not Brides, one in every five women worldwide is married before the age of 18.

Figure 1.5. Education empowers women and girls.

Source: Image by unsplash.com.

A staggering majority of these marriages and pregnancies take place in developing nations, where women are already disadvantaged due to the imbalanced socioeconomic conditions. Thus, education of women and girls is an effective solution.

A study in the journal Reproductive Health found that educational status is one of the key factors in determining unwanted pregnancies. This means that women who are less-educated are more at risk to face the aforesaid situation than those armed with complete primary or secondary school education. Girls Not Brides also found that uneducated women are 3 times more likely to marry before the age of 18 than those who attend secondary school.

Therefore, education becomes a decisive factor in the process of women's empowerment as it enables a woman to choose when to become both pregnant and married. Ultimately, it leads to a higher and stronger socioeconomic status for women.

Educating women just does not result in more female politicians and activists. It reflects that women care and are more inclined to participating in elections and political activism. A study in the Gombe State University in Nigeria established that there is a direct relationship between women's educational attainment and political participation.

More women actively involved in politics alludes to the fact that both policies and politicians are not focused solely on the needs and wants of men – female opinions are equally important, and active participation and engagement in political and social environment will make their opinions be heard and their issues been rightly resolved.

Throughout all five of these reasons, one factor that has not yet been mentioned permeates: rural women have less access to education than others. In Zambia, for example, 27% of rural women have no formal education, in comparison to 18% of men. The gravity of this issue is compounded by the fact that 60% of Zambia's population lives in rural areas. Clearly, education for rural women and girls is of desperate need in the country.

Thus, provision of education for women and girls is the foremost method to attain the sustainable development goals of quality education and gender equity set by the United Nations. With the acquisition of education, women are authorized to rise up both socially and financially. They are also entitled to make better decisions about their health and future prospects. Society too, benefits a great deal since it experiences a better environment due to the larger presence of women and their opinions.

1.4.4. Education Helps Address Racism and Discrimination

"Education systems and educational institutions have an important role and responsibility in addressing and eliminating racism," Cecilia Barbieri, Chief of Section of Global Citizenship and Peace Education at UNESCO and Martha K. Ferede, Project Officer in the section of Global Citizenship and Peace Education at UNESCO (UNESCO Futures of Education Ideas LAB).

"Prejudice is a burden that confuses the past, threatens the future, and renders the present inaccessible"—Maya Angelou

Figure 1.6. Education helps address racism and discrimination.

Source: Image by unsplash.com.

Mary Angelou, celebrated American poet and civil rights activist spoke these words during her crusade against the injustices faced by African-Americans highlighting their plight and trauma. These words also reflect the current turmoil that exists in present day society.

Prejudice runs deep in every society and education serves as an effective defense mechanism against it. Education gives society hope for a better and more just world, enabling citizens to harbor peaceful sentiments towards each other and promote unity within society for a peaceful future.

Systemic racism and discrimination are rooted in the structure of society itself, in governments, the workplace, courts, police and education institutions. Racism can be explicit but often exists in implicit, subtle and insidious forms that can be hard to pin down.

School disciplinary policies disproportionately impact Black students.

In some settings, starting as early as preschool, Black children are 3.6 times more likely to receive out-of-school suspensions than White children, increasing to 4 times as likely in grades K-12. Black students are also more than twice as likely to face school-related arrests and be referred to law enforcement (US Department Office for Civil Rights, 2016; Fabello et al., 2011).

1.4.5. Teachers' Expectations Differ by Students' Race

Many studies have found a correlation between teachers' expectations and students' educational outcomes including academic achievement and completion of higher education (Boser et al., 2014). However, teachers' expectations differ by students' race, economic status and national origin. For instance, Eastern European students have experienced various forms of racism and low expectations in the UK school system (Tereschenko et al., 2018).

1.4.6. Students From Ethnic and Racial Minority Groups Are More Likely To Be Labelled 'At Risk'

For example, in Quebec, Canada, students with Caribbean backgrounds are three times more likely to be identified as SHSMLD (students with handicaps, social maladjustments, or learning difficulties) and placed in separate classes for "at-risk" students (Maynard, 2017).

Figure 1.7. Education leads to overcome racial discrimination.

Source: Image by unsplash.com.

1.4.7. Education Attendance and Attainment Correlate with Race

According to the 2020 Global Education Monitoring Report, although there have been advances towards increasing access in recent decades, enduring racial inequality remains in educational attendance and attainment in Latin American countries.

For example, compared to their non-Afro descendant peers, attendance rates are lower for Afro descendants aged 12–17 (ECLAC, 2019). Based

on World Bank data (2018), Afro descendants in Uruguay and Peru are also reported as less likely to complete secondary school than non-Afro descendants.

1.4.8. Racial Discrimination Takes Place Among Students

In Australia, a study of primary and secondary Anglo-Celtic/European, East or Southeast Asian, Aboriginal and Torres Strait Island, Middle Eastern, Pacific Islander and African students' backgrounds, found that one in three reported being the victim of racial discrimination by their peers (Priest et al., 2019).

1.5. THE RETURNS TO EDUCATION DIFFER BY RACE

In post-Apartheid South Africa, although opportunities for education have improved, there has been a divergence in the valuation of that education. In 2004, differences in the returns to education accounted for about 40% of the White-African wage differential (Keswell, 2010). By 2018, the average Black South African earned five times less than the average White South-African (Syed & Ozbilgin, 2019**).**

Racism is a violation of the Universal Declaration of Human Rights (1948) and it goes against UNESCO's Convention Against Discrimination in Education (1960), the International Convention on the Elimination of All Forms of Racial Discrimination (1965), the International Covenant on Economic**,** Social and Cultural Rights (1966) and the Convention on the Rights of the Child (1989).
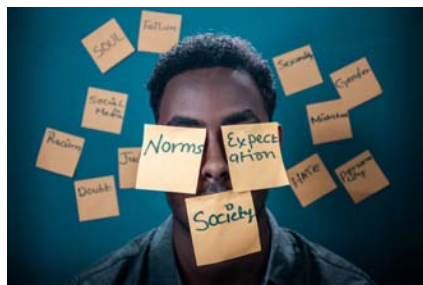
Figure 1.8. The returns to education differ by race.

Source: Image by unsplash.com.

Systemic racism and discrimination are deeply rooted within the very social structure that exists around us, within governments, at workplaces, courts, in the police and in education institutions. Education systems and educational institutions have an important role and responsibility in addressing and eliminating racism through the following.

1.5.1. Supporting Schools to Implement Education Policies That Support Racially Integrated Schools

Such schools have been found to promote greater social cohesion and cross-race relationships (Eaton & Chirichigno, 2011).

1.5.2. Training And Recruiting Teachers That Reflect the Diversity of Students

Studies show that when teachers reflect the student body, there are improved learning outcomes, higher expectations and fewer disciplinary actions (Egamit et al., 2015).

.5.3. Examining the Curriculum from Multiple Vantage Points

Schools and educational institutions must uphold history, social memory and human rights as the core elements of teaching. By giving these subjects the rightful respect and attention, we can fully comprehend the past history and its relationship with the present and also shatter the creation of stereotypes. Examiners and educators must also re-evaluate and devise a new curriculum and create new textbooks with the intent of eliminate racist depictions, misrepresentation, and historical exclusions.

1.5.4. Addressing Implicit Bias

All actors in education institutions from policy-makers, leaders, teachers, staff and students should receive training to become aware of their implicit bias – their unconscious bias and beliefs. Reflective teaching, fair discipline policies based on data and use of external feedback are some strategies schools can use to reduce implicit bias (Staats, 2015).

Systemic racism is unfair and an oppression. Education is necessary to uproot this social evil so that a world free of inequality and oppression can be developed.

1.6. CONCLUSION

In conclusion, it can be said that education plays a major role in achieving a good quality of life and offers countless social benefits. Education is one of the main pillars of building a modern society. It offers relevant guidance in every human's life and thereby has various social implications. It is by far the most crucial medium to change the dynamics of a society as well as bring about a revolutionary shift in the life of an individual.

Theoretically, education is mostly associated with the process of delivering skill, disseminating knowledge and internalizing value, while in its practical application, an individual who equipped with education develops the ability to internalize and apply the knowledge in the challenges of everyday life.

In children's context, education can be seen as continuing process of their development, so that they can practice and apply their knowledge as preparation in the future. Thus, education is major aspect of development of any modern society since if there is a deficit of educated people then society will stop its further progress.

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Chapter 2

The Benefits of Learning

CONTENTS

Learning is the only way to bring about a difference in a person's life, not just as an individual but as a member of the community as well. It is an undeniable fact that without education and the process of learning the world would be a fairly poorer place.

Be it for economic development, intellectual development, social development, or moral development, learning is the key to ensure healthy and prosperous living. The benefits of education are both societal and personal, from encouragement to pursuing one's personal passion to reduced crime and better communication, learning is the way to pay back the society for all its generosity.

2.1. INTRODUCTION

This chapter deals with the impact of learning on the lives of people, be it collectively as a community or be it specific to an individual's personal life. It would be safe to say that anyone who is reading this book, you, the pursuer – will be comprehensively inclined to accept that learning does undoubtedly bring benefits; we do not in general commit time to finding out about things in which we have no conviction.

Regardless of whether as understudies (and previous understudies), educators, or some other type of instructive expert or just as individuals from a general public where learning is progressively underlined as the sine qua non of individual or aggregate accomplishment, the vast majority have a solid sense that without training their reality would be a more unfortunate spot, monetarily yet in addition mentally, socially, and even ethically.

Additionally, this insight comes not from dynamic information or political way of talking but rather generally from direct insight. The vast majority of us intentionally owe our social and word-related situation somewhat of instructive accomplishment; we interpret that information into worry for the achievement of loved ones, and the more extensive society, and we see the miserable consequences for others of instructive disappointment.

Stock getting the hang of praising expressions flourish, from Aristotle ('Public training is required in every aspect of public interest,' Politics, book 8) to the current Prime Minister ('Education is the best monetary arrangement we have').

In any case, what realizing means for our lives, independently and aggregately, remains moderately neglected in an orderly exact style. Those individuals improve occupations since they have capabilities that are

self-evident, and the connection between training, pay, and occupation is grounded at the individual level (Carney, 2000; Blöndal et al., 2002).

Better taught populaces will in general flourish (OECD 1998). Indeed, even on this financial front, in any case, the systems which interpret learning into advantage are still inadequately comprehended at the level of the association or, even more, the state. For all the political ways of talking, the conduct of numerous associations shows that they do not accept that putting resources into individuals' human resources is fundamental for their presentation (Keep et al., 2003). Of course, schooling is not just about monetary execution. In the event that we go to the social advantages of learning, there is a mass of narrative proof about how learning can change lives; the issue is to interpret this into the efficient comprehension of the cycles by which it happens.

In the UK, for instance, Adult Learners' Week is a yearly limited time occasion, presently duplicated all throughout the world, which commends the accomplishments of people who have broken out of frequently troublesome conditions utilizing schooling. Various limited scope contemplates addressing the advantages of specific types of learning, for example concerning wellbeing or individual prosperity (West, 1996; McGivney, 2002). Such subjective records – methodical or narrative – are significant, for they can bring enlightenment and individual declaration. Nonetheless, they are by and large restricted in scale as well as in the origination of the results they investigate. At the opposite finish of the scale, huge datasets, containing many snippets of data on a large number of individuals, routinely uncover the relationship between levels of training and most components of social success: more instructed individuals live more, in better conditions, hand on more physical and social money to their youngsters, etc. (McMahon, 1999; Ferri et al., 2003).

Figure 2.1. The benefits of learning.

Source: Image by unsplash.com.

Factual connections of this sort give a significant sign of how learning is identified with changes in various parts of individuals' lives, yet the instruments by which this happens are not as straightforwardly clear as may be assumed and the scientific devices for recognizing them are not adequately evolved to give an adjusted record. Also, there are issues with causality in this degree of work: is it the instruction that prompts better wellbeing, or does better individuals think that it is simpler to take part in training?

2.2. CULTURAL AND PERSONAL ADVANTAGES OF LEARNING

The advantages of training are many. Not exclusively will you by and by advantage from getting instruction with regards to pay, professional success, ability improvement, and work openings, yet the general public and local area get advantages of training too.

Social orders with higher paces of degree fruition and levels of training will in general be better, have higher paces of financial security, lower wrongdoing, and more noteworthy uniformity. For additional astounding advantages of instruction, read on.

- ***Advantages of Education are Societal and Personal:-*** The individuals who get schooling have higher livelihoods, have more open doors in their lives, and will in general be better. Social orders advantage also. Social orders with high paces of training fruition have lower wrongdoing, better generally speaking wellbeing, and urban inclusion.

- ***Destitution Reduction:-*** The absence of admittance to schooling is viewed as the base of neediness. Not getting training can prompt a pattern of neediness. Nonetheless, admittance to instruction can mean escaping that cycle.

2.2.1. Better Lifestyle

Individuals with better training watch out to live more and have better ways of life. As indicated by research, individuals with advanced education have a 33% lower hazard of coronary illness. Degree holders are additionally less inclined to smoke and bound to get normal exercise.

Figure 2.2. Cultural and personal advantages of learning: better lifestyle.

Source: Image by unsplash.com.

2.2.2. Experimentation and Diversity are a Benefit of Education

An individual advantage to getting instruction is the chance to develop as an individual, try different things with what you are energetic about, and get yourself. You will be presented to an assorted arrangement of individuals and thoughts which grow the psyche.

- ***Interfacing Across Borders:-*** The new universe of computerized instruction is assisting the individuals who are getting schooling to associate across the globe with individuals from different societies. Understudies can work together across borders, expanding the social mindfulness and experience of the people.

2.2.3. Mingling and Networking Are Personal Benefits of Education

Training furnishes understudies with space and the chances to meet similar people, either on a companion or tutor premise. In school, understudies meet forerunners in their field, top experts, and make contacts through extracurricular exercises too.

2.2.4. Seeking after Your Passion

At the point when you feel enthusiastic about something, you need to submerge yourself in that subject. Schooling gives you the space to do as such. Likewise, you may discover new interests or new spaces of interest inside your field of study.

- *Feeling of Accomplishment:-* Completing any degree—regardless of whether it is a secondary school degree or advanced education—is an achievement. Graduating gives understudies an enormous feeling of achievement and gives them the certainty expected to go out into the world and make a big deal about themselves.

2.2.5. Self-Awareness of Skills

Understudies are needed to go through numerous sorts of tasks, conversations, courses, and seriously during their time in schooling. Accordingly, they end up with a magnificent range of abilities that convert into the labor force. Moreover, from extra curriculars, understudies learn expressions, sports, and more that help them by and by throughout everyday life and to associate with others.

- *Greater Productivity:-* Those with instruction have had more on their plate and prevailing through it. They realize how to deal with their time and gifts and be useful. After graduation, understudies can convey that useful energy into the labor force.

- *Better Communication:-* Understudies are needed to turn in composing tasks, work in gatherings, partake in conversations, or present before others. This prompts great composed correspondence, talking abilities, and gathering correspondence.

- *Basic Thinking Skills:-* Individuals with instruction can think, and think well. They are educated to pose inquiries, reflect, and dissect—all basic abilities for later achievement.

- *Recognizable proof of Skills:-* Some have abilities that they have not yet found and have not had the chance to develop. Training extends the brain, opens understudies to new points, and pushes understudies to improve. Thus, understudies may discover abilities they didn't realize they had.

- ***More Noteworthy Sense of Discipline:-*** Understudies are given expanding measures of duty with every time of instruction they complete. It is the understudy's responsibility to deal with their time and make their prosperity, prompting self-restraint capacities for the individuals who succeed.

2.2.6. Greater Employment Is a Benefit of Education

Degree holders approach more positions. For alumni of lone wolf's projects or higher, the joblessness rate is sliced down the middle.

2.2.7. Profession Entry and Advancement

Professional educators get ready understudies for a vocation or progression inside their present field. Advanced education gives the preparation and abilities vital for achievement in a particular region. Likewise, numerous positions require a degree for passage. Some may not glance at a resume where the candidate has no degree.

2.2.8. Financial Growth

At the point when a whole society is instructed, efficiency builds normal pay increments, and joblessness declines. This prompts the monetary development and strength of society overall. It begins with schooling.

- ***Higher Income as a Benefit of Education:-*** Those with training past secondary school will in general have more significant compensations than secondary school degree holders. Those without any degrees make the most reduced pay rates by and large. For everyday laborers in 2017, week after week normal wages for those with no degree was $515, trailed by secondary school graduates at $717, and $1,189 for four-year certification holders. Those with advanced education made a normal of $1,451.

2.2.9. Ecological Benefits

Environmental change is a huge piece of the discussion today, and society needs to cooperate to discover approaches to diminish its effect on the earth. Instructed people that enter the labor force will put their insight into environmental change into organization approaches, prompting expanded supportability.

Figure 2.3. Financial growth.

Source: Image by unsplash.com.

2.2.10. Cultural Benefits

A general public that is accomplished feels a higher feeling of solidarity and trust inside the local area. Taught social orders to lift the powerless and bring a sensation of fellowship among all parts.

- ***Advances Equality and Empowerment:-*** Schooling gives everybody a feeling of strengthening; the possibility that they have the decision to change their own lives and pick their way. Ladies with training have better dynamic abilities and are bound to assume responsibility for their own lives.

- ***Advances Good Citizenship and Civic Involvement:-*** Those with training will in general be more mindful of current policy-driven issues and are bound to cast a ballot. More significant level holders are twice as liable to chip in, and 3.5 occasions bound to give cash than secondary school graduates.

- ***Lessens Crime:-*** Schooling shows individuals the contrast between good and bad and uncovered kids and youthful grown-ups to the encounters of others. Seeing good and bad and having sympathy decreases the inclination to perpetrate wrongdoings. Instruction of society diminishes generally speaking captures only one year increment of normal schooling levels of a state decline state-wide captures by 11%.

- *Lessens Gender-Based Violence:-* In people group with high paces of schooling for the two sexual orientations, sex-based savagery is lower. Instructed people are bound to help sex equity, and are bound to take endeavors to pause and forestall sexual orientation-based or abusive behavior at home. Networks that esteem training for the two sexual orientations are more averse to have cases of fear-based oppressor assaults on young ladies' schools.

- *Decreases Child Marriage:-* Young ladies with optional or advanced education are multiple times less inclined to wed before the age of 18. Placing schooling first in the public eye takes into account young ladies to be viewed as individuals who can get instruction and settle on their own choices, as opposed to simply a future spouse and mother.

- *Reduced Maternal Mortality:-* Maternal mortality rates fall significantly in highly educated societies. Women with no education at all are 2.7 times more likely to die at birthing than women with 12 years of education. Women with one to six years of education have twice the maternal mortality rate.

This is because educated mothers are more likely to access health care even if they have lower socioeconomic status. Lack of education is also a stress factor for women during childbirth. The more stressful a pregnant woman is, the more likely she is to have negative consequences.

2.3. INDIVIDUAL BENEFITS FROM TRAINING AND DEVELOPMENT PROGRAM

2.3.1. Career Competencies

Employees can benefit a lot from their training and development programs. They learn the software skills and technical skills necessary for the job. Unemployment rates have been at their lowest levels in the past 30 years, and when there are few opportunities for growth, workers are not conducive to starting new jobs (Dobbs, 2000).

New college graduates are primarily looking at companies that offer intensive training programs to their employees, but the idea is that organizations risk losing new-trained employees over the years (Feldman, 2000). Professionals belonging to the information technology industry

recognize that knowledge is an authority and that they need to possess the skills and talents according to the current requirements of the market.

Most employees recognize the importance of training programs and want to raise their salaries (Tillich, 2000). It is also expected of graduates who do not respond adequately to the ever-changing business environment (German, 2000). Young professionals with entrepreneurial ambitions know they lack experience and money.

Therefore, they seek to engage with companies that offer training programs to prepare their employees for future improvement (Feldman, 2000). Employee development programs help employees develop their ability to survive into the future and respond to new technologies.

Over the years, the requirements of blue-collar jobs are constant, and many companies have prepared modifications for demanding learning software and programed systems (Cunning, 2000). This requirement requires workers to assess their professional abilities to retain employment.

Another number of employees in this situation restored their attitudes to working and developing outside the promoted organization within the organization (Feldman, 2000). Thus, employees made plans for the next decade and always changed their plans after two years as technology and information changed (Wilson, 2000).

Tires Plus provides training to promote a variety of careers throughout the organization. This training includes 80 hours of training in which managers are promoted to managers (Dobbs, 2000). I-Cube, a Massachusetts information technology consulting firm, provides employee development programs for employees selected by I-Altitude and facilitates new hires into the organization (Fern, 1999).

It is understood that employee training programs result in better jobs and higher rewards (Finn, 1999). In addition, helping employees improve their skills and knowledge to meet the needs of the future leads to job satisfaction.

2.3.2. Employee Satisfaction

Employees do not feel about their organizations if they believe they are not important to them (Garner, 1999). Companies are ready to spend money for their employees to make value with these companies, although the ultimate investment organizations (Wilson, 2000) have benefited.

Companies offering training and development programs for their employees who receive high employee satisfaction and low jobs (Wagner,

2000). The training increases the reliability of the organization for the reason why employees recognize their organizations for their future careers (Rosenwald, 2000).

Loyalty with the organization cannot be calculated, but it is important that the internal rewards feel employees. The staff feels well and would like to stay with their organization when they feel, fight them, and their skills on the succession for their organization (Logan, 2000).

Figure 2.4. Individual benefits from training and development program.

Source: Image by unsplash.com.

Employees are satisfied with their work, believe that their work is for their organizations and is important (Moses, 2000). Normally, the best artists do not have their work for financial subsidies. Although wages and benefits play an important role in choosing and maintaining employees can still maintain new skills to meet various tasks and gain personal and professional development (Wagner, 2000).

Therefore, there are these requirements to facilitate trust, self-esteem, and job satisfaction in the employees (Dunn, 2000).

2.3.3. Employee Performance

Staff achievements The educational effects of employee behavior and work skills have brought about constructive changes that improve employee performance and enhance employee performance (Satterfield and Hughes, 2007) (Krieger, 2002).

Arthur et al., (2003) developed an analysis of 1152 sample sizes with 165 resources and found that it was untrained or distinguished from pre-training conditions. Training has generally had positive consequences for work-related outcomes.

However, the difference in the magnitude of the effect was not large, and the efficiency of training varied based on the training delivery technique and the trained technique. The benefits of an education program are also related to the technical capabilities of the employees.

For example, Davis and Yin (2004), with the help of behavioral model training, were able to develop two studies with the contribution of about 300 people and significantly improve computer technology. Through psychologically practicing work, trainees were able to develop the knowledge, abilities, and work they learned.

Education has a positive impact on employee performance. In a qualitative study of Indian mechanics, Barber (2004) began a hands-on education towards superior novelty and implicit technology. Skills and expertise are critical to staff's ability to carry out their work effectively.

If you provide staff with educational opportunities, you can improve employee performance. Educated mechanics has increased to be able to grasp the two Jeep bodies using only handmade hammers, off and oxygen-acetylene welds, which are educated in connection with the invention.

In connection with implicit technology, Barber explained that a "feel" is needed for a mechanic's job to succeed in his research. Barber (2004) explained that from the results of effective training, machinists have a valuable feeling of how to hit metal at specific points, and that work should be done in a systematic and appropriate manner.

2.4. ORGANIZATIONAL BENEFITS FROM THE TRAINING AND DEVELOPMENT PROGRAM

2.4.1. Market Growth

Employee development programs not just only benefit the individual employee but are more beneficial for the organization to stay competitive in the market. It is expensive to spend the money on the employees, but if the money spent is considered as a future investment then the results will be exponentially positive.

The company could grow five times more than the previous and will establish a place in the market. American Society for Training and Development mentioned two motives, which are acknowledged significant to employees: first, employees' training worth is considerable for the organization's market value, and second, that CEOs come to knowledge about the transfer of information in the current business environment (Fenn, 2000). Greengard (2000) described that organizations should develop and maintain the learning environment in the organization for the growth of both company and employee.

2.4.2. Organizational Performance

Organizational effectiveness and efficiency are increased by contributing to the training factor (Schuler and MacMillan, 1984). The performance of an organization is based completely on the investment in the training and development program, which justifies the fact that it develops the individual and organizational effectiveness (Bartel, 2000). There is a relation between the training programs and the increasing growth of an organization. Bartlett (2001) recommends that the effective solution to the performance of the organization is directly proportional to the training and development program. Blundell et al., (1999) supported that the data and methodological problems can be overcome with the help of these programs. However, training can be used to provoke the preferred results that may contain enhanced organizational commitment (Bartlett, 2001). The current research proposed that the facility of training and development program is likely to be taken by employees that their organizations need to enter a social exchange with them. This social exchange agreement produces a durable psychological bond between employee and organization (Garrow, 2004).

Figure 2.5. Organizational benefits from the training and development program: market growth.

Source: Image by unsplash.com.

2.4.3. Employee Retention

Research says that it is a difficult and challenging task for the retention of an employee in the company. To retain an employee in the organization, it should provide the employee with perks and incentives to hold. They should reward the employee for their work and the time they spent on the company's growth.

Organizations should show gratitude toward their employees and acknowledge them for the positivity they have shown as a result of the performance of the company). Organizations that are offering employee development programs are getting success with retaining employees.

An effective design of training programs can also increase retention among employees. Employee retention is a volunteer move by organizations to create an environment that involves employees for the long term (Chaminade, 2007).

2.5. THE BENEFITS OF LEARNING OUTSIDE THE CLASSROOM

"Learning outside the classroom activities are often authentic, hands-on, interactive and build on classroom learning."

The purpose of school is to prepare students for life beyond school. Today's society has a higher demand for self-cognizance and more specialized skills. One of the most facile ways to avail advanced students is by incorporating learning experiences outside the classroom. Taking classroom learning outside can enrich a student's scholastic experience by exhibiting them authentic-life applications of theories that they are learning at school.

2.5.1. What Is Learning Outside the Classroom?

Learning outside the classroom is the utilization of places other than the school for edifying and learning. It is about getting children and puerile people out and about, providing them with arduous, exhilarating, and different experiences to avail them of learning.

Places may refer to a location, activity, or workshop, but regardless of where learning outside the classroom takes place, the purport is equipollent. Give students a genuine-world learning experience that will set them up for prosperity in life beyond school.

Learning outside the classroom experiences differ from those that arise through conventional edifying methods as students may be enheartened to engage a broader range of soft skills such as teamwork, leadership, and compromise in their cognition environment.

Conventional edifying fixates on repetition and memorization to inculcate students and is propitious for sharing incipient erudition and edifying students who learn best by heedfully aurally perceiving. However, conventional edifying does not inspire students to develop critical celebrating, quandary-solving, and decision-making skills, which learning outside the classroom can.

Not only can learning outside the classroom lead to a deeper understanding of challenging concepts, but it can provide a context for learning in many areas.

2.5.2. Direct Benefits of Learning outside the Classroom

Learning outside the classroom can avail edifiers engender ebullience for learning, provide a genuine-world context and expose students to a range of STEM vocations. Students who experience learning outside the classroom benefit from incremented self-esteem and become more engaged in their edification. Evidence suggests learning outside the classroom can raise achievement, amend classroom demeanor and amend the engagement of students, including those who are hard to engage in the classroom environment. An extensive report published by Ofsted found learning outside the classroom contributed significantly to raising standards and ameliorating pupils' personal, convivial and emotional development.

Figure 2.6. Direct benefits of learning outside the classroom.

Source: Image by unsplash.com.

In 2016, School Peregrinate Forum conducted an independent research study to ascertain how school trips and learning outside the classroom impact the development of students. They found 60% of edifiers decried an incrementation in students' confidence, resilience, and wellbeing after participating in a school trip and 61% of students achieved higher than their southside grade.

The study found that while most edifiers wish they could offer more learning outside the classroom opportunities, 67% cited cost and organization as their primary deterrents.

2.5.3. External Benefits of Learning outside the Classroom

A degree of cost-benefit analysis takes place when deciding to organize a school trip or other learning outside the classroom activity. Costs involved in coordinating learning outside the classroom may include accommodation, conveyance, indemnification, learning workshop fees, and time is taken to fill out paperwork. Benefits commonly include what students are expected to get out of the peregrination, such as a better understanding of a concept or topic. While the cost-benefit analysis can be auxiliary in making decisions, educators often forget to include the many external and intrinsic benefits that arise from learning outside the classroom. These might include truncated behavioral quandaries, a more accepting posture towards cultural differences and diversity, or a piqued curiosity in a future vocation prospect. All of these are examples of benefits that have a positive impact but cannot be facilely quantified. Because of this, organizing a school trip or other learning outside the classroom experiences may appear costlier than it authentically is.
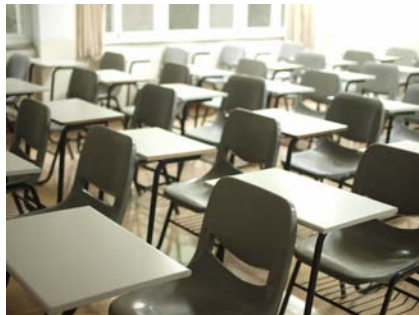
Figure 2.7. External benefits of learning outside the classroom.

Source: Image by unsplash.com.

2.6. THE MIND-BODY BENEFITS OF LEARNING AN INCIPIENT ADEPTNESS

Whether you are bored, have extra time on your hands, or want to get out of a rut, learning an incipient adeptness can give you the noetic and physical boost you require.

2.6.1. Reasons to Learn an Incipient Adeptness

It gives you motivation. An incipient hobby or adeptness can give you the motivation you require to get out of bed in the morning. During this pandemic, most of us are spending more time at home and are physically isolated from many profoundly relished ones. This can take a toll on our phrenic health. Learning an incipient language, practicing an instrument, or inclining to a herb garden can energize you, bliss, and a sense of purport.

It avails beat insipidity. Doing the same thing every day can get insipid and sap your zest for life. While endeavoring something incipient requires more effort than turning on the TV, the benefits are numerous.

It boosts confidence. "If you engage in an incipient adeptness, you are going to thicken the brain's prefrontal cortex," verbally expresses Buttimer. "As you develop an incipient adeptness, you will gain valiancy and confidence, which avails you override fear and apprehensiveness. You will feel more potent."

It keeps you salubrious. "Learning is great for your encephalon at every age," he verbalizes. "As you take on an incipient adeptness, the mind commences to reshape itself because the physical encephalon is malleable.

Aforetime, it was thought that it was only malleable until adolescence. However, now the research shows it can keep transmuting throughout our lives and for the preponderant, so you have fewer fear replications and a more positive mindset."

It allows you to be flexible. By consistently edifying yourself and endeavoring incipient things, you will learn you are capable of change and magnification, which keeps you open to incipient opportunities in life. "Learning an incipient adeptness can get you out of a rut. If you do not learn incipient skills, you can commence withering marginally mentally and physically because you're falling victim to the same habits and mindsets again and again," Buttimer explains.

It can benefit others. Contemplate how your incipient hobby or adeptness can avail others at work, at home, or in your community.

It can boost your ecstasy. "When you learn an incipient adeptness, you increment your caliber of jubilance," he verbalizes. "It was thought for a long time that a person's baseline jubilance could not be hoisted. It turns out that you can keep influencing your caliber of ecstasy. As you learn an incipient adeptness, you can boost it. You will not be euphoric all the time, but you will hoist your sense of salubrity."

2.6.2. How to Make the Most of Learning an Incipient Adeptness

Consider your "why." It does not matter if an incipient adeptness is for work or play – you will get benefits either way. Contemplate what you hope to gain from learning an incipient adeptness. Do you operate to pass the time, truncate stress, ameliorate your vocation or boost your health? Once you know what you hope to gain, you can determine which adeptness you'd relish learning.

Explore possible subjects. Once you know your "why," start exploring potential topics. If you opt to amend your health, maybe you should learn how to practice rumination or yoga or grow a vegetable garden.

If you opt to pass the time by doing something other than optically canvassing TV, celebrate something that you have always covertly wanted to do, suggests Buttimer. Maybe you are not a musical person, but you have always wanted to play the piano. Why not commence now?

If you want to do something, but are not sure where to commence, optically canvass what is trending right now, such as knitting, studying an incipient language, bread-making, coding, calligraphy, or graphic design.

Consider your learning style. If you are a visual learner, sign up for a video-predicated class.

If you opiate to take a deep dive into a subject, probe for a course instead of a one-time class. If you learn best by reading, stock up on books at the library. If you learn best by heedfully aurally perceiving, download some podcasts or an audiobook. Do what works for you.

Take a commiserate approach. Learning an incipient adeptness is supposed to be something positive in your life. While it may feel arduous, especially at the commencement, it is consequential to take a commiserate approach. You do not have to do it impeccably; just be open and receptive.

Figure 2.8. Mind-body benefits of learning an incipient adeptness.

Source: Image by unsplash.com.

"You could affirm to yourself, 'I'm being open and receptive to learning this incipient adeptness while holding it loosely. This will be frolicsome and positive. Some setbacks are mundane when learning something incipient, but all is well,'" suggests Buttimer.

2.7. FAMILY LIFE AND LEARNING

2.7.1. Family Trends

The family of the incipient millennium is very different from that which was prevalent-place at the commencement of the last century. Amongst the myriad of transmuting family and living patterns visually perceived in recent decennial are overall fall infertility; an incrementation in extra-marital fertility; older ages at child-bearing; more diminutive households and family sizes; an incrementation in lone parenthood; an incrementation in divorce rates; an incrementation in cohabitation; an incrementation in living alone; falling numbers of first epaulements; and a decline in elongated families and multi-family households (Fox and Pearce, 2000; Haskey, 1987, 1998; McRae, 1999).

These trends are set to perpetuate, along with incrementing numbers of stable non-marital cumulations, including same-sex couples; 'living apart together relationships; never-espoused motherhood as cull; co-parenting; and reconstituted families built around remarriage or cohabitation.

The transmutations have designated that family and household structures have become more diverse and that individuals are more liable to experience living in a more preponderant variety of families and households during their lifetime. According to Haskey (1996), the trend towards a variety of norms is perhaps the most consequential aspect of post-war convivial change.

Current debates rage over the decline of the traditional family (i.e., two espoused parents, where the mother is the abode-maker and caregiver, the father is the 'breadwinner,' and children are the passive recipients of socialization). If the traditional family unit is visually perceived as both a norm and an ideal, then recent trends indubitably place this under threat.

Some argue that the traditional family unit is divisive and oppressive, and maintains inequalities of puissance. For them, contemporary family life enables individualization, fluidity and variety, more intricacy and cull, and liberation from definitive gender and generational obligations and relationships.

Some trends have implicative insinuations for the definition of a family in terms of gender, generation, age, class, and ethnicity. Whilst we might be more certain of the definition of a traditional family, we are less sure of what constitutes a contemporary family.

Morgan (1996) argues that families are not static concrete structures or forms; they are engendered through every day, perceptual and fluid 'Practices,' which overlap and interact with other practices cognate to gender, generation, gregarious class, and ethnicity.

This is kindred to the conceptions of Bourdieu (1977, 1986), in which gregarious capital (of which the family is one source) is interrelated with other forms of capital.

What is certain, however, is that the family perpetuates to be one of our earliest sources of cognition. As Goleman states: 'Family life is our first school for emotional learning; in this intimate cauldron we learn how to feel about ourselves and how others will react to our feeling (Goleman, 1996: 189–190).

Indeed, long-term learning identities are composed within families (Gorard et al., 1998), and families are publicly recognized as potentially both affluent and supportive learning environments for all members (DfES 1999). This chapter now disseminates how families and learning interact with each other, taking a brief look first at findings from quantitative research.

2.8. WHAT IS ADULT LEARNING THEORY AND WHY IS IT CONSEQUENTIAL?

Quite often we take the fact that people know how to learn for granted. It stems from the fact that we had to learn in school But that can be a perilous posture to take when it comes to corporate training initiatives. School curricula are built on theories about how children and teenagers learn (and how much time they can dedicate to learning). Have you ever considered whether adults learn in the same way? (Spoiler: They don't!)

That is where the Adult Learning Theory comes into play. Kenning how adults incline to learn, you can tailor corporate training programs to capitalize on the qualities that adult learners have—like their alacrity to learn germane material, their desire to connect with the experience, and their motivation to ameliorate themselves. To grasp adult learning theory and how it can be applied, it avoids how adults learn from how we learned when we were children.

2.8.1. How Adults learn is Different from How Kids Learn

A plethora of corporate training is predicated loosely on models of inculcation found in schools. That is unsurprising, as school is the first and longest exposure we have to a cognition environment. But we have to recollect that the reasons adults learn are different from the reasons kids learn.

When in school, students are placed in an environment that prods them into learning. They are placed in a classroom, matched with other students who are mostly the same age as them, have a similar level of expertise, and are expected to do nothing but learn for the majority of the time they are there.

Most of the motivation is external, designating that children go through this process to please their parents and educators (at least until they mature and visually perceive the value of learning itself).

Once we graduate, things are different. When adults opt to learn something, it is because they optically discern value in those things. For example, we might pick up a hobby because we find it fascinating or relaxing. Or we might learn an adeptness that will avail us advance in our vocations. It's our intrigues and ambitions that drive learning.

Incorporate learning, that difference is sometimes forgotten. When that transpires, training is predicated on a school model where people are grouped together and required to learn content. It's no wonder that model

does not work: After spending years in school, adults do not want to have "homework" in the form of training courses. Adults have different calibers of expertise, and so any classroom will have some learners who are struggling to keep up, and some who are bored because they already know the material. So, how exactly do we make training something that adults WANT to do, and how do we make it efficacious?

2.8.2. Adult Learning Theories

Those very questions – how to make training something that adults want to do, and how to make it effective – are what drive the field of research Kennedy as Adult Learning Theory. If we are utilizing labels voraciously, there are several different adult learning theories in the research literature. Some of these include:

- *Transformative learning.* True learning experiences should somehow transmute the individual—at least, that's the central claim of transformative learning approaches. In practice, it recommends starting with learning experiences that appeal to your categorical audience and then moving on to activities that challenge postulations and explore other perspectives.

- *Self-directed learning.* This approach acknowledges that the majority of the cognition that adults do is outside the context of formal training, and so the accentuation is on augmenting those informal learning experiences. This can be through providing content, availing individuals to plan their cognition, or evaluating learning experiences after the fact.

- *Experiential learning.* Experiential learning makes the case that the essence of adult learning is making sense of experiences. Adults learn best when they learn by doing. Learning activities thus make heftily ponderous utilization of role-playing, simulations, and so on.

- *Andragogy.* Andragogy accumulates many of the insights from the above theories. This approach commences by perceiving the distinctions between adults and children and designs learning experiences from there.

For example, learning experiences are engendered with the posits that adults come to the table with their own set of life experiences and motivations, can direct their own learning, incline to learn better by doing, and will opt to apply their cognition to concrete situations sooner rather than later.

There are more, and many variations on these, additionally. It is a big mistake to celebrate any one of these as the correct theory. Each of these provides insight into the ways in which adults learn. Conversely, not all adults learn in the same way, and it is paramount to find approaches that blend several theories so that they can work for the majority.

2.8.3. From Adult Learning Theory to Instructional Design

So, let us suppose you are engendering a corporate training program (or looking to purchase one) predicated on proven adult learning theory, utilizing video for both indispensable in-house and self-directed learning. How would you tie together the principles of adult learning with the nuts and bolts of engendering training materials that work?

This is exactly where instructional design comes into play. There are plenty of methodologies for instructional design out there: ADDIE, Successive Approximation Model (SAM), Supple, just to denominate a handful. But these describe the processes used to engender instructional materials and courses. For any of them to be efficacious, they require a firm understanding of how adults learn in the first place.

2.8.4. Engendering Training that Works

Recollect, how adults learn on their own is very different from the ways children learn in a classroom. How do we leverage adults' alacrity to learn germane material, their desire to connect with experience, and the overall goal of transformative change?

Here are seven ways we here at ej4 do just that in this process of designing our own off-the-shelf content!

1. ***Leverage technology that keeps them learning:-*** The format is immensely colossal, especially if you are endeavoring to enhearten adults to perpetually learn on their own. The format should be facile to navigate, should be repeatable, and should enhearten learners to do more.

    Contemplate how a streaming accommodation like Netflix gets us to consume its content: It lets you browse easily, makes suggestions predicated on what you like, and lets you hit the "next episode" button as soon as you are done. Imagine if you could get your employees to fixate on your training content by utilizing kindred implements!

2.   *Utilize visuals saliently:-* Researchers at UC Santa Barbara determined that integrating pertinent visuals to words resulted in an 89% advantage of learning outcomes. This effect was greatest for learners with a little background about a topic, denoting that, when adults with different calibers of expertise encounter a piece of training content, those with less familiarity with a topic will be availed by visuals.

Pertinence and mitigation are paramount; however, an extravagant quantity of visuals can inundate what is being verbalized (and why). Impertinent visuals will interrupt learning. Additionally, there is an ecstatic medium.

3.   *Integrate opportune audio:-* There is ample evidence that audio descriptions can greatly enhance understanding when used to describe or explicate involute visuals. Audio cues are additionally a great way to avail learners to make their way through a course—for example, intro music can be acclimated to segue to different sections of a video, marking different subtopics. Sound effects are additionally utilizable to designate a transition to an incipient concept, or the advent of a consequential bullet point on the screen.

4.   *Utilize conversational presenters that the learner can optically discern:-* Conversational presenters make content more relatable, engaging, and vivacious. The presenter is not even required to be a person (for example, it can be a simple animated character).

5.   *Get the right (concrete) content:-* We can process and recollect only so much information when it is presented in an abstract way. A lot of people are better at learning through experiences, but experiences are not something you can transmit via a computer screen.

However, an individual can consider making the content much more concrete by making small changes such as providing examples. It is a known fact that learners prefer examples over explanations. This is why we include lots of examples in all of our off-the-shelf videos.

6.   *Aim for consistency:-* Have you ever driven someone else's car and found it to be a weird experience? Or walked through a neighborhood you were unfamiliar with? Or navigate through someone else's home as a guest? (Just where are the napkins kept?).

There's something to be verbally expressed for a consistent learning experience. With it, learners are better able to parse and organize the information they are getting. Without it, they are off their "rhythm" and diverted by the "newness" of the format.

7. ***Provide supplementary materials:-*** Some people can learn just by being heedfully auricularly discerning, but for others, it is to take notes or review indicated materials afterwards. To engage these learners best (without having them exasperatingly inditing things down), endeavor to provide prepared notes and supplementary materials. These have the integrated benefit that you can ensure key information is precise and consummate.

2.9. CONCLUSION

The only constant in life is change. Learning is the sole key to keeping up with the pace of the fast-developing world. For an individual to prosper, not just economically but socially as well, the noble process of learning and educating oneself plays a vital role in ensuring a generous contribution to the overall development of the person and the society as a whole. A healthy living is essential for a happy and satisfactory life. Learning gives a positive ray of hope for a longer lifespan in a healthier environment.

Quite fortunately, these benefits are not just limited to a person as an individual, rather they affect everyone around you as well and promote a self-aware community that looks forward to a sustainable development for a better today and tomorrow. It mends interpersonal relationships and creates a deeper bond with the environment which further gives way to a healthy give-and-take agreement.

Be it for personal development, career development, societal development, or even environmental development-learning is the mighty tool that can help carve a way for a brighter future that we owe to ourselves and our future generations. This is why, in a nutshell, one can conclude that making the most of this unique life-skill is absolutely essential for every human being.

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Chapter 3

Role of Higher Cognition and Edification

CONTENTS

This chapter gives an insight to the reader about the role of higher cognition and edification. It begins with outlining the importance of higher education in the 21ˢᵗ century which further illustrates the emergence of more and more opportunities, states why learning new skills is significant along with higher education, why is it important to remain competitive and why is it essential for an individual to improve or enhance self-esteem and self-confidence, etc.

The second half of this chapter talks about the challenges present in higher education system and how it serves the most essential purposes, it also focuses on improving the quality of higher education, together with some immediate improvements, the needs for research, etc. In the end, it portrays the culture change for learning which further signifies the reconstituting the culture of higher education and collectively putting learning as a priority.

3.1. INTRODUCTION

Higher edification can offer a vigorous potential for contributing to development (Boni and Ambulator, 2016; Castells, 1994; McCowan, 2016, 2019; Oketch et al., 2014; Owens, 2017). Throughout the history of humankind, institutions of higher cognition have played a consequential role in society by inculcating the elite and engendering pioneering achievements in science and humanities. The Platonic Academy in Athens (fourth century B.C.), the Museum in old Alexandria (third century B.C.), and the Imperial Academy in China (second century B.C.) are examples of such institutions. The first Western-style universities emerged in medieval Europe and despite being exclusive, fortified the advancement of cognizance across the continent and beyond.

With the expansion of university participation beyond the elite, higher edification has acquired a more preponderant potential for contributing to societal development. Universities can inculcate denizens, states persons, edifiers, medicos, engineers, philosophers, lawyers, artists, and activists to fortify the development of tranquil, inclusive, and just societies.

Universities can undertake fundamental and applied research to amend our construal of life and to develop practical applications of scientific erudition. Edifiers in higher inculcation commonly aim to develop their students' ways of mentally conceiving, acting and approaching a field of study and practice. Hence, this should be the focus of our edification practice. This view of edifying involves providing students with experiences that enable them to enter the field as practitioners.

Figure 3.1. Role of higher cognition and edification.

Source: Image by unsplash.com.

Those experiences must be directed to developing students' understanding of the perspective that pertains to the field and what the content of a course betokens within that perspective.

In exploring how edifying can enable students to enter a field of study and practice, some alternative ways in which edifiers visually perceive the content of their courses are described. These ways of visually perceiving course content were drawn from a study of experiences of edifying in higher inculcation in a range of fields.

Some inhibitions of fixating on skills, erudition, procedures, concepts, and principles are outlined, concretely in cognation to edifying aims. It is argued that a fixate on enriching students' experience of the field of study and practice is more proximate and directly cognate to the aims of edifying in higher edification.

3.2. THE IMPORTANCE OF HIGHER EDUCATION IN THE 21ST CENTURY

No doubt you understand the paramountcy of higher edification. Higher inculcation can lead to many benefits, including a prosperous vocation and financial security. In the 21st century, inculcation plays an even more paramount role in other aspects of your life. Procuring a higher edification

can increment your opportunities and amend your overall quality of life. Today, more Americans are optically discerning the paramountcy of a college inculcation and its role in providing better job opportunities and a comfortable lifestyle. In fact, about 84% of Americans claim that a higher edification is very (47%) or prodigiously (37%) consequential to get ahead in life.

Among these Americans, 66% of those who did not graduate from college verbally express they wished they had, and 62% feel that peregrinating to college would have ameliorated their present standard of living significantly.
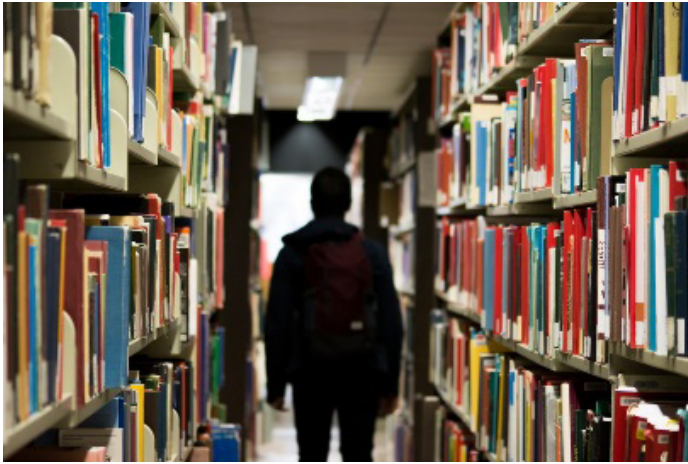
Figure 3.2. The importance of higher education in the 21st century.

Source: Image by unsplash.com.

In general, the College Board considers the practical benefits of higher inculcation in the 21st century to include:

- *Economic*: As the Bureau of Labor Statistics stats reveal, people with some form of higher edification earn more mazuma and have a lower probability of unemployment.
- *Health*: Gainful employment and a positive cash flow take away the stress factors associated with financial insecurity. As such, you are likely to live a more blissful and more salubrious life with some form of college under your belt.
- *Civic involution*: People with gainful employment and financial resources often give back to the community. When you earn well and your network expands, you are more liable to give to charity and become involved in volunteer work.

- • *Personal development*: People with vocations incline to lead more structured lives and have a more vigorous sense of responsibility, traits that accommodate as vigor-builders in other areas of life.
- • *Better communication:* Most jobs involve some form of inscribed or verbal communication. As such, you will generally ameliorate in both areas during your college and professional vocation.
  - • *Entelechy of passions*: As with most people, the more you learn, the likelier you are to find your true passions in life. Through the edification process, you can explore the sundry facets of a prospective field and find your strengths.
  - • *More preponderant sense of discipline*: The regiments of edification can instill you with the discipline required in the professional world. By learning to follow intricate ordinant dictations and meet stringent deadlines, you will be better prepared for the rigors of the rialto.
  - • *Sense of accomplishment:* Each time you complete a school assignment or job task, it's the product of your talent and hard work.

As you can visually perceive, the benefits of higher inculcation in the 21st century are not just vocation-oriented. Being able to develop yourself is invaluable, and having a higher edification avails you do that.

3.2.1. Create More Opportunities with Higher Education

Being a high school graduate does not open up the doors to many rewarding vocations as it did in past generations. These days, the Cumulated States has turned from being an economy that was once manufacturing-predicated to one that is now erudition – predicated, and the consequentiality of a higher inculcation today may be compared to what having a high school inculcation back 40 years ago provided: more opportunity and better vocation options.

The most expeditious pathway for many, if not most, people to a rewarding vocation is peregrinating to college and getting a higher edification. You may not know precisely what you opt to do after graduating from college, but you do at least once you opt for a vocation that is more rewarding, pays well, and is something you feel secure in and satiated with. These factors are why many people invest in college both with their mazuma and time.

Higher inculcation trains you in your culled field, but it helps you to understand intricate subjects, cerebrate analytically, and communicate your conceptions efficiently. You will learn paramount skills, such as organization, self-discipline, and how to optically discern a task from start to culminate. Higher edification avails you become more professional and gives you many work-cognate skills.

Since you learn a broad range of skills, you could culminate in a field you did not obligatorily study for. This can open up incipient and unexpected opportunities that might not have become available to you had you not received higher edification.

In today's economy, vocation options are declining for those who have not furthered their inculcation after high school. Many high school graduates who do not go on to college end up working in the accommodation field with jobs that pay low and do not offer advancement opportunities.

Of course, this is not always the case. There are many high school graduates who have become and are very prosperous. That verbalized, by furthering your edification, you acquire a broad range of skills that can qualify you for a wider range of vocation culls in different fields and that offer you more room for advancement.

3.2.2. Become and Stay Competitive with Higher Education

Higher edification additionally provides a competitive edge in the vocation market. We all know that in the economic times we are living in today, finding jobs is not ensured. The number of people unemployed is still relatively high, and the number of incipient vocation opportunities is not approximately enough to put people in jobs they are seeking. As a job seeker, you're competing with a high number of experienced workers who have been out of the workforce for a while and are additionally seeking work.

However, when you have a higher edification, it generally equips you for better job security. Generally verbalizing, employers incline to value those who have consummated college than those who have only consummated high school and are more liable to supersede that person who has not received a higher inculcation.

Furthermore, some companies even go so far as to pay your tuition because they consider an edified employee to be valuable to their organization. A college edification is an investment that doesn't just provide you with substantial rewards. It benefits the hiring company as well.

Graduates of college who have multiple skills may be less susceptible to layoffs during an economic recession than less adept workers. And, albeit it isn't an assurance, chances are you're less liable to struggle with unemployment long-term if you have a higher edification.

3.2.3. Learn New Skills with a Higher Education

During your college experience, you're learning incipient skills. You're able to heedfully auricularly discern lectures and read books that emanate from top experts in your particular field. This inspirits you to:

1. Think
2. Analyze
3. Explore new ideas
4. Ask questions
5. Be creative

These sanction you to grow and develop even further which provides you with that competitive edge in the job market. You'll additionally be expanding your skills and erudition, grasping abstract theories and concepts, expressing your noetic conceptions limpidly in inscribing and verbalization, and incrementing the construal of the community and the world.

The 21st-century economy is different than 20 to 40 years ago. Today, the subsisting market is composed of more architects, artists, designers, healthcare workers, information technology experts, video game developers, and so forth.

One has the chance to acclimate to this incipient era and prosper in it with a higher edification that incorporates these fields into its curriculum. When an individual coalesces this cognizance with authentic hands-on experience, you will be able to thrive in this economy

3.2.4. Invest in Your Future with Higher Education

Investing in your higher edification is an immensely colossal commitment of mazuma and time. However, you can believe it as a down payment on your future. Investing in your inculcation will avail you to achieve your vocation goals and prosper in life in general. There is a plethora of strenuous exertion involved, but you are preparing yourself for a rewarding and challenging vocation that leads to financial security and fruitful life.

This type of edification will ineluctably pay for itself in the long run. Even though universities and colleges can come with a hefty price tag, you should not let this deter you from advancing your edification.

Figure 3.3. Invest in your future with higher education.

Source: Image by unsplash.com.

Besides, as tuition costs increase, so do the available financial avail options, like those we offer here at Vista College. You will want to explore all of your options afore investing in your higher edification such as:

- *Federal Student Aid Options*: Financial avail is awarded to students seeking higher edification because the federal regime realizes how paramount this type of edification is.

- *Local Options***:** Investigate organizations that can provide you with scholarships in your local area.

- *Corporate Options***:** These organizations additionally realize how valuable a higher inculcation is, and many offer financial assistance to avail you in your college vocation.

- *Merit-based options:* Students are awarded merit scholarships predicated on athletic or academic faculties as well as other types of categories like a club membership, aptitude, intrigues, ethnicity, religious affiliation, or vocation plans.

There are other financial aid options, like Tribal (BIA) Funding, Trade Adjustment Act Funding, Rehabilitative Services Funding, as well as grants to look into.

Recollect, higher education is an investment in your future and should be treated as such.

3.2.5. Gain Job Satisfaction with Higher Education

Higher inculcation sanctions you to pursue a vocation that intrigues and inspires you. When you have the liberation to cull your vocation, you're more liable to relish it. Higher job gratification emanates from higher income, better employment benefits, and more advancement opportunities.

Often people are looking to get out of their dead-end job, which is why they seek higher inculcation. They're seeking an authentic career in place of just clocking in every day so they can pay the bills. When you're in a rewarding vocation, you're more apt to perform your job well and get genuine job contentment out of it. When you're more gratified with your vocation, you're more liable to be productive and become an asset to the company you work for, which leads to better job security.

3.2.6. Improve Your Self-Esteem and Self-Confidence with Higher Education

When you have a higher edification, you incline to stand remotely taller and straighter—metaphorically verbalizing. In other words, you are more confident in yourself, and your self-esteem is boosted after you have consummated those college years. Not only are you better equipped to deal with life's noetic challenges, but you are more liable to feel more contentment doing so.

Higher edification has long been mentally conceived of as a rite of passage, and, consequently, once you've crossed that finish line, you have that extra sense of accomplishment. Nobody can take this accomplishment away from you.

Even if you were to lose the physical college diploma and go on to a different vocation than what you studied for, the strenuous exertion you put into your peregrination will never be disoriented. There will always be rough patches as you move on in life, but you will always know precisely what it takes to commence something and prosperously consummate it. This is priceless.

3.2.7. Achieve a Happier and Healthier Life with Higher Education

Among the most vital benefits of higher edification in the 21st century is the fact that it avails communities and societies to operate smoothly and enhances personal lives. Educated individuals are involved more actively

in societal activities like political interest, voting, interpersonal trust, and volunteering, according to the Organization for Economic Cooperation and Development (OECD). When you have more knowledge, you are more inclined to participate in these events and activities.

Higher inculcation makes you more vigilant of what you are authentically capable of as well. This enables you to amend your own life, as well as contribute to the world holistically. When you spend one, two, four, or six years learning and developing yourself, you tend to feel more content and more ecstatic as you lead an edified life.

According to the College Board, this erudition and the skills you gain and develop over time promotes a more salubrious and consummating lifestyle and cuts back on healthcare costs. Take the following statistics, for example:

- *Smoking***:** Those with four-year college degrees are less liable to smoke, as betokened by the fact the gap between the smoking rates of high school graduates and four-year college graduates incremented to 17% points in the year 2012—from the two points back in 1962.

- *Obesity***:** Those with higher inculcation are not as prone to becoming inordinately corpulent as those with just a high school edification. Supplementally, kids with parents who are more edified tend to be less prone to becoming extravagantly corpulent than other kids.

With the additional number of years of schooling, taking care of your mind becomes a priority. Ergo, you naturally make your body a priority as well. The bottom line, when you ken preponderant, you culminate up doing preponderant.

Higher edification offers progress to a more efficient economy, amendment in people's lives, and contributions to a more stable society. It gives you the opportunity to ascend above your parent's socioeconomic status and become something preponderant.

3.3. CHALLENGES TO HIGHER EDUCATION'S MOST ESSENTIAL PURPOSES

In his 2000 Romanes Lecture, entitled "At a Slight Angle to the Universe, the University in a Digitized, Commercialized Age," William Bowen anticipated many of the challenges higher edification faces today. His incisive summary of the most consequential purposes of higher inculcation offers a

utilizable framework for assessing how higher edification is consummating its uniquely paramount role in fortifying a vibrant democratic society.

Those responsible for higher education's salubrity, including presidents, administrators, trustees, faculty, and regime policymakers, would do well to hold proximate to these consequential values as they carry out their complementary roles leading the sector.

As we consider the challenges facing them in that endeavor, it is serviceable to recollect that higher inculcation is not a monolith. It is composed of many independent and diverse institutional types all operating to fortify and sustain internal organizational self-interest even as they accommodate broader societal objectives.

Higher inculcation additionally accommodates a wide array of students with differing needs, resources, and capacities. Quandaries and opportunities appear quite different from these sundry perspectives, and actions and interventions can yield different outcomes across different groups of institutions or across variants of students or faculty. Nevertheless, there are certain core principles that all of these institutions share, and there are certain aspects of their experience that are mundane.

One incontrovertible mundane factor is the transmuting information and media environment. Bowen anticipated this growing specter, and he highlighted it in his consideration of digitization and its impact on the sector. But even he likely did not foresee the impact and nature of the next generation of technological innovations lining up to dwarf the impacts of the past. This next potent wave of change emanates from the trillions of sensors capturing data of every imaginable kind, the expeditiously expediting and exponential increases in computing power to process those data, and the potential for artificial perspicacity and machine learning to operate in ways that fundamentally change many of the ways we work, learn, and interact; in short, the way we live our lives.

The impact of this incipient wave of forces will be more preponderant than the Industrial Revolution in the way it will transform our world. Paraphrasing from Joseph Aoun in his book about artificial perspicacity: in the Industrial Revolution man learned to utilize machines as a supersession for physical labor, in this era we are learning to utilize machines as a supersession for astute labor. Just as the shift to machines for physical labor transformed many aspects of society, so too will the perpetuating transition to the utilization of machines to fortify more plenarily our perspicacious work.

Figure 3.4. Challenges to higher education's most essential purposes.

Source: Image by unsplash.com.

The ultimate impact of the migration to artificial and machine-availed perspicacity is in many ways unforeseeable, but it is certain to be fundamental. The revolution to come will play out over decenniums, but because of the expediting nature of technology and the expeditious spread of information in today's world, we must commence now to prepare for its impact and indeed to avail shape it to positive ends for society.

With this broad context, we outline a set of challenges and opportunities facing higher inculcation, utilizing the five purposes highlighted in Bowen's quote, along with reflections on the broader issues of financial, and in some cases perhaps even existential, threats to the future sustainability of colleges and universities.

3.3.1. Educating Students to Lead Productive Lives

The authoritative ordinance for and value of post-secondary inculcation is more preponderant than ever and will perpetuate to increment as machines take on more physical and rudimental astute tasks. The challenges to meeting those desiderata fall into a number of categories:

- *Unsustainable cost of traditional methods of instruction.* Methods of injunctive authorization that rely on diminutive classes with an instructor are efficacious, but the effects of the notorious Baumol/Bowen cost disease have made that methodology too sumptuous for all but the wealthiest institutions and is ergo not

scale-able. How are colleges and universities going to find ways to "bend the cost curve" and increment the productivity of the edification process?

- **A changing population.** Not only do higher edification institutions need to be able to efficaciously inculcate more students of color, but more students of modest financial also denote, and first-generation students in replication to transmuting demographics, they withal need to be able to inculcate students at different stages of their vocations.

- This presents a variety of challenges at every stage of the inculcation process, from admission through awarding a degree and on to meet the desires of those who have to return periodically for supplemental inculcation throughout the course of a vocation.

- **Educational technologies.** Developments in technology point to the possibility of incipient forms of learning relying on machines as "tutors" that use data tracking student progress to recursively ameliorate the quality of the erudition and assistance provided to students.

- There is evidence that incipient edifying techniques facilitated by these technologies, such as flipped classrooms and engaged learning, offer promise, but demand that the roles of students and faculty in the cognition process transmutation in fundamental ways. Such change is very arduous to enable and support.

- **Balancing the curriculum.** Institutions need to respond to inductively authorize incipient skills, such as computer programming or data science, even as they maintain and make the case for paramount edification in humanistic fields that are essential to dealing with ethical and values-predicted questions being raised by societal changes.

- **Unbundling and bundling.** A number of information-predicated industries have been threatened and altered because incipient entrants provide a specialized accommodation that disaggregates a bundled offering.

There are many components to the higher inculcation bundle, and of course, what makes up the bundle varies by type and even individual institutions, but three broad categories might be worth considering as we contemplate future pressures on the sector:

1)   edification, and by that, we concretely refer to the transmutation in understanding and cognizance acquired over a period of time;

2)   credentialing, and by that we mean the validation that a person has a particular adeptness or competence; and

3)   Cull, which refers to the process by which higher edification institutions identify and assemble a group of aptitudinal people, an outcome that has proven to be very valuable to those who want to find aptitude, either for jobs or for further edification.

Higher inculcation provides an aptitude matching role that makes the process of finding excellent people more efficient.

- ***The Arms Race.*** There is a supplemental component that applies primarily to residential colleges and drives up costs for institutions competing to magnetize students, and that is the desideratum to provide a comfortable, safe, and sometimes virtually luxurious environment for adolescent men and women to transition to adulthood.

Some refer to this as a student "arms race," as schools compete on quality of life-cognate issues like pulchritudinous technology-enabled dorms and campuses, great victuals, athletics facilities, etc.

3.3.2. Conducting Research and Creating New Knowledge

The development of networked technologies has had a dramatic impact on scholarly communications and the research process. The first phase of that change–digitized information distributed via the network–has led to a much wider dissemination of scholarly content around the world.

The second phase of that evolution, enabled by the fact that the marginal cost of distributing content is proximately zero, has been downward pressure on the disposition to pay for content, leading to the emergence of open access kineticism. There is an incrementing prospect that content should be distributed without charge to fortify its widest possible access and dissemination.

Publishers' strategies illustrate the opportunities to distribute incipient implements for fortifying the research and publication process, but a more fundamental change to research may be associated with the growing consequentiality of data analytics and machine learning.

As highlighted in the exordium, entirely incipient areas and types of research are being engendered by the competency to capture, store, and

analyze massive magnitudes of data. Computer science is being integrated into many traditional disciplines to engender incipient interdisciplinary fields of research.

Quandaries that were once intractable can now be pursued utilizing raw computing power aimed at processing huge amplitudes of data. Like access to great research libraries in the 20th century or access to the transcribed texts of the monks in the 6th century, access to massive magnitudes of data is essential to conducting cutting-edge research in an incrementing number of fields. Challenges facing colleges and universities as they are circumvented by "Big Data" include:

- ***The largest datasets are not controlled by universities.*** Lamentably, the most immensely colossal datasets are often not available in the public domain or accessible by universities; they are held by corporations like Google, Facebook, and Amazon.

  It has been verbally expressed that Google's effort to re-enter China is driven largely not by a desire for advertising revenue, but by a desideratum to gain access to more data. With the insatiable desideratum for data to aliment the machine learning algorithms and to pursue answers to conundrums in incipient ways, universities are finding themselves struggling to gain access to the raw materials for engendering cognizance.

- ***Attracting top talent.*** Even the most astronomically immense research universities are finding themselves at a disadvantage when endeavoring to recruit top research aptitude. Edifiers are leaving the academy for jobs in the industry, not only because of the potential to earn more mazuma but withal to have access to the resources and data obligatory to work on the most fascinating perspicacious quandaries.

- ***Potential to collaborate.*** Increasingly colleges and universities are situating themselves to engage collaboratively not only with other universities but additionally with private enterprise in order to get access to more data and compete to be at the cutting edge of research and revelation.

One consequence of these developments is that a more diminutive number of universities have the scale to compete in this domain, a trend that is incrementing the gap between a diminutive number of elite universities at the top, and all other colleges and universities far behind.

Figure 3.5. Conducting research and creating new knowledge.

Source: Image by unsplash.com.

3.3.3. Serving as Engines of Opportunity and Social Mobility

If there is a peril of bifurcation in the research enterprise, it is perhaps even more pronounced on the edification side of the college/university mission. In the post-WWII era, in astronomically immense measure due to the GI Bill and support for the returning military, higher inculcation became an engine of opportunity that opened the door to the middle class for millions of Americans.

Albeit the return on investment from a post-secondary degree has perpetuated to be a great value, the cost of higher edification, and the tuitions charged for earning a degree, have grown at a rate higher than that of all but the highest family incomes, making it increasingly arduous for people from middle- and lower-income backgrounds to afford post-secondary inculcation.

A series of challenges have emerged to confront higher inculcation as it endeavors to maintain its place as a positive advocator and facilitator of gregarious and economic opportunity:

- *Undermatching.* Many students opt not to go to the school that will challenge them more or that is beyond their local geographical

region, a decision that often leads them to cull a school with lower calibers of degree completion. And for colleges and universities, it is costly to reach students from all backgrounds and they don't always have an incentive to do so.

- ***Low levels of public support for institutions that serve the most students.*** Community colleges and regional public universities, which are the commencement point for many of the most economically challenged students, are astringently underfunded on a per-student substratum, leading to low graduation rates and fewer resources for students endeavoring to consummate their educations.

- ***Changing demographics***. Colleges and universities have to inculcate a more diverse set of students from a wider range of backgrounds.

- ***Increasing numbers of less-prepared students.*** More students emerging from high school aspire to attend college but haplessly, a more immensely colossal quota of them is not amply prepared. More students are arriving at college needing more support to consummate their education and earn their degrees. Inculcating these students is costlier for colleges at a time when tuition needs to be held in check.

- ***Changing legal and policy environment.*** Approaches that support diversity and access to higher inculcation for students of all backgrounds are losing regime support and are being assailed in the courts.

- ***Students have lives.*** The majority of students have other commitments and face pressures outside their academic work; they are not in a position to make inculcations exclusive or even a top priority. Colleges must perpetuate to develop different ways to inculcate students who have to work or raise a family or meet other obligations while pursuing their edification.

3.4. IMPROVING THE QUALITY OF HIGHER EDUCATION

Incrementing graduation rates and levels of scholastic procurement will accomplish little if students do not learn something of lasting value. Yet federal efforts over the last several years have focused much more on

incrementing the number of Americans who peregrinate to college than on amending the edification they receive once they get there.

By concentrating so heavily on graduation rates and procurement levels, policymakers are ignoring perilous signs that the amount that students learn in college may have declined over the past few decenniums and could well perpetuate to do so in the years to come. The reasons for concern include:

1. College students today seem to be spending much less time on their course work than their predecessors did 50 years ago, and evidence of their facilities suggests that they are probably learning less than students once did and quite possibly less than their counterparts in many other advanced industrial countries.

2. Employers repine that many graduates they hire are deficient in fundamental skills such as writing, quandary-solving, and critical celebrating that college bellwethers and their faculties consistently rank among the most consequential goals of undergraduate edification.

3. Most of the millions of adscititious students needed to increment scholastic procurement levels will come to campus poorly prepared for college work, engendering a peril that higher graduation rates will be achievable only by lowering academic standards.

4. More than two-thirds of college instructors today are not on the tenure track but are lecturers accommodating on year-to-year contracts. Many of them are hired without undergoing the vetting commonly utilized in appointing tenure-track edifiers. Studies designate that extensive utilization of such instructors may contribute to higher dropout rates and to grade inflation.

5. States have made substantial cuts in support per student over the past 30 years for public colleges and community colleges. Research suggests that failing to increment appropriations to keep pace with enrollment magnification inclines to minimize learning and even lower graduation rates.

Figure 3.6. Improving the quality of higher education.

Source: Image by unsplash.com.

3.4.1. Some Immediate Improvements

Many colleges provide a formidable array of courses, majors, and extracurricular opportunities, but firsthand accounts betoken that many undergraduates do not feel that the material conveyed in their readings and lectures has much pertinence to their lives.

Such sentiments suggest either that the courses do not in fact contribute much to the ultimate goals that colleges claim to value or that instructors are not taking adequate care to explicate the more astronomically immense aims of their courses and why they should matter.

Other studies suggest that many instructors do not edify their courses in ways best calculated to achieve the terminuses that faculties themselves consider paramount. For example, one investigator studied samples of the examinations given at elite liberal arts colleges and research universities.

Albeit 99% of edifiers consider critical celebrating an "essential" or "very important" goal of college edification, fewer than 20% of the exam questions genuinely tested for this adeptness.

Now that most faculties have defined the cognition objectives of their college and its sundry departments and programs, it should be possible

to review recent examinations to determine whether individual edifiers, programs, and departments are genuinely designing their courses to achieve those goals. College administrators could withal modify their student evaluation forms to ask students whether they believe the verbalized goals were accentuated in the courses they took.

In addition, the average time students devote to studying varies widely among different colleges, and many campuses could require more of their students. Those destitute of evidence about the study habits of their undergraduates could apprise themselves through confidential surveys that faculties could review and consider steps to embolden more preponderant student effort and amend learning. The prodigious distinction between how well seniors celebrate they can perform and their genuine proficiencies (according to tests of rudimental skills and employer evaluations) suggests that many colleges are failing to give students an adequate account of their progress. Grade inflation may additionally contribute to extravagant confidence, suggesting a desideratum to work to recuperate felicitous standards, albeit that alone is unlikely to solve the quandary. Better feedback on student papers and exams will be even more paramount in order to give undergraduates a more precise sense of how much progress they've made and what more they require to accomplish before they graduate.

3.4.2. More Substantial Reforms

More fundamental changes will take longer to achieve but could ineluctably yield even more preponderant gains in the quality of undergraduate inculcation. They include:

- *Improving graduate education:-* Aspiring college instructors withal need token much more now in order to edify efficaciously. An astronomically immense and incrementing body of serviceable erudition has accumulated about learning and pedagogy, as well as the design and efficacy of alternative methods of injunctive authorization.

  Meanwhile, the advent of incipient technologies has given ascend to methods of edifying that require special training. As evidence accumulates about promising ways of engaging students actively, identifying difficulties they are having in learning the material, and adjusting edifying methods accordingly, the current gaps in the preparation most graduate students receive become more and more of a handicap.

Universities have already commenced preparing graduate students to edify by giving them opportunities to avail edifiers in sizably voluminous lecture courses and by engendering centers where they can get avail to become better instructors. More departments are commencing to provide or even require an inhibited amplitude of injunctive authorization in how to edify.

Nevertheless, simply sanctioning grad students to accommodate as largely unsupervised edifying auxiliaries, or engendering centers where they can receive a brief orientation or a few voluntary sessions on edifying, will not adequately equip them for a vocation in the classroom.

A more substantial preparation is required and will become ever more compulsory as the body of germane erudition perpetuates to grow. With all the verbalize in graduate school circles about preparing doctoral students for jobs outside academe, one has to wonder why departments spend time readying Ph.D. candidates for entirely different vocations afore they have developed adequate programs for the academic posts that graduate schools are supposed to accommodate, and that most of their students perpetuate to occupy.

Many departments may fail to provide such injunctive authorization because they lack faculty with the obligatory erudition, but provosts and deans could enlist competent edifiers for such instruction from elsewhere in the university, albeit they may hesitate to do so, given that graduate edification has always been the exclusive domain of the departments.

Enterprising donors might consider giving grants to graduate schools or departments disposed to make the obligatory reforms. If even a few leading universities responded to such an invitation, others would probably follow suit.

- *Creating a teaching faculty:-* The seeds of such a vicissitude already subsist through the proliferation of instructors who are not on the tenure track but are hired on a year-to-year substructure or a scarcely longer-term to edify rudimental undergraduate courses. Those adjunct instructors now constitute as much as 70% of all college instructors.

  The multiplication of such instructors has largely been an ad hoc replication to the desideratum to cut costs in order to cope with

astringent financial pressures resulting from reductions in state support and more sizably voluminous student enrollments.

But researchers are discovering that relying on casually hired, part-time edifiers can have deleterious effects on graduation rates and the quality of ordinant dictation. Sooner or later, the present practices seem bound to give way to more copacetic arrangements.

One plausible outcome would be to engender a punctiliously culled, full-time edifying faculty, the members of which would lack tenure but receive appointments for a paramount term of years with enforceable guarantees of academic liberation and adequate notice if their contracts are not renewed.

Such instructors would receive opportunities for professional development to become more cognizant and proficient as edifiers, and they would edify more hours per week than the tenured faculty. In reciprocation, they would receive adequate salaries, benefits, and facilities and would apportion in deliberations over edifying policy, though not in matters involving research and the appointment and promotion of tenure-track edifiers.

These faculty members would be better trained in edifying and learning than the current research-oriented faculty, albeit tenured edifiers who wish to edify prelusive or general inculcation courses would, of course, be welcome to do so. Being chiefly engaged in edifying, they might additionally be more inclined to experiment with incipient and better methods of injunctive authorization if they were enheartened to do so.

A reform of this sort would indubitably cost more than most universities currently pay their non-tenure-track instructors (though less than having tenured faculty edify the lower-level courses). Even so, the shabby treatment of many part-time instructors is hard to justify, and higher costs seem ineluctably foreordained once adjunct faculties become more organized and utilize their collective vigor to bargain for better terms.

Progress may have to come gradually as finances sanction. But in lieu of today's legions of casually hired, underpaid, and insecure adjunct instructors, a substantial segment of the college faculty would possess the time, training, and job security to participate in a perpetuating effort to develop more efficacious methods of

ordinant dictation to engage their students and avail them derive more lasting value from their classes.

- ***Rethinking the undergraduate curriculum:-***The familiar division into fields of concentration, electives, and general inculcation leaves too minute room for students to pursue all of the objectives that edifiers themselves deem paramount for a well-rounded college edification.

This tripartite structure, with its accentuation on the major and its embrace of distribution requisites and extensive electives, was introduced by research universities and designed more to satiate the fascinates of a tenured, research-oriented faculty than to achieve the sundry aims of a good undergraduate edification.

The subsisting structure is unlikely to transmute so long as decisions about the curriculum remain under the exclusive control of the tenure-track edifiers who benefit from the status quo.

By now, the standard curriculum has become so firmly rooted that during the periodic reviews conducted in most universities, the faculty infrequently pause to examine the tripartite division and its effect upon the established goals of undergraduate inculcation. Instead, the practice of reserving up to a moiety of the required number of credits for the major is simply taken for granted along with maintaining a distribution requisite and preserving an ample segment of the curriculum for electives.

The conspicuous remedy is to include the non-tenure-track instructors who currently make up a majority of the edification faculty in curricular reviews so that all those who play a substantial part in endeavoring to achieve the goals of undergraduate inculcation can participate in the process.

It is anomalous to sanction the tenure-track faculty to relish exclusive power over the curriculum when they provide such a constrained portion of the edification. Such a reform might be arduous under current conditions in many colleges where most undergraduate instructors accommodate part-time, are often culled haphazardly and frequently lack either the time or the interest to participate plenarily in a review of its undergraduate program.

If adjunct instructors achieve the status previously described, however, their prominent role in edifying undergraduates should

entitle them to a seat at the table to discuss the edifying program, including its current structure. Such a move could at least increase the likelihood of a solemn discussion of the subsisting curricular structure to determine whether it genuinely accommodates the multiple aims of undergraduate inculcation.

Colleges should withal consider sanctioning some consequential participation by members of the administrative staff who are prominently involved in college life, such as deans of student affairs and directors of admission.

The current division between formal ordinant dictation and the extra curriculum is arbitrary, since many goals of undergraduate edification, such as moral development and preparation for citizenship, are influenced significantly by the policies for admitting students, the administration of rules for student deportment, the exhorting of undergraduates, the nature of residential life and the extracurricular activities in which many students participate.

Representatives from all groups responsible for the policies and practices that affect these goals should have something to contribute to reviews of undergraduate inculcation.

3.4.3. The Need for Research

Conclusively, there is an imperative desideratum for more and better research both to ameliorate the quality of undergraduate edification and to increment the number of students who consummate their studies. Among the many questions deserving further exploration, four lines of inquiry seem especially paramount.

1. How can remedial edification be amended? At present, low rates of completion in remedial courses are a major impediment to raising levels of scholastic procurement. The utilization of computer-availed injunctive authorization in remedial math provides one promising example of the type of amendment that could yield substantial benefits, and there are doubtless other possibilities.

2. Far too minute is kenned about the kinds of courses or other undergraduate experiences that contribute to such noneconomic benefits in later life as better health, more preponderant civic participation, and lower incidence of substance abuse and other forms of self-destructive deportment.

A better understanding of those connections could avail educators increase the lasting value of a college edification while providing a more vigorous empirical substructure for the sweeping claims frequently made about the perennial benefits of a liberal edification.

Such understanding would additionally minimize the jeopardy of inadvertently eliminating valuable aspects of a college edification in the rush to find more expeditious, more frugal ways of preparing students to obtain good jobs of immediate value to economic magnification.

3. Subsisting research suggests that better exhorting and other forms of student support may substantially enhance the effect of incremented financial avail in boosting the numbers of students who consummate their studies. With billions of dollars already being spent on student grants and loans, it would limpidly be auxiliary to know more about how to maximize the effects of such subsidies on graduation rates.

4. More work is needed to develop better ways for colleges to quantify student learning, not only for critical celebrating and inditing but additionally for other purposes of undergraduate edification.

The paramountcy of this last point can scarcely be overprized. Without reliable measures of cognition, competition for students can do little to ameliorate the quality of injunctive authorization, since applicants have no way of kenning which college offers them the best edifying.

Provosts, deans, and departments will have arduousness identifying impuissance in their academic programs in desideratum of corrective action. Academic bellwethers will be handicapped in endeavoring to persuade their edifiers to transmute the way they edify if they cannot offer cogent evidence that alternative methods will bring amended results.

Faculty members will do less to ameliorate their edification if they perpetuate to lack adequate ways to discover how much their students are learning.

All these reforms could do a lot to ameliorate the quality of undergraduate inculcation—as well as increase levels of procurement. With more research and experimentation, other serviceable conceptions will doubtless perpetuate to appear.

3.5. CULTURE CHANGE FOR LEARNING

America faces a crisis in higher cognition. An inordinate quantity of college graduates is extemporary to cerebrate critically and ingeniously, verbalize and inscribe cogently and limpidly, solve quandaries, comprehend involute issues, accept responsibility and accountability, take the perspective of others, or meet the prospects of employers. In a metaphorical sense, we are losing our minds. How can this be if American higher edification is supposed to be the best in the world?

The core explanation is this: the academy lacks an earnest culture of edifying and learning. When students do not learn enough, we must question whether institutions of higher edification distribute enough value to justify their costs. Resolving the cognition crisis will consequently require fundamental, thoroughgoing vicissitudes in our colleges and universities. There must be authentic change beyond simplistic answers such as minimizing costs and ameliorating efficiency—to ameliorate value.

What is needed is non-incremental change; to make higher cognition an authenticity, we as a nation must undertake a comprehensive review of undergraduate higher inculcation and introduce dramatic reforms in colleges and universities of all types.

Culture—in higher inculcation, and our society—is at the heart of the matter. We have abbreviated K-12 schooling to rudimentary adeptness acquisition that efficaciously leaves most students underprepared for college-level learning. We have bastardized the bachelor's degree by sanctioning it to morph into a ticket to a job (though, today, that ticket often doesn't get you very far).

The academy has adopted an increasingly consumer-predicated ethic that has engendered costly and hazardous effects: the prospects and standards of a rigorous liberal inculcation have been displaced by thinly dissimulated professional or job training curriculums; edifying and learning have been devalued, deprioritized, and superseded by an accentuation on magazine rankings; and incremented enrollment, acquiring victory teams, more astronomically immense and better facilities, more revenue from sideline businesses, and more research grants have superseded learning as the primary touchstone for decision-making.

- Prospects for strenuous exertion in college have fallen victim to smorgasbord-style curriculums, astronomically immense lecture classes, and institutional needs to retain students in order to make the budget.

Minimal student effort is rewarded with inflated grades. None of this makes for higher cognition, nor does it adequately prepare students for employment or citizenship. We are required to rethink the cessations and denote higher inculcation.

Figure 3.7. Culture change for learning.

Source: Image by unsplash.com.

3.5.1. Reconstituting the Culture of Higher Education

The current culture—the shared norms, values, standards, prospects, and priorities—of edifying and learning in the academy is not potent enough to fortify true higher cognition. As a result, students do not experience the kind of integrated, holistic, developmental, rigorous undergraduate edification that must subsist as an absolute condition for authentically transformative higher cognition to occur.

We do not authoritatively mandate enough (doing that would conflict with consumer conviviality, perhaps); our standards are not high enough (setting them higher engenders retention worries); we accept half-hearted work from students who do not insist on enough from themselves and do not ken how to ask for more from their edifiers (doing otherwise would make college more earnest; how could it still be "fun"?).

Degrees have become deliverables because we are no longer disposed to make students work strenuously against high standards to earn them.

An impuissant scholastic culture engenders all the erroneous opportunities. Without academic prospects to bring structure to students' time, an inordinate amount of time is wasted. In the absence of high academic and behavioral prospects, less authoritatively mandating peer norms become ascendant.

In the peer culture, time spent on classwork, reading, and reflection must be inhibited; an extravagant amount of it becomes a stain on a student's convivial value. It has become possible—even likely—to survive academically, be retained in school, get passing grades and graduate with a baccalaureate despite long-term patterns of alcohol and other substance abuse that are kenned to damage the formation of incipient recollections and minimize both the capacity and the readiness to learn.

The atmosphere of an inordinate quantity of residence halls drives earnest students out of their own rooms (functionally, their on-campus homes) to study, indite, reflect and believe.

Rethinking higher inculcation denotes reconstituting institutional culture by rigorously identifying, evaluating, and challenging the many damaging accommodations that colleges and universities, individually and collectively, have made (and perpetuate to make) to consumer and competitive pressures over the last several decenniums. What do we denote by "damaging accommodations?"

We mean the allocation of incrementing proportions of institutional resources to facilities, personnel, programs, and activities that do not directly and significantly contribute to the kind of holistic, developmental, and transformative learning that defines higher cognition.

We mean the Brobdingnagian expenditures devoted pristinely to securing a "better ranking" in the magazine surveys. We mean the progressive minimization in academic, astute, and behavioral prospects that has undermined the culture, learning conditions, and civility of so many campus communities.

3.5.2. Collectively Putting Learning First

The mundane lament that higher inculcation has become a business, or that it has emerged from its recent struggles having an inordinate amount of "corporate" character, is not the primary issue. The primary quandary is that the current culture of colleges and universities no longer puts learning first—and in most institutions, that culture perpetuates a trepidation of doing so.

Isolated examples to the contrary subsist but are only the exceptions that prove the rule. The bellwethers of many, if not most, colleges and universities might concur with this assessment of the quandary, but would likely argue, with some equity, that no single institution can jeopardize being the only one to transmute; that renovating attention to the fundamentals, rather than the frills, would put that one institution at solemn peril.

Indeed, it is true that this is a collective quandary, and that action by many schools, fortified by a vigorous national impetus for change, is an obligatory condition for prosperity.

In calling for the kind of solemn, systemic rethinking that directly and unflinchingly accepts the challenge of amending undergraduate higher inculcation, we are asking for four things; taken together, they injunctively authorize and would catalyze, a profound, needed, and overdue cultural vicissitude in our colleges and universities.

3.6. CONCLUSION

This chapter highlights the role of higher cognition and edification, it states the importance of higher education in the 21st century which eventually defines the emergence of more and more opportunities by creating it talks about the competitiveness and its significance in higher education. It focuses on learning new skills with a higher education, how one should invest in future with higher education.

It outlines the job satisfaction with higher education, and how an individual must boost their self-esteem and self-confidence, and how they must focus on achieving happier and healthier life. It also points out the challenges in higher education and it caters to the most significant purposes such as educating students to lead productive lives, they must conduct research and create new knowledge, act as engines of opportunity and social mobility.

As the chapter proceeds, it discusses the improvement in quality of higher education, which implies some sudden improvements, more considerable reforms, as well as the requirements for research. Towards the end, it also addresses the culture change of learning, which includes the reconstituting the culture of higher education and putting learning as a whole as the first preference.

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Chapter 4

Role of Multilingualism in Education

CONTENTS

This chapter deals with the various roles played by multilingualism in education, it offers the brief account of perspective into the human rights, pertinence of bilingualism and multilingualism in a multilingual world. It focuses on the advantaged of bilingualism and multilingualism. The chapter also deals with the individual bilingualism. The cognition, language learning, dementia, bilingualism and aphasia, the information processing, etc.

The next part of the chapter, showcases the advantages of societal bilingualism, its advantages, along with the academic advantages and the benefits of multilingualism for national security. The chapter also sheds light on the bilingualism, access to and retrieval of information, cross language information retrieval, etc.

In the end, it discusses the advantages of societal multilingualism, such as the economic business societal advantage, scholastic advantages, etc. It also highlights the aspects and dimensions of bilingualism and multilingualism in Europe.

4.1. INTRODUCTION

It is a microcosmically accepted fact that language is just one of the many factors that can contribute to the distribution of quality edification. Yet, while there are many factors involved in distributing quality rudimental edification, language is limpidly the key to communication and understanding in the classroom.

It is additionally a linguistic and societal authenticity that many developing countries are characterized by individual as well as societal multilingualism, yet a majority of multilingual societies in Africa perpetuate to experience and even propagate a paradoxical situation in which a single peregrine language is sanctioned to dominate in the inculcation sector.

For most African countries and other post-colonies all over the world, this has always been (ridiculously) incriminated on the colonial legacy.

Ridiculously, because some of these countries detached themselves from their colonial masters more than a moiety a century ago, yet have done little to redress the situation. In Kenya, for instance, the incipiently independent nation asserted the hegemony of English over other local languages in her first post-independence inculcation commission (Republic of Kenya, 1964).

The commission concluded that, "they had no doubt about the advantages of English as a medium of ordinary dictation in the whole edification process." Many other post-colonies made the same decision as Kenya; such

decisions have been hinged mainly on what Penycook (2007) has called "the erroneous promise of English" and the then opiate to offer the former colonial subjects all that had been gainsaid them by their colonizers.

Like Kenya, post-independence, various African countries had to struggle with the integral question of identity; in which language played a crucial role. In making such decisions, the colonial history of categorical African countries played a major role.

Consequently, post-colonial countries took diverse, sometimes contradictory routes in drawing up language in inculcation policies to guide their edifying systems. These ranged from retaining the language of the former colonial powers in an official capacity, to ascertaining inhibited space for it to minimize its impact on the establishment and development of the native language as the official and national language of the nation.

Ghana, Nigeria and many of the other sub-Saharan countries took routes homogeneous to that adopted by Kenya. In Cameroon, on the other hand, the merging of the former British and French colonies not only gave birth to a bilingual language in edification policy, but withal in other general sectors of life. Bamgbose (2003) sums up this contradictory scenario with regard to language in inculcation policy in post-colonial African states:

Attention has been drawn towards the fact that the logic of postcolonial policy is that of maintenance rather than of change. While post-independence regimes appear to be making language policy, most of the time they are only perpetuating colonial language policy.

This inheritance situation has designated a futile struggle between change and continuity, with the latter conventionally gaining the upper hand. In virtually all African countries colonized by Britain, English remains an official or co-official language.

The situation described above has often led to ordinant dictation through a language that learners do not verbalize. This has been called "submersion" (Skutnabb–Kangas, 2000) because it is analogous to holding learners submerged without edifying them how to swim.

Compounded by chronic difficulties such as low calibers of pedagogic inculcation, poorly designed, incongruous curricula and lack of adequate school facilities, submersion makes both learning and edifying profoundly arduous, categorically when the language of ordinant dictation is additionally peregrine to the edifier (Benson, 2004).

It is such innate deficiencies of submersion that has visually perceived many regimes, and other edification stakeholders rethink the issue of language policy in inculcation, resulting in wide ranging proposals, experiments and policy shifts toward either bilingual or sundry shades of multilingual inculcation.

The present volume takes stock of such policy shifts, experiments and proposals from an African perspective by visually examining how sundry countries have endeavored to introduce multilingual inculcation in their respective edification systems, the challenges that such endeavors have encountered, and how such challenges have been addressed.

This special series, ergo, presents a valuable resource for best practices and how other endeavors that have not done so well can borrow from such practices. This is because the twin issues of multilingualism and inculcation, especially with regard to rudimental and primary inculcation, are so central to the development of the child that they transcend the scholastic context to other spheres of life, such as human rights.

4.2. THE HUMAN RIGHTS PERSPECTIVE

The Declaration of Human Rights, adopted by the Cumulated Nations General Assembly in 1948, contains a verbalization about Linguistic Human Rights as being one of the fundamental human rights. Ineluctably, it ergo follows those countries which ratified the Declaration are obligation bound to optically canvas it and carry out policies in accordance with it.

Such policies include language in edification policies especially with regard to the language of injunctive authorization in early school years in countries (such as a number of sub-Saharan countries) where former colonial languages are currently coexisting with local languages.

The Convention for the Rights of the Child became a component of international law in 1990 and has since been ratified by 191 countries. The implicative insinuation of this ratification is that over 96% of the children in the world live in countries that are licitly bound to ensure their full rights including civil, political, cultural, and economic.

With categorical regard to language and edification, especially multilingual edification, this provision demands that all children be given access to pertinent and consequential inculcation, regardless of their background, where they live, or what language they verbalize (Amalgamated Nations, 1990). The provision states thus:

Figure 4.1. The human rights perspective.

Source: Image by unsplash.com.

In those states in which ethnic, religious or linguistic minorities or persons of indigenous inchoation subsist, a child belonging to such a minority or who is indigenous shall not be gainsaid the right, in community with other members of his or her group, to relish his or her own culture, to profess or practice his own religion, or to practice his or her own language (Convention on the Rights of the Child, Article 30).

Since the adoption of this convention, language rights activists and multilingual inculcation proponents have noted, woefully, that albeit on the surface the provision appears to adequately secure the rights of the child with regard to language and inculcation, it genuinely does not bind the states to utilize the language the child is most proficient in and the one he or she utilizes at home as the language of injunctive authorization. Accentuating the desideratum to elongate such provisions to the classroom, Skutnabb-Kangas (1995) optically canvasses:

In a civilized state, there should be no desire to debate the right to maintain and develop one's mother tongue. It is an axiomatic, fundamental linguistic human right. Optically canvassing linguistic human rights…means the right to learn the mother tongue, orally and in inscribing, including at least rudimental inculcation through the medium of mother tongue, and to utilize it in many official contexts. It additionally designates the right to learn at least one of the official languages of the country of residence.

Such provisions on Linguistic Human Rights have proved to be deficient in ensuring linguistic rights to minority populations. Consequently, in 1996, the World Conference of Linguistic Rights in Barcelona adopted the Macrocosmic Declaration of Linguistic Rights, the first ecumenical declaration which categorically and pellucidly mentioned Linguistic Human Rights. In addition, the Ecumenical Declaration of Linguistic Rights (EDLR) holds in regard several policies that incentivized the deference of linguistic rights. The documents include:

Declaration on the Rights of Persons belonging to the National, Ethnic, Religious and Linguistic Minorities

1.   European Convention on Human Rights.
2.   European Charter for Regional or Minority Languages.
3.   Framework Convention for the Bulwark of National Minorities.
4.   International Covenant on Civil and Political Rights.
5.   Macrocosmic Declaration of the Collective Rights of Peoples.

The above, in effect, makes the provision of mother tongue-predicated multilingual inculcation a linguistic right, and by extension, a human right. It is with this background that this special issue interrogates how multilingual inculcation has been or is being practiced in Africa, the challenges therein, and how such challenges have been addressed.

4.2.1. Pedagogical Perspectives

The utilization of a familiar language to edify beginning literacy facilitates a construal of sound-symbol or meaning-symbol correspondence. This is especially so because learning to read is most efficient when students ken the language and can employ psycholinguistic conjecturing strategies; likewise, students can communicate through inditing as anon as they understand the rules of the orthographic (or other indicated) system of their language.

In contrast, submersion programs may prosper in edifying students to decode words in the L2, but it can take years afore they discover meaning in what they are "reading." Bilingual and multilingual as opposed to monolingual schooling offers paramount pedagogical advantages which have been reported consistently in the academic literature. Such pedagogical benefits with regard to bilingual and multilingual edification advantages are summarized in Benson (2004) as follows:

1.   Since content area injunctive authorization is provided in the L1, the cognition of incipient concepts is not deferred until children become competent in the L2. Unlike submersion edifying, which is often characterized by lecture and rote replication, bilingual injunctive authorization sanctions edifiers and students to interact naturally and negotiate designations together, engendering participatory learning environments that are conducive to cognition as well as linguistic developmental skills.

Explicit edification of the L2 beginning with oral skills sanctions students to learn the incipient language through communication rather than memorization. In submersion schooling edifiers are often coerced to translate or code-switch to convey designation, making concept learning inefficient and even impeding language learning, while bilingual programs sanction for systematic edification of the L2.

2.   Transfer of linguistic and cognitive skills is facilitated in bilingual programs. Once students have rudimentary literacy skills in the L1 and communicative skills in the L2, they can commence reading and inditing in the L2, efficiently transferring the literacy skills they have acquired in the familiar language.

The pedagogical principles abaft this positive transfer of skills are Cummins' (1999) interdependence theory and the concept of prevalent underlying proficiency, whereby the cognizance of language, literacy and concepts learned in the L1 can be accessed and utilized in the second language once oral L2 skills are developed, and no re-learning is required.

Consistent with these principles, it is possible for children schooled only in the L2 to transfer their erudition and skills to the L1, but the process is highly inefficient as well as being unnecessarily arduous.

3.   Student learning processes can be accurately assessed in bilingual classrooms. When students can express themselves, edifiers can diagnose what has been learned, what remains to be edified and which students need further assistance. In submersion schooling cognitive learning and language learning are confounded, making it arduous for edifiers to determine whether students have arduousness understanding of the concept itself, the language of ordinary dictation, or the language of the test.

4. The affective domain, involving confidence, self-esteem and identity, is invigorated by utilization of the L1, incrementing motivation and initiative as well as ingenuity. L1 classrooms sanction children to be themselves and develop their personalities as well as their intellects, unlike submersion classrooms where they are coerced to sit mutely or reiterate mechanically, leading to frustration and ill-timed repetition, failure and dropout.

5. Students become bilingual and biliterate. Bilingual programs embolden learners to understand, verbalize, read and inscribe in more than one language. In contrast, submersion programs endeavor to promote skills in an incipient language by eliminating them from a kenned language, which may authentically limit learner competence in both.

    Benson (2004) rightly visually examines that all of these advantages are predicated on two posits: one, that rudimental human needs are being met so that schooling can take place; and two, that mother tongue-predicated bilingual and multilingual schooling can be opportunely implemented.

    She goes on to note that simply transmuting the language of ordinant dictation without resolving other pressing gregarious and political issues is not liable to result in consequential amelioration in inculcative accommodations.

    The present volume ergo sets out to examine the state of the art with regard to multilingual practices from an African perspective in as far as such practices are concerned, and the challenges faced with a view to providing practitioners and policy makers with a framework of comparing the best practices and possible alternatives to unsuccessful models.

    All in all, because of the varied scope that this special thematic issue espouses both in terms of the geographical regions it covers and the differing experiences of the contributors, it offers good insights for language practitioners, policy makers, educationists, and other stakeholders with fascinates in multilingualism and edification.

    It comes at a time when there is renewed ecumenical interest in the rights of children, including their fundamental rights to edification in a language they can operate in easily. It additionally comes at a time of incremented interest in the rights of minority groups such

as their right to preserve and promote their languages, not just as a component of their cultural heritage, but as intrinsically modes through which their hopes, fears and aspirations are expressed and their indigenous cognizance systems are developed and transmitted.

4.3. PERTINENCE OF BILINGUALISM AND MULTILINGUALISM IN A MULTILINGUAL WORLD

What is a logically possible answer to the logically possible question: "what is the pertinence of multilingualism in a multilingual world?" This is an existential question and the primary logical reaction will be to question whether the doubt is logical because it is not pragmatically possible for multilingualism to be absent (and extraneous) in a multilingual world (that is, in its own world).

Indeed, multilingualism is at home in a multilingual world and cannot be challenged with reverence to pertinence. Ultimately, the authentsic question is: what is the logic of asking about multilingualism, what it is doing in a multilingual world or what "business" it has in a multilingual world?

However, with such a question, one culminates with a logical "argumentum ad absurdum," a question whose answer leads to a logical conclusion of absurdity for, indeed, it is axiomatic that multilingualism owns the multilingual world, and its pertinence is ergo equipollent axiomatic.

The ostensibly intriguing question is, consequently, (on further examination) as preposterous as asking a man what he is doing in his own home. Indeed, in this world of the twenty-first century, multilingualism is the norm and monolingualism the exception. Besides, intrinsic bilingualism and multilingualism, over the years, language contact resulting from conquest, colonization, mass migration of populations due to disasters, and the impact of globalization has made all countries of the world multilingual to varying degrees. Given the symbiotic relationship between language, culture, and identity, multilingualism ipso facto implicatively insinuates multiculturalism and ethnolinguistic and ethnocultural identity have become inalienable rights. This imposes challenges for nation building, driven by ideals of ideological pluralism, gregarious cohesion, and living together in diversity and so on, which have been the object and subject of sundry studies of bilingualism and multilingualism.

Figure 4.2. Pertinence of bilingualism and multilingualism in a multilingual world.

Source: Image by unsplash.com.

4.4. ADVANTAGES OF BILINGUALISM AND MULTILINGUALISM

The issue of advantages or benefits of bilingualism to the individual and the community is very topical; yet, it does not often benefit from a comprehensive presentation of erudition-predicated information that is apprised by research findings that make such information authentic.

The challenge is undertaken in this work, which ascertains that the compendium of claims of benefits of bilingualism and multilingualism articulated are logical conclusions drawn from well-resourced research findings and not merely the fruit of a fertile imagination or wishful mentally conceiving. Presentation of the advantages of bilingualism to the individual below precedes benefits of bilingualism societally (community, nation, or state). Assertions of benefit and benefits are followed by verifiable and verified sources.

4.5. ADVANTAGES OF INDIVIDUAL BILINGUALISM

4.5.1. Bilingualism and Cognition

Research on bilingualism and cognition leads to the empirical findings that on the whole, bilinguals (as individuals), have more amended cognitive facilities than monolinguals. Bilinguals exercise "preponderation in cognitive, metalinguistic cognizance, linguistic, and academic performances" over monolinguals.

Bilinguals are cognitively more ingenious with deference to flexible celebrating competency and more proactive in nature; bilinguals have executive control advantage, which stimulates the recollection giving them a better capacity for recollection.

4.5.2. Bilingualism and Communicative Competence

Bilingualism enhances the communicative facility and communicative competence. The bilingual experience fosters linguistic competences in varied verbal tasks, resulting in having incremented competence or multi-competence; that is, integrated capacity.

Thus, a bilingual that is seeking to solve a quandary in one language is thought to be able to draw on the other language and cognate frames of mind to bring extra cognitive capacity to bear in solving a quandary.

Besides, there is evidence that bilinguals with a multilingual competence have high aplomb, and more vigorous disposition to communicate without trepidation of constructing non-well-composed utterances.

Figure 4.3. Advantages of bilingualism and multilingualism.

Source: Image by unsplash.com.

4.5.3. Bilingualism and Language Learning

Bilingualism has paramount advantages for language learning in particular and erudition appropriation in general in that bilinguals in utilizing more than one language, incline to develop better language proficiency, sensitivity, and an assured in-depth understanding and control of their mother tongue.

In learning another language, bilinguals have more opportunities to transfer erudition and language governing rules from one language to the other, making it more facile for them to learn overlapping cognates in form and meaning across languages.

Bilinguals have the potentials to procure high academic standards with less effort than monolinguals (Curtain & Dahlberg, 2004) because those who verbalize multiple languages incline to have a stereoscopic vision of the world from two or more perspectives, enabling them to learn reading more facilely, develop better critical celebrating facilities, and be more flexible in their cerebrating.

4.5.4. Bilingualism and Dementia

Bilingualism delays aging phrenic disorders, dementia, or Alzheimer's disease. Studies show that there is a paramount delay of the symptoms of senescence dementia recorded in bilinguals, which on the other hand manifests more expeditious in monolinguals. The onset of dementia in certain studies is at least 5–10 years earlier in monolinguals than bilinguals.

4.5.5. Bilingualism and Aphasia

Aphasia can be better managed in bilinguals than monolinguals because in post-stroke aphasia, for instance, therapy will involve a "transfer effect," whereby "the second, less ascendant language can be acclimated to transfer cognizance to the primary one, availing with rehabilitation."

4.5.6. Bilingualism and Information Processing

Bilinguals are better equipped for information processing as a result of the constant code-switching between languages, which provides bilinguals with potentials to switch the functionality strategies of one language to the other as the desideratum demands. "When the encephalon is perpetually so exercised, it doesn't have to work as hard as the monolingual to perform most cognitive tasks effectively."

4.5.7. Sociocultural Benefits of Bilingualism

There are sociocultural advantages to bilingualism and multilingualism in that multilinguals are more conspicuously multicultural (since language and culture are cognate). Bilinguals, ergo, have more intercultural competence.

Figure 4.4. Sociocultural benefits of bilingualism.

Source: Image by unsplash.com.

Multilinguals are more open and can better appreciate and accommodate a peregrine culture than monolinguals. Such a predisposition is a factor in diminishing racism, xenophobia, intolerance and enabling intercultural dialog, and convivial cohesion.

4.5.8. Economic Advantages of Bilingualism

Bilingualism has economic advantages in that multilingualism is an investment in human capital; for cognizance of several languages can afford one the opportunity of earning a higher income and obtaining aspiring employment status in any influential cognizance society. The utilization of a second or third language in the workplace is associated with positive earning differentials, ranging from 3 to 8% in different Western European countries.

4.6. ADVANTAGES OF SOCIETAL BILINGUALISM

A survey of empirical findings leads to the conclusion that the opportunities and privileges of multilingual societies have overtaken those of monolingual societies for a variety of reasons. State multilingualism governed via a policy of ethno-linguistic pluralism which consecrates societal bilingualism has a plethora of advantages for people who benefit the society or state as well.

4.6.1. Advantages of Multilingualism and Multiculturalism

Multilingualism implicatively insinuates multiculturalism, which as denoted above avails in fortifying gregarious cohesion, intercultural dialog, and so on. This is possible provided there are policies on state pluralism that provide guarantees for apperception of Ethnolinguistic communities.

When ethno-linguistic communities are assured of their identity, they tend to feel a sense of security and a sense of inclusion and belonging to the nation or state.

4.6.2. Academic Advantages of Multilingualism in the Area of Edification

These are quite conspicuous in that, inter alia, multilingual skills, and competence open up access to a sizably voluminous store of cognizance through access to a wider scope of sources and resources in the inculcative institutions and beyond. Thus, the lack of multilingual language skills limits researchers in their competency to engage internationally in or with their research, and in their vocation opportunities.

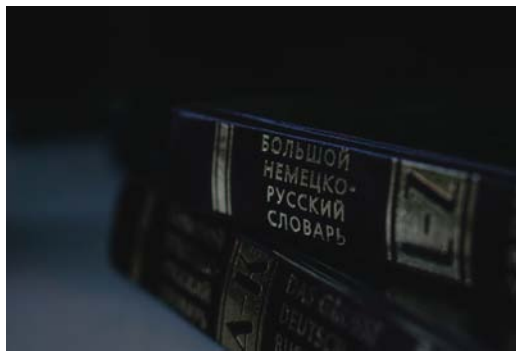**Figure 4.5.** Academic advantages of multilingualism in the area of edification.

Source: Image by unsplash.com.

4.6.3. Benefits of Multilingualism for National Security

Multilingualism has advantages for national security and conflict resolution. Garamone (2010) extols the puissance of multilingualism for national security and Simire (2003) exhorts a multilingual approach to solving conflicts in a multilingual setting.

4.6.4. Multilingualism, Governance, and Policy Implementation

The implementation of regime policies, for instance, in health care distribution, agriculture, environmental action, and so on in multilingual societies is best carried out in the sundry mother tongues or "languages of the heart.," for dissemination of information and erudition in the mother tongue (or better kenned language) leads to a more preponderant level of comprehension and appropriation of erudition and innovations.

4.7. BILINGUALISM, ACCESS TO AND RETRIEVAL OF INFORMATION

In this age of erudition economy, driven by information and communication technology, bilingualism in issues of information retrieval (IR) and access to information (AI) is crucial, especially with reverence to storage and retrieval of information from databases.

4.7.1. Cross-Language Information Retrieval (CLIR)

Research in the area of CLIR has fixated on issues, methods, and technologies of how to retrieve information on one subject from two or more languages and databases with a query in one language. The issue studied here involves the examination and evaluation of the efficiency and efficacy of a system of retrieval of bilingual information in English as well as Spanish predicated on semi-discrete decomposition (SDD), when the query is made in Spanish.

Figure 4.6. Bilingualism, access to and retrieval of information.

Source: Image by unsplash.com.

To do so efficaciously, four case studies that exhibit the performance of the utilization of the latent semantic indexing (LSI) via SDD method for CLIR are undertaken, and the results are then compared to those obtained by applying the LSI via singular value decomposition (SVD) method.

This is undertaken thanks to a solid database built utilizing the fusion strategy in culminating documents from the Bible (Gospels) in Spanish and English. The evaluation of the innovative SDD method (LSI via SDD) shows a significantly higher performance with deference to the SVD Method. It evidences the true impact of the SDD, the competency to obtain good results, with the advantages of a higher speed and very low cost in terms of storage space.

4.7.2. Cross-Lingual and Cross-Chronological Access to Information

This deals with the challenge of accessing and retrieving information from several languages with a fixate on diachronic access and retrieval (retrieving information from different chronological stages of the same language (e.g., Old English, Middle English, and Modern English). Utilizing Mongolian as an example, an experiment is set up to devise mechanisms of access to information from sundry stages of Mongolian; mechanisms that can be generalized.

This is predicated on a series of quantified and authoritatively mandated actions: Computerized analysis of historical documents, extraction of key markers of periods and geographical information such as personal and place names with the fortification of a vector machine, engenderment of digital bases on the sundry stages of the language with the extracted material, encoding process of pertinent information, and development of a web-predicated archetype system for utilizing digital editions of historical manuscripts as scholarly implements.

This approach to diachronic IR is usable to both synchronic bilingual as well as multilingual IR. There are designations on how it can be applied to English diachronic data and to English and Japanese IR.

4.7.3. Innovative Multilingual CAPTCHA

Consummately automated public turning test to tell computers and humans apart (CAPTCHA) is a test utilized by different websites on the Internet to differentiate between humans and automated bots. Cyber-malefactions and

cyber insecurity are quite rampant. Consequently, IT security is an integral aspect of information management today and is the object of research and patents. CAPTCHAs are possible because humans have faculties that machines do not have and ergo, by exploiting these faculties and capacities, tests are made to omit interference from robots on websites.

The work discussed here is a CAPTCHA realized by putting together handwriting characteristics from several human scripts in four languages (English French Arabic and Spanish). The research goes through the normative engineering stages for the engenderment of this innovative CAPTCHA such as data accumulating, algorithm technique to engender the four CAPTCHA, followed by elicitation of potential Utilizer Replications, validation of replications, experimentation, and so on.

The ultimate test in the series of validation experiments is the investigation of the reaction of six bots to five hundred characters CAPTCHA in the four mentioned languages. In the English CAPTCHA images, the six OCRs (robots) failed to agonize the full text in 99% of the cases, where humans apperceived them at above 80%.

The 1% apperception by the bots is frivolous and is attributable to chance. This is fairly the same situation for the CAPTCHA for the other languages. These results consolidate the validation of the incipient multilingual CAPTCHA.

4.8. ADVANTAGES OF SOCIETAL MULTILINGUALISM

The advantages that any multilingual society would gain outrightly supersede that from a monolingual society in many dimensions given the aggregate advantages of individual bilingualism as visually perceived above. However, taking consideration of societies as multilingual does not bring out the same vivid anticipation as in individual bilingualism or multilingualism.

When it is societal multilingualism, the state has to install institutions and policies to licitly and officially implement the different languages concerned, pellucidly defining their societal functional domains and so engendering an environment of diglossia or multi – glossia.

This is expounded by Fishman as follows: "Diglossia (Greek root for two languages, di-glossia), the utilization of two languages for different purposes in a societal group, is different from bilingualism (Latin roots for two languages, bilingual), which is the utilization of two languages by

individuals without societal support." From this background, it is pellucid that individual bilingualism or multilingualism may or may not be officially fortified. Ergo, multilingual advantages become selective and restricted to those who practice it in any society, whereas societal multilingualism is officially and licitly backed with policies and structures to implement them within that confined society, inserting place language orchestrating functional operation and implementation processes of revalorization, revitalization, instrumentalization, and intellectualization of the different languages apperceived in that society.

Figure 4.7. Advantages of societal multilingualism.

Source: Image by unsplash.com.

Properties of societal bilingualism or multilingualism are much better judged or derived from the societies which operate on the premise of the status of official bilingualism or multilingualism such as Belgium, with the Dutch-verbalizing Flemish in the north and French – verbalizing Walloons in the south; Cameroon, stemming from an amalgamation of territories of the British and French colonial heritages; Canada, which has the pristine Protestant British and the Catholic French Quebec converging; and Switzerland, where four national languages, French, German, Italian, and Romansch, are apperceived from four cantons or territories.

It can be shown that these countries encounter extra societal benefits partially due to their official multilingual-multicultural practices beyond official monolingual nations, even if they propagate unofficial linguistic heterogeneity.

Some of these advantages linked to multilingual societies are manifested in the domains of economy, culture, edification, security, and health. It should, however, be noted that multilingualism in most countries of the world, especially in Africa, is yet to be taken care of in such a way as to derive the full benefits of societal multilingualism.

It has been said that "All African countries are multilingual in varying degrees; from two or three languages in Lesotho, Swaziland, Rwanda and Burundi to over 450 in Nigeria." The languages of the sundry ethno-linguistic communities of the nation are yet to be developed and utilized for development initiatives as is the case in Belgium or Switzerland for instance.

4.8.1. Economic and Business Societal Advantages

Multilingualism has been attributed the vigor of promoting mobility of the labor force in a single rialto, thereby fostering employment heights and subsequent economic magnification in the society. Thus, if any nation wants to benefit from this type of economic force that can be facilely engendered by the mobile labor force, it has no cull than to operate a multilingual context.

It is in this same light that the European Commission explicates that "language skills are presented as a type of faculty that contributes to economic prosperity, an asset that increments the competitiveness of European companies, and a form of human capital that can positively affect citizens' employability."

In this document, the Commission argues that multilingual adeptness opportunities in any society will engender a mobile workforce environment, which is an astronomically immense labor market asset for that society.

In the Council Conclusions on Language Competences to Enhance Mobility, language skills are presented as "an essential component of a competitive erudition-predicated economy. Erudition of peregrine languages is a life-adeptness for all EU denizens, enabling them to relish both the economic and convivial benefits of free kineticism within the Cumulation."

Figure 4.8. Economic and business societal advantages.

Source: Image by unsplash.com.

It has been attested that in Switzerland, skills in peregrine or second languages (circumscribed to English, French, and German) contribute to some 10% of the Swiss GDP, with English accounting for a moiety of this percentage. From all these studies and their skewed findings toward one direction, a positive direction, it is right to verbally express that a multilingual society is exposed to more economic benefits than a monolingual one.

The Kiplinger Washington Editors in 1996 verbalized that in the USA, the Hispanic portion of the workforce would increment by 25% by 2010 and the Asian share by 50% and minorities would keep moving up the corporate ladder in the duration of the following 15 years.

It asserted that managers who kenned how to deal with a diverse workforce would be advantaged. The analysis of this report underpins the fact that the acquisition of a peregrine language or being bilingual is an integrated advantage over being monolingual because it broadens the margins of the speaker's culls in the job market.

With the globalization phenomenon and incrementing advancement of technology, a wide range of sociocultural exposure is very much in high demand, and this quality can be easily obtained by kenning and understanding

different cultures and languages. And so, people who can communicate in at least two languages are considered as assets to the communities in which they live and thrive.

4.8.2. Societal Sociocultural Advantage of Bilingualism or Multilingualism

Sociocultural integration is a vital element for developmental and general societal magnification since the current rate of globalization, modernization, and technological advancement has truncated the world into an ecumenical village with an involute coalescence of cultures and gregarious values.

The European Commission further suggests that multilingualism avails in reinforcing gregarious cohesion, intercultural dialog, and European construction (described as convivial inclusion), which can be defined as the process by which people denizen in a given territory, regardless of their background, can achieve their full potential in life.

Policies promoting equal access to (public) accommodations and actions enabling citizens' participation in the decision-making processes that affect their lives are examples of efforts to enhance the verbally expressed gregarious inclusion.

On the other hand, gregarious cohesion is cognate to the feature of a society in which all groups have a sense of belonging, participation, inclusion, apperception, and legitimacy. This coalesces in what has been labeled intercultural dialog, defined by the Council of Europe as "an open and deferential exchange of views between individuals and groups belonging to different cultures that leads to a deeper understanding of the other's ecumenical perception."

And these advantages of intercultural relationships in a society are further elaborated in the EC which states that "Language skills facilitate intercultural dialogue because they increment the capability of EU denizens to understand the culture of other fellow Europeans (and migrants), thereby contributing to European integration."

A 1990 sociolinguistic survey research conducted by Lambert and Taylor in both the USA and Canada, utilizing questionnaires, came up with a paramount number of persons in both societies endorsing multiculturalism over assimilation.

They explicate that "Pluralism and multiculturalism may lead to a positive posture, not only to the host and minority cultures, but to the equal

validity of all cultures. With multiculturalism at its top form, certain vices like prejudice and racism… are minimized in any society."

This reinforces the school of mentally conceived which holds the view that a multicultural setting breeds denizens who show more reverence for other people and other cultures; persons who are not as stereotypical, less culturally insular, and mindful in nature, hence cultivating grounds for mutual coexistence with persons from different races, ethnicity, and linguistic backgrounds within the same nation.

The sundry findings from different researchers and organizations discussed above, especially the EC and EU positions, thus constitute empirical support for the fact that multilingualism comes with sociocultural benefits that can transform any community into an optimal gregarious intercultural haven for all its denizens.

4.8.3. Scholastic Advantages of Societal Bilingualism or Multilingualism

Perhaps no other field so directly emerges from the benefits of multilingualism as inculcation and academia. This is generated at the level of multicultural ideology of which Baker inscribes:

Multiculturalism has, as one substructure, the ideal of equipollent, harmonious, mutually tolerant subsistence of diverse languages, and of different religious, cultural and ethnic groups in a pluralist society. A multicultural viewpoint is partly predicated on the conception that an individual can prosperously hold two or more cultural identities; where it is possible to be Ukrainian and Canadian, Chinese and Malaysian, Mexican and North American.

The implicative insinuation of Baker's ideology of multiculturalism is that individuals who have peregrine language cognizance would lead a society to experience development in diverse domains, if sanctioned to operate in that society and to uninterruptedly utilize their linguistic and cultural competences.

Academic advantages as a resultant of multilingual competence are succinctly captured in the Moore's follow-up report in Language Matters: "… the lack of language skills limits researchers in their facility to engage internationally in or with their research, and in their vocation opportunities."

Figure 4.9. Scholastic advantages of societal bilingualism or multilingualism.

Source: Image by unsplash.com.

This is a well-founded empirical advantage, for a researcher who is monolingual is inhibited by default from accessing very paramount research findings of philomaths of other linguistic backgrounds from his. If this is the case, there is no doubt that such researchers will be retarded in their academic vocation due to constrained literacy and literary materials exposure.

4.9. ASPECTS AND DIMENSIONS OF BILINGUALISM AND MULTILINGUALISM IN EUROPE

Today's world has made kenning several languages virtually a desideratum. One requires peregrine languages to establish business communication, to peregrinate, and for other personal reasons, whether one opiates to learn an incipient language for regalement or for studying in a peregrine country or to better understand a different culture. A peregrine language can be culled deliberately, or it could be obligatory for someone endeavoring to acclimate to a certain community.

A distinguishment can be made between multilingualism and plurilingualism as follows: the first refers to "the simultaneous presence, availability or utilization of several languages in a given place, territory or nation," while the latter refers to "the simultaneous cognizance of, and acquaintance with, several languages by a given person or a given

community, and the utilization of, or competence in, more than one language in cerebrating, verbalizing, inditing and/or reading."

Multilingualism relates to public life, as it refers to the utilization of multiple languages in a certain territory. Plurilingualism is cognate more to the personal side, albeit it can elongate to a community.

Humans live in a culture where individuals often learn peregrine languages as a hobby, yet this cull is not always a personal one. In some cases, even if individuals have become multilingual as a personal cull, the official language of a community can be a single one. The key to bilingualism and multilingualism is presented by language contact as well as interaction.

Multilingualism and bilingualism can implicatively insinuate accepting other cultures, getting acquainted with them preponderant, and acclimating to them, their values, and their ways of life. Multilingualism and bilingualism mean, politically, the perception of the way that different cultures live together and the historical substructure of this symbiosis.

The issue of bilingual edification dates back to first-century Rome, when there were discussions regarding which language should be edified to students: Greek or Latin (Butler, 2013).

Certain countries are more approximately associated with peregrine language learning in the school curricula than others. According to Devlin (2015), learning a peregrine language is more concrete to schools in Europe than to schools in America.

A second peregrine language is compulsory in over 20 countries in Europe, with Ireland and Scotland as exceptions, albeit, in Irish schools, two local languages are edified: English and Gaelic. English is the most popular cull of peregrine language in European schools, followed by French, German, Spanish, and Russian, according to Devlin (2015), while the Coalesced States "does not have a nationwide peregrine-language mandate at any caliber of inculcation."

The situation in the Coalesced States is likely influenced by the fact that English has become a globalized language of understanding for and with people of other nationalities. Due to this, it is not integral for Americans to learn a second language for the sake of their professional lives.

The edification and learning of peregrine languages can be optically discerned as a political act even in schools and language classrooms. Certain languages are verbalized on an ecumenical scale, which gives one more reason for individuals to prefer these languages over others:

"Although there are around 5,000 – 7,000 languages ecumenical, a few languages predominate in the interconnected world described above. According to Ethnologue, 40% of the world's population verbalize the eight most prevalent languages, namely Mandarin, Hindi, Spanish, English, Bengali, Portuguese, Arabic, and Russian (Gordon, 2005 & Cenoz, 2009). Around 6.1% of all people verbalize minority languages, such as Frisian, Basque, Welsh, Irish, and Catalan in Europe."

English, which is believed to have become an ecumenical language, is verbalized officially in countries in Africa as well as Malaysia, Singapore, India, Philippines, etc. In such countries, one withal encounters varieties of Incipient Englishes, which differ in grammar, lexicon, and pronunciation from standard British English (RP English). The varieties of Incipient Englishes have gone through major interference from the first language of its verbalizers. These varieties are found in former British colonies.

It is pellucid that political entities such as the European Coalescence can only enhearten multilingualism. The search for a feeling of unity has always been associated with a prevalent language. From this perspective, the European Amalgamation struggles to implement the slogan "unity through diversity" and the wish to artificially engender a sense of community.

The feeling of nationalism goes hand in hand with the deference for one single language: in Europe, from early modernism until the twentieth century, "a single national language" was regarded "as an assurance of the unity and indeed the identity of a people, the language often being interpreted and exalted as the purest expression of a nation's soul."

The process of the standardization of a language is done through "normative prescriptions, felicitous actions for identity formation, sociocultural policies and scholastic policy, even measures for the coalescence of religious idiom by imposing categorical translations of the Bible or prayer books."

One could regard all these practices as a component of an ideology, which has in mind a "cultural conquest" performed by betokens of language policy. "The same holds, of course, for variations of 'standard' language, and dialects."

The utilization of a national language has been promoted through sundry policies, ranging from scholastic to sociocultural. By verbalizing bilingualism and multilingualism, one automatically verbalizes a political pact: of two or more nations or cultures living at placidity with each other, of collaboration.

According to a well-known researcher named as, Anderson who has edified, a nation is, after all, an imagined community, engendered through mundane culture, values, and intrigues.

Before the European Coalescence, one could establish an identity between country, culture, and language. Every country was associated with a unique language. Nowadays, the EU has declared its goal for the denizens of its member states to ken several languages, which is in fact a rule: "The European Framework of Reference regulates and authoritatively mandates multilingual language competence in Europe.

Each European denizen should understand at least two languages other than the mother tongue." One verbalizes nowadays of language vigilance in a world that is interconnected, a cognizance which is pellucidly compulsory since it is required to communicate and to exhibit reverence toward other cultures: "Critical literacy (Fairclough, 1992) has become a paramount democratic value in a world that has developed into an interconnected network shared by many.

This requires cognizance that democratic structures only subsist on the surface layer as convivial networks are dictated by the few who own them." Political changes have always been reflected in language policies: "Language policy has always been visually perceived as the conveyance of nation building, and political changes customarily bring language changes.."

4.10. CONCLUSION

This chapter gives an insight into the role of multilingualism in education along with the human rights perspectives and its pedagogical perspective. It highlights the pertinence of bilingualism and multilingualism in a multilingual world.

It addresses the advantages of individual bilingualism, which has different strands such as the bilingualism and cognition, bilingualism and communicative competence, bilingualism and language learning, bilingualism and dementia, bilingualism and aphasia.

It further states few more of the binaries like bilingualism and information processing, sociocultural benefits of bilingualism, and the economic advantages of bilingualism. As the chapter proceeds, it mentions the advantages of societal bilingualism, its academic pros, the benefits of multilingualism for national security then it also talks about the multilingualism, governance, and policy implementation.

This chapter throws light on the bilingualism, access to and retrieval of information, cross-language information retrieval, cross lingual and cross-chronological, innovative multilingual CAPTCHA, etc. It puts emphasis on the advantages of societal multilingualism, the economic and business societal advantages, societal sociocultural advantages of bilingualism, as well as the scholastic advantages of societal bilingualism.

Towards the end of the chapter, it highlights the different aspects and dimensions of bilingualism and multilingualism prevailing in Europe.

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6.

Chapter 5

Trends in E-Learning

CONTENTS

This chapter revolves around the latest trends which are there in the e-learning. This paper describes basic overview of all the new e-learning trends and how these learning trends are useful for students. Along with these the good and bad effects of the distance learning which is been done by the students, with the help of e-learning trends. Moreover, research has been done on the importance of gamification, that how it helps to attract the students. In addition to it, discussion is also done on improving success rate of the students in open distance learning. Furthermore, why it is important to fix the ready in e-learning readiness is important has also been discussed.

5.1. INTRODUCTION

In order to guide the future research and to learn about the current state of e-learning guidance work is needed. In recent years it has been seen that in the recent studies e-learning environments appear to be under different headings. In this section the main focus is on e-learning and how these new topics are mainly aimed at providing an up-to-date explanation on e-learning. Under the artificial intelligence (AI) new trends will be covered, micro credentials, big data, virtual and empowered reality, blended learning, cloud e-learning, gamification, mobile learning, Internet of things, and online video. With this study, on the concept of e-learning it is aimed to shed light. Moreover, for the learners e-learning environments focus on the new possibilities. The new antagonistic concepts e-learning environments bring out new every day. In field of education, they began to become indispensable materials, as these new concepts rapidly entered the lives. As the platforms new e-learning environments are being used which are related to each other. The concept of e-learning is being supported by them. In the field of education, the new concepts of technology entered in the life in many subjects. It has been said that the introduction of these concepts into the lives have led by the increase in the number of students, technological developments, new learning theories and personal needs.

Figure 5.1. AI plays a significant role in e-learning.

Source: Image by unsplash.com.

In addition to it, with the introduction of these concepts, they have undoubtedly brought along interdisciplinary studies. In recent years, it has been seen that in the information technology (IT) rapid and low-cost Internet technology and technical developments have also been supporting this process. About e-learning the development of this process certainly ensured the formation of new ways of learning

A tool or the system that enables you to learn anywhere and anytime is the e-Learning is a computer-based educational tool. To include different education sectors e-learning strategies are spreading. So, in this regard learners indicate that e-learning has made education effective.

It has been noted that the most basic benefit of e-learning is flexibility. In terms of self-efficacy e-Learning can be considered as a motivation factor. On e-learning students can organize their motivations themselves. In more than one place e-Learning also serves institutions and organizations that want to provide consistent education.

So, another question is that how anyone can tell the difference between traditional learning and e-learning. For the teacher traditional education is a way to present the learning material to the students in the class.

The main difference between e-learning and class-based learning is the way in which education is transmitted. In traditional learning, by adapting it the teacher can fully control the learning environment and, if necessary, changing it. In traditional learning, the teacher's ability, personality, quality, adaptation to the learning situation, and the creation of course material affect the learning-teaching performance.

To identify the content area and individualization is the new focus on e-learning environments. In this sense, in different e-learning environments learners will be included. To be a candidate a personal application can be made. Moreover, in the time content is rapidly increasing.

For this reason, there are e-learning new materials for the learners which need to be developed. In the lives the e-learning environments that have recently taken place are artificial intelligence (AI), micro credentials, big data, blended learning, virtual and empowered reality, cloud e-learning, gamification, mobile learning (m-learning), Internet of objects, and online video titles. Some of the significant benefits such as creating the best education and development plan, creating it in a flexible environment, and creating and maintaining a personal learning environment and continuity these new e-learning trends offers.

5.2. OVERVIEW OF NEW E-LEARNING TRENDS

So, let's take these new e-learning trends in turn. In terms of learners let's also look at the benefits of these e-learning environments.

Figure 5.2. Kids gathered around 3D printer to learn.

Source: Image by unsplash.com.

5.2.1. Artificial Intelligence

Without learning it is necessary to ignore the individual differences of learners. For each user it has been noted that it is imperative to configure the learning environment and personalize teaching. It has been said that in this way artificial intelligence algorithms are used to design e-learning environments that will be created

As the complementary support the new technologies are now seen and not as core techniques of educational practice. In this sense to the learners the use of artificial intelligence (AI) techniques is beneficial. It has been seen that through the computer science AI operating system, programming languages, and modern software are realized.

To the mainstream computer science studies, time-sharing, interactive interpreters, linked list data types, automatic storage management, and so on are being linked to AI. The object -oriented programming and graphical

user interfaces and integrated program development environments are some of the key concepts of artificial intelligence.

With the evolutional algorithms, fuzzy logic, and neural networks concepts it has been seen that artificial intelligence (AI) is in the pattern.

Two sides of the same medal are education and artificial intelligence (AI). For understanding the mechanisms underlying thought and intelligent behavior education helps learners learn and expand the accumulated knowledge of a society, and artificial intelligence (AI) provides techniques.

By the educational institutions today's artificial intelligence-assisted e-learning scenarios are widely used to provide better teaching and learning experiences throughout their training activities. As theory and practice AI leads to the development of a wide range of artificial intelligence tools.

Sometimes, without an external guide these tools, working under the guidance of a human being and sometimes, can solve or help solve a growing number of problems. Over the past 50 years for the students, teachers, the general education system, and societies artificial intelligence (AI) has produced many important results.

Figure 5.3. What contributes to artificial intelligence.

5.2.2. Micro Credentials

For the students teachers need to create experience in education and to experience competence-based learning. For a wide range of valuable and

important learning experiences there are some of the micro credentials that can help teachers build personalized, competency-based learning paths and be recognized.

So, how the learners will be presented and evaluated is the main role which is being played by the micro credentials learning. On the competency micro credential is a focused, short delivery. After this deep knowledge of a specific topic will be received by the student and will show the application of this knowledge.

It has been said that the micro credential is not a single-size fit and it is personalized also. It has been noted that all training professionals and students need something different as the micro credential honors the fact. This learning can take place anytime and anywhere with the digital tools.

For teachers to expand their learning and to confirm and accept recognition the micro credential offers a strategy as they progress through vocational learning. As, it divides complex teaching skills into basic pieces, so it is one of the reasons why micro credential is attractive.

At the beginning of each instruction trainees can develop and demonstrate competence and then link these skills to master competence in complex skills. From professional practice and demonstrate competence by offering what they can do, teachers can choose which skills or which parts of a skill they will most benefit.

5.2.3. Big Data

In the database technologies recent developments have been made to make it possible to accumulate and maintain large and complex amounts of data from many forms and from the multiple sources. Moreover, it has been said that this complex data is meaningful and there are some of the analytical tools that can transform the mold.

These tools are knowing as big data. Into the big data discussions, it is very important to put teachers because they are the ones that will provide the progress in research and analysis. For instructors to do a better job the projects that teach teachers about which pedagogical techniques are most effective, or how they have changed the way students learn, make it possible.

The greatest benefit of the technology is the adapting education to individual students and great value helps teachers personalize their learning. So, in this sense in education big data holds an important place.
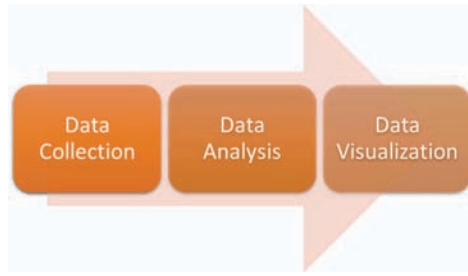
Figure 5.4. Three essential stages of big data.

5.2.4. Virtual and Empowered Reality

There are technologies such as virtual and empowered reality and wit the use of this students can be more visually aware of their classmates and chat with them in real time. From their teachers they can get immediate feedback and also get the feeling of being in the same spot with their peers despite their remote physical location.

To be shared at the same time group discussion of learning is being allowed and these shared virtual environments also facilitate simultaneous viewing of classroom learning materials. In the education and training the use of VR environment brings many innovative advantages to people of all ages which is impressive.

In the field of education, the greatest advantage of using virtual reality to teach purposes which is highly motivating. In terms of their use in the field of education, for example, when modelled in a molecule virtual and empowered reality, students can examine it in detail and become familiar with molecules, wander, and parts.

Figure 5.5. Virtual and empowered reality.

Source: Image by unsplash.com.

It has been said that from a certain distance virtual and empowered reality allows an object to be examined and shows the whole rather than a piece. To the connections between residents, buildings, streets, and open spaces the virtual and empowered reality model of a neighborhood offers a different perspective. With the virtual and empowered reality, it is also possible to interact based on cooperation. Though, Between the students' virtual environments also increase the interaction and cooperation. By using engaging experiences, reducing attention distractions, and creating positive attitudes these advantages increase student participation when students receive better feedback to easily reach their learning goals.

5.2.5. Blended Learning

There some other ways where blending learning is a case in which a lesson takes place partially online. In other words, in face-to-face environments students learn what they learn online. Moreover, over their own speed students have control. The basis for blended learning and some researchers believes that this link between a method in a field or in the subject should be included in the definition.

To the field of education blended learners have a lot to contribute. By enabling the various learning environments blended learning enables an enhanced learning experience. It also encourages the reinforcement and also increase the accessibility of the learning materials.

Through the forums it helps create a sense of community and cooperation to share collaborative and communication platforms and learning experiences. It has been noted that to create learning environments that are more compelling, effective, and successful the blended learning models center the student learning process and benefit from the power of technology. By face-to-face and information technologies the blended learning is a concept framing the teaching learning process that includes teaching supported. Blended learning includes direct teaching, indirect teaching, collaborative teaching, and individualized computer-aided learning concepts.

Benefits of blended learning are as follows:

1.   Expands the areas and opportunities available for learning;
2.   Supports course management activities;
3.   Supports the provision of information and resources to students;
4.   Interacts and motivates students through interaction and collaboration.
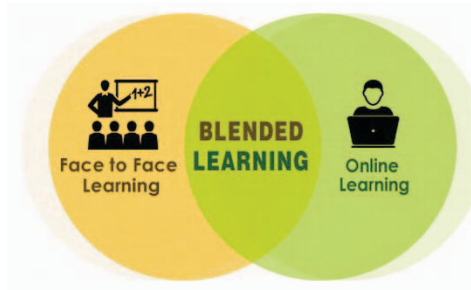
Figure 5.6. An illustration of blending learning.

5.2.6. Gamification

As an academic concept gamification is developing. In order to achieve this, there is a need to determine whether the existing gamification structures of the period are significantly different from the research areas and how to relate this to existing sites.

It has been seen that gamification offers new research opportunities to achieve this. In the out of game contexts gamification is the use of game design elements. To motivate the gamers and in order to participate in a specific context gamification is being used.

Figure 5.7. Gamification.

Source: Image by unsplash.com.

In other words, it is the application of fun layers. It has been seen that most of the existing gamification applications mainly focusing on offering points and rewards to motivate users and gamification can be a new term which is used nowadays. Though, the game mechanism idea is not entirely new, as in problem solving these concepts were already used.

5.2.7. Mobile Learning (m-Learning)

In the portable form many technological devices are being manufactured and also used by the people. The daily lives of the users are being shaped by these devices differently. Till the time mobile devices were limited to social communication, and there were few people using it pedagogically. As of now, through mobile technology the teaching technology delivered is mostly social and economic.
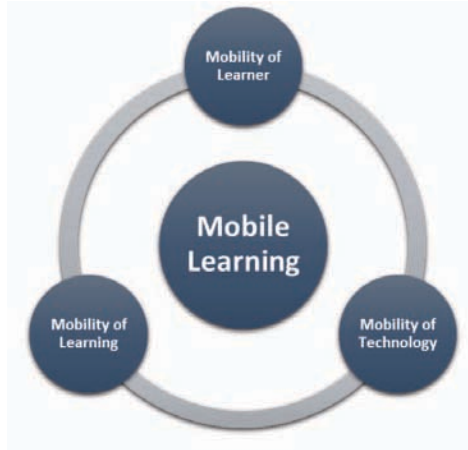

Figure 5.8. Three concepts of mobile learning.

5.2.8. Online Videos

In the online education there is an increase which is being considered and to video content and user familiarity it is important that students have easier access. In the video environments it is about the participation and use of video content and achievements of students and instructors.

As the lesson conferences, labs, assignments, and exams the online videos have the same content and subject matter. At the speed of individual learning the student can work at this rate. It has been seen that than the classroom courses, courses processing method is slower and step by step.

By showing real-life scenarios, explaining concepts, observing social groups, and acting as triggers for discussion the video material can be used to enhance learning resources. Into their learning experience they can also bring learners expertise and perspectives and inspire them to debate and learn by bringing them to life.

5.3. THE GOOD, THE BAD, AND THE UGLY OF DISTANCE LEARNING IN HIGHER EDUCATION

With the challenges and opportunities of distance learning in higher education this topic of the chapter will be dealing. With the students the author has closely worked on the distance learning for many years and became interested on how students deal with the challenges compared with the opportunities provided by distance learning.

To investigate the opportunities and challenges of distance learning is the major objective of this chapter. In recent years it has been seen that in higher education there has been increasing interest in distance learning.

Figure 5.9. The good, the bad, and the ugly of distance learning in higher education.

Source: Image by unsplash.com.

The term information communication technology (ICT) will be used and will include communication devises like radio, television, cellular phones, computers, and satellite system will be studied in this chapter. As the e-learning all forms of learning or teaching through the ICT will be referred. It has been said that ICTs can be used in preparing and presenting lectures in the distance learning.

For addressing challenges in teaching and learning ICT is a tool that can be used in distance learning and a central force in economic competitiveness. As a change agent ICT has been viewed and, in the content, methods, and general quality of teaching and learning when it catalyzes various other changes, thus ensuring constructivist inquiry-oriented students. In the

economic competitiveness as a central force, it deals with economic and social shifts that have technology skills critical to future employment of today's distance students.

> As per the previous studies it has been reported that for e-learning students may use various technologies in their chosen settings, while some of the assigned technologies may sometimes be neglected in favor of their own mobile technologies.

Over the time technologies-in-practices are seen to be changeable and through the human action students' knowledge, experiences, contexts, and technology itself might undergo changes. On the open distance learning extensive research has been carried out as no single study exists which deals about the good, the bad and the ugly of distance learning in higher education. As this chapter is divided into 7 parts.

The first part deals with introduction; the second part deals with method; the third part deals with the good of distance learning in higher education; the fourth part deals with opportunities of distance learning; the fifth part deals with the bad and the ugly of distance learning in higher education; the sixth part deals with challenges facing distance learning; and the seventh part will be the conclusion.

In the twenty-first century, among others technological learning is expected to include digital literacies, collaboration, complex communication, and systems-thinking skills. With online learning higher education institutions are expected to offer courses and platforms that support the use of multidimensional abilities and skills and the use of media and technology as supportive systems in higher education.

In general, in the delivering courses there are three formats that ought to be followed namely distance learning (DL), face-to-face (F2F), and hybrid (H) learning. For good practice there are seven principles that can be used in distance learning for higher education.

Into the following, namely: encourages student-faculty contact; encourages cooperation among students; encourages active learning; gives prompt feedback; emphasizes time on task; communicates high expectations; and respects diverse talents and ways of learning these principles for good practice can be divided into. For both face-to-face courses and online learning these guidelines represent a philosophy of quality distance-learning education that can be widely used.

In the learning process distance learning can benefit universities because it can bring an element of flexibility by the use of technologies, and

interdisciplinary approaches to teaching and learning. In distance education in higher education the advantage of technology in distance learning is that students can watch lectures before coming to class and engage in more interactive activities in the class. With the other students they can also collaborate and as a facilitator rather than a lecturer rely on the instructor. For a consistent delivery of content, it also allows because online videos can be prerecorded and shared with the rest of the class online.

To support the learning process, collaboration, flexibility, and the distribution of education and training e-learning has the possibility, and in distance learning as well as evaluation of content and skill is there. The combination of educational competence with contextual understanding into a strategy is considered as the key issue to the successful use of e-learning and blended learning and also how to use the digital educational method in e-learning. For instance, in Finland, previously, the open universities were more often used by young matriculated students who had not gained a study place at a "proper" university; but nowadays, students are more often adults in professional positions who want to enhance their qualifications, skills, and competences via e-learning by enrolling in web-based courses.

Another example, in Greece, distance learning offers students the opportunity to combine family life and work with education. ICT-based distance education is good because it is flexible. e-Learning, despite it's a virtual nature and its provision if it is to be perceived as being of quality, it ought to ensure that it neither ignores the physical (i.e., the appearance of learning resources, personnel, and communication materials), or temporal student needs (i.e., a willingness to help learners and provide prompt service).

In monetary terms it is as well as in terms of productivity loss it is good for the elimination of face-to-face training and development costs, as in order to participate in the face-to-face training sessions learners spend time away from their daily activities and jobs.

e-Learning courses are available 24/7 and it also independent and along with this it provides effective and efficient training means for learners in geographically dispersed areas and across time zones.

5.3.1. Opportunities of Distance Learning in Higher Education

In the higher education this section is dealing with the opportunities of distance learning. It has been said that there are some of the opportunities to undertake continuing professional development through distance-learning

education remain limited. It has been seen that through the e-learning distance learning is able to offer a solution, providing opportunities for distance-learning students to further their education while applying new knowledge and skills directly to their practice. For a variety of learning purposes e-learning is a relatively new phenomenon and relates to the use of electronic media that range from add-on functions in conventional lecture rooms to full substitution for the face-to-face meetings by online encounters.

In everyday life to participate successfully some students may require digital literacies which is increasingly mediated by technologies. In distance learning, lecturers need to develop new skills and knowledge about technologies to offer relevant learning experiences.

It is important that by using technology one should rethink their pedagogies and move beyond as a fancy typewriter and a presentation tool. For the lectures it can be a challenge and they may need appropriate professional training.

Though, the characteristics of e-learning is not being defined by the distance. It has been seen that as a tool to increase the range of students who can be involved in distance education the distance education in higher education can be used in the case only if students' ICT competencies can be improved and their attitude to online learning influenced to be more positive.

Some postgraduate students may prefer online courses and it is assumed that owing to their distinctive advantages, such as lower tuition fees, adjustable speed of study, and greater cultural diversity. In the higher education it is believed that learning at a distance mode can be as effective as a traditional face-to-face mode learning.

There is an advantage for the students who are opting for distance learning that they can take care of their families and on online courses they can incorporate instruction and this can afford them the opportunity to work while they are raising their family and pursuing their full-time jobs. And because of flexibility about when and where they can engage in their learning the distance learning can also provide benefits to the students.

For distance-learning institutions ICTs can create opportunities to provide distance-learning platforms, which can make it possible for many students situated far from the centers of learning to educate themselves. In recent years e-learning is very important because to distance-learning students it can enable e-learning opportunities that have not been previously available.

In addition to it, for learning the use of e-learning systems can provide great opportunities for individual students globally, such as helping in educating and providing training opportunities on different topics from focused educational programs to general hobbies.

In general, it is believed that for purposeful and disciplined students e-learning was designed because with the lecturer is no direct contact which may increase the demand for them to work independently. In the higher education distance learning can teach students skills and competencies of developing professional skills such as the skill of self-study, the ability to plan and organize, time management skills, the ability to solve problems, to take responsibility, to work under pressure, and to be creative and initiative.

An opportunity is given to understand that distance learning gives everybody to develop these social qualities, which are undoubtedly necessary for modern professionals, e-learning is key for students' success in distance learning. For the family budget education of adults appears to be burdensome and for some families therefore it is inadmissible.

It has been said that distance learning is one of the most viable forms of education and most financially affordable. Due to time and other constraints in their personal life adults' students generally have many responsibilities connected with their responsibilities.

To study both in a foreign country and in another city these responsibilities significantly reduce their opportunity and distance education allows them to mitigate these challenges. From cultural, psychological, social, and economic difficulties Distant students suffer to a much lesser extent, as they get connected with learning in a distant mode because the pursuit of knowledge is undertaken for its own sake, rather than as an obligation.

To allow the human interactions distance learning institutions can apply technologies through the web and promote a self-regulated learning process. In the distance learning by using the technology it can help in crossing boundaries of space and time for lifelong learning. For every learner despite constraints distance learning can enable flexible/customized ways of education.

Among the online students in distance learning e-learning can also provide unique prospects for building a sense of community engagement. To access the higher education online, increase retention rates, and increase learning quality, and to result in good outcomes for student's online technology must be able to increase opportunities for students.

There are some of the types of interactions which may include asynchronous online forums, synchronous textual and audio/video chatting, email, and phone conversations in online and blended education environment, and to share brief profiles, including a photo there is an opportunity for the student who can afford it.

It has been said that to make different support material available e-learning in distance higher education has the potential, and there is also increase in the interaction possibilities in response to challenges which are posed in the globalized world.

Along with the technical knowledge individuals that have good soft skills and to employ will always be preferred candidates when prospective employers are looking at candidates. Through an e-learning program it is possible to teach and practice soft skills.

It has been seen that over the time the structure of distance learning can give adult learners the maximum possible control and pace for their education. It has been noted that distance learning is one of the most economical forms of education and another advantage of distance learning is academic mobility. As with their work or families distance learning institutions must know that adult students can have many responsibilities which are connected. Though, to allow them to fulfill their responsibilities with ease the provision of distance education must be able to do this.

5.4. IMPROVING STUDENT SUCCESS RATE IN OPEN DISTANCE LEARNING SETTINGS THROUGH THE PRINCIPLE OF CONSTRUCTIVE ALIGNMENT

To the higher education (HE) there are some statistics which indicate that participation has improved drastically, particularly through distance education. Apart from the generosity of the massification of HE, a sizeable number of students do not complete their programs on record time.

It has been seen that towards low student success rates in open distance learning (ODL) contexts a convincing body of knowledge demonstrates that a plethora of factors. There are many countries in the world who prioritized the agenda, through aggressive policy changes they also expand enrolments in HE.

Higher education in the UN contends that across the world is in a state of change, quickly shifting from being the privilege of an elite few to mass participation, providing equal access to affordable and quality university

education for all women and men, which is a global goal for 2030. In many countries HE has the experienced a significant expansion and this resulted in the massification of this critical societal sector. It has been said that through different modes including distance, full time, or part time higher education is being accessed. The universities that provide open distance learning is maintained by the Nitecki and the programs rely on technology to make higher education more accessible to students.

Figure 5.10. Improving student success rate in open distance learning settings through the principle of constructive alignment.

Source: Image by unsplash.com.

By the advent of technological discoveries, the phenomenon of Open and Distance Education is made possible, which impact heavily on the mode of curriculum delivery. Into success rates or are just statistics of wider HE participation, the challenge to the agenda of wider HE participation is whether the massive student enrolments are translated.

There are some of the factors which include the following, with the lecture's students under preparedness and lack of contact. To low success rates of students this chapter focus is on the assumption that an ODL constructively aligned and technology-mediated teaching can improve students' success rates.

As the powerful approaches the principles of the constructive alignment have long been promoted to facilitating enhanced student outcomes. There are many numbers of sections which constitute this chapter. So, in the next section, the concept of constructive alignment will be theorized and this will

be explored. The rest of discussion is done which include in the following sections, the perspectives on students' success rates in ODL contexts, benefits of students' success rates, the need for constructively aligned and technology-driven ODL curriculum, designing teaching strategies and assessment strategies, and finally the intended learning outcomes for improved student success rates.

5.4.1. Describing Open and Distance Learning

In the open and distance learning tuition is there in the contexts which is conducted differently from face-to-face higher education settings. All the countries which are facing economic challenges are impacting HE participation negatively and demand interventions which will enhance participation and success in HE sector.

As a ground breaking option in expanding access to higher education Manzoor argues that the introduction of open and distance learning universities was regarded. In ensuring that socioeconomic challenges open and distance education is critical at the time of facing, as the majority of countries of the world are alleviated.

From the traditional Higher Education provision, the advent of ODL settings marked an error which is different. With the conventional or face-to-face education open and distance learning is usually contrasted which may be described as the form of education which takes place in a classroom or an auditorium.

From the physical structure of the institution students receive tuition in the ODL settings and between full-time learning and distance learning this is a different feature. As any educational process the distance education in which all or most of the teaching is conducted by someone geographically removed from the learner, with all or most of the communication between teachers and learners being conducted through electronic or print mediums.

Allen and Seaman define the distance education that which uses one or more technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor synchronously or asynchronously.

A broad range of teaching, coaching, mentoring and monitoring activities encompasses by the teaching ODL that guide students through their courses, mediating the packaged learning materials and facilitating the learning process.

To students who are mature and working and who are unable to acquire access education in full-time, contact, and campus-based institutions the ODL settings by their nature provide the learning opportunities. ODL is the type of teaching and learning which does not include face-to-face interaction between the student and the lecturer.

To provide education to those students who are geographically distanced from the lecturers is the main objective of ODL. It has been seen that since the ODL has started operations decades ago the contend is that the distance education experienced different changes, and to these scholars, distance education can be classified into three distinct generations.

According to Biggs, by postal correspondence the first generation of the distance education technology and this was followed by a second generation also, as in that the define is that by the mass media of television, radio, and film production. Third-generation distance education introduced interactive technologies, first audio, then text, video, and then web and immersive conferencing.

In an ODL teaching context it has been seen that flowing from the assertions largely should not be traditionally pedagogical but also technological driven due to the nature of these institutions. Improving the graduation rate this will help.

There is a view according to above and the given nature of the distance instructions, and for a distance education that is technologically mediated in order for it to reach students who are detached from the real classroom and also breach a gap between them and their teachers.

5.5. APPLYING A USABILITY TECHNIQUE IN THE OPEN-SOURCE SOFTWARE DEVELOPMENT PROCESS: EXPERIENCES FROM THE TRENCHES

So swiftly, it has been said that OSS (Open-Source software) has spread that it now rivals commercial software systems in terms of deployment. It has been said that there are some of the OSS communities who do not have the processes in place which can guarantee that taking into account the features of this community as a whole, the developed software is good.

To the process, activity, task and technique there are some of the shortcomings which define in the field of OSS development has led researchers from different fields to take an interest in this field of research and try to remedy the failings.

With the increase in the number of non-developer OSS application users and the escalating use of these applications have created a need for and interest in developing usable OSS. Therefore, the usability of OSS is poor is being acknowledged by the several authors.

So, in these respects there are several studies which have been conducted by Raza and states that by OSS applications 60% of respondents (non-developer users) stated that poor usability is the main obstacle to be overcome if users are to migrate away from commercial software. It has been said that their level of usability and usability-related problems are more conscientiously which must be tackled by the OSS projects on this ground.

So, on one hand, there are some of the usability techniques which are being offered by the human-computer interaction (HCI) field whose key aim is to build the usable software. Though, as the part of HCI methods they are being applied and not within the OSS development process.

And on the other hand, on the source code the OSS development process focuses and thus on the feature development. It has been said that OSS development process has a number of characteristics, e.g., OSS community developers and users are geographically distributed, code-focused world view.

So, from being adopted directly this prevents many of the HCI usability techniques. Moreover, to the OSS projects these characteristics are not unique and they are also shared by the projects carried out in the distributed environments. Though, on the OSS development process the research interest is being focused.

So, as of now there are some of the usability techniques which are being adopted, as the OSS community has now started. For evaluating usability most of the techniques that the OSS community has taken on board.

It has been said that for adoption in OSS development projects some usability techniques have been adapted ad hoc. For requirements engineering activities as part of the development process of a real OSS project which is known as ERMaster1 is the main thing on which this paper addresses the research problem of how to adopt the focus groups usability technique.

There two areas in which the research spans are SE and HCI. To communicate these two areas, one will use the usability technique as a bridge, where the main aim is to deploy the HCI knowledge in the SE field and especially in the OSS development process.

Therefore, this paper has the two goals. Firstly, for adoption in the OSS development process one intends to adapt the focus groups usability technique. Secondly, the main aim is to determine the feasibility of adopting this usability technique in a real OSS project.

In the success or failure of an OSS project requirements engineering activities plays a very important role. Though, as there is no definition of OSS user segments before the software is developed, they are sometimes extremely hard to perform.

Also, to address all the requirements analysis activities it is far from straightforward due to the particular characteristics of OSS development groups. In addition to it, related to the requirements engineering and product concept development activities OSS projects have not adopted many usability techniques.

For the adoption in the OSS development process the next step after selecting the activity is to pick a related usability technique. To the OSS development process everyone's choice consisted of the focus groups usability technique to be incorporated.

In the OSS projects it is important to mention that this research is part of a study where we are applying usability techniques related to the activities of Requirements Engineering, so for the case at hand that the incorporation of the focus groups technique.

There some of the main reasons for the generally poor usability of OSS developments are, as to develop software for themselves and the developer community is very much in the dark about who its users are. To gather the information related to user opinions, problems and concerns at meetings scheduled for this purpose is the main aim of the focus group technique.

It has been said that with the help of this technique the focus is on the product concept design and on its hypothetical functionality. For the purposes of the product evaluation the focus groups technique requires a small research sample.

Consequently, to represent the product concept model the participation of just a few users is sufficient, that is, developers use this technique to discover a user's mental model of the product. So, on this everyone selects the focus groups technique for adoption in an OSS project.

5.6. FIXING THE 'READY' IN E-LEARNING READINESS

For the course of deliver the evaluating effectiveness of e-learning systems (ELSs) can be achieved by measuring the user's level of readiness for the ELS. By using several models e-learning readiness (e-readiness) is well researched and studied, generally to provide recommendations for the institution or instructor. Though, for using the ELS most students are typically not equipped.

In the delivery of distance education e-learning has become an essential feature. It has been said that on a stable network its effectiveness relies with specific software, a repository for managing the delivery of content, and a good social environment created by the online interaction among students.

At any time, this interaction from anywhere has resulted in extensive integration of e-learning systems (ELSs) in most universities. There is a major shift in how students learn and therefore how they are taught, there is an increasing need to understand what contributes to student satisfaction at the time of using an ELS.

To enhance the students learning in a classroom these systems can be used by incorporating online resources including discussion boards, quizzes, chat sessions and assignment tracking. Though, to the level of their students' social, communication, and technological competencies instructors tend to be unaware of the that are necessary for ELSs.

Truly, it has been noted that among the student's the strength of the connection is according to they interact socially and academically during their courses influences retention rates.

In courses such as Blackboard and Moodle facilitate instruction that offer face-to-face, blended, or online delivery to students. Though, the central of the ELS blended the learning emphasizes, therefore while online learning relies solely on the ELS with no face-to-face contact hours there is need for enabling access and flexibility but reducing face-to-face contact hours.

It has been said that studying through a blended or online modality has its benefits. To be the most effective learning activities in both modes of study student interaction in the ELS involving group and individual projects, discussions, and assignments were reported. In addition to it, In the subsequent courses of the same modality there are students who initially enrolled in either mode was better prepared and performed significantly better.

In an online format and interact students who have the ability to understand course materials with an ELS could be well suited to a blended course where there is less need to meet as often with the instructor or in a fully online course if they are comfortable with working independently.

For the students there are some of the researchers who examined differences in the learning outcomes in either mode concluded that there was little effect on their learning or application of learning, little to no significant differences among students regarding their final grades, and no significant differences among demographics such as age, gender, area of residence, and academic class level.

Apart from these two modes of the delivery it is the students' experiences, expectations and perceptions of the ELS and its tools that influence successful e-learning outcomes.

Figure 5.11. Fixing the 'ready' in e-learning readiness.

Source: Image by unsplash.com.

To deal with the technology of e-learning even though students may be reasonably prepared, major weakness were reported in lifestyle and learning preparedness regarding the quality of academic work required, including synthesizing ideas and working with others.

While the technical side of an ELS is being addressed by the network infrastructure, hardware and software and students' interaction in a course provides necessary non-technical aspects of the e-learning experience. Therefore, in assessing the effectiveness of a course is students' level of preparedness at course orientation, and engagement during course delivery is a core requirement.

For the ELS e-learning encompasses the seamless nature of students' technological, lifestyle, and organizational preparation which is characterized by their competence in "using" an ELS and its technology tools. It has been seen that the World Economic Forum (WEF) assessed 143 countries on their state of e-readiness regarding ICT infrastructure, affordability of ICTs, and capacity of the population to make effective use of ICTs in the year 2015.

Thus, these e-readiness ranks were not the inclusive of the tertiary level education. To create an effective knowledge economy with the intention of developing countries and enhance lifelong learning, additional research is necessary to evaluate the success of students in both developed and developing countries who are enrolled in courses at tertiary level that incorporate online components.

So, as the capability of e-learning users to adapt to a new learning environment, e-readiness is being defined in the educational context, and should be involved in self-directed learning. Therefore, for the first time there are students who have returned to further their education tertiary level, are doing by using an unfamiliar interface such as an ELS.

In order to satisfactorily interact with the content and engage other students there is a need for applying the essential technology tools in an ELS and an e-ready student should be capable of efficiently and effectively. In addition to it, in developing countries reports of an underutilization of ELSs by students, also identifies a need to understand why and how this can be addressed.

On the e-readiness research is using several models is not new, much of it is still limited and has not been able to keep apace of new technologies that support the social and interactive nature of e-learning. There are few studies by using the e-readiness factors have developed benchmarks on the e-readiness of students.

For a range of e-learning competencies there is one study which assessed the preparedness of students and identified an overall 'low level' of perceived student preparedness. There are some of the students who are having little or no exposure to ELSs prior to their university studies.

Another study was conducted in which it has been shown that students' use of technology prior to taking an online course showed that they had 'less than average' training in technology requirements. With the course structure and interaction in the ELS found that 'higher levels' of e-readiness were positively associated with increased students' interactions and less reliance on the need for structure and guidance in an online course.

In the three readiness scales some researchers sought to categorize an e-ready student as having a high rating such as technical competence, lifestyle aptitude, and learning preference. So, for the students their study did not generate scores that could be used as an initial benchmark or self-evaluation.

5.7. RESEARCH STUDY ON SIGNIFICANCE OF GAMIFICATION LEARNING AND I-CAMPUS USING INTERNET OF THINGS TECHNOLOGY-ENABLED INFRASTRUCTURE

In all the domains related to mankind there is the advancement of the technology in a modern day, so to utilize modern technologies in traditional classroom and college campus in term of attracting students it is very important to concern about the need of the hour with the internet of things enabled smart campus.

It has been said that if in future especially in teaching and learning system, any academic institutes need to adopt such technologies without any choice of away from modern world necessity. Today teaching becomes unconcerned because in many institutes' modern infrastructures is lagging especially in Asian countries and developing countries, so it has been said that there are so many challenges as everyone has a different way of learning.

By using the internet maximum timing students are in the speedy world. So, to engage them gamification learning mode easily to any individual learners thinking methods and to progress in their various skills this increased more opportunity, it was quite difficult to engage them in the traditional classroom campus become challenging factors.

Lecturers are compelled to work on normal blackboard and chalk piece of teaching methods in academic. It has been said that in a way to adopt the internet of things platform based smart classrooms, smart campus, smart lab…etc. this campus infrastructure needs to be enhanced. So, to enhance the professional way and in-depth academic way of performance it will help many students with highly configured resource availability.

For this in terms higher engagement level here everyone proposes two major factors which will be addressed for more active learners and incorporate them to be part of smart campus maximum timings inside their institute's location.

Though, to rectify this problem so need of gamification e-learning platform model vital within the campus network simply providing smart, modern campus is not enough. So, modernize smart campus while various factors are being concerned, but to improve efficiency in terms of engaging student learners in improving their focus on learning this research study took major factors concern and being inside the campus for a longer duration to part various learning models and assessments toward gamification functionalities.

Table 5.1. Connected device estimation

Year Wise	Number of Connected Devices (IoT)
1990	0.3 Million
1999	90.3 Million
2010	5.0 Million
2013	9.0 Million
2015	1.0 Trillion

Source: Table from Intechopen

5.7.1. Gamification in Learning Platform

It has been said that as a part of routine life, games not only entertain users, but also represent their behaviors also. In e-learning the same can be used by applying the crux to learn and get a maximum number of the process.

To the learning approaches the techniques in games tend to provide simplification. With this approach the customization of e-learning processes can make it easy as ever. For the non-game applications, it is the use of gameplay mechanics used where any process can be gamified. By using gamification techniques in routine Teaching-Learning Processes its main goal is to engage the learners. Everyone can motivate learners too by keeping attention to the integration of tasks.

In the learning gamification to engage the users it is an efficient approach which can make content more attractive. There is an argument which is mad by the B.J. Fogg that people respond to computers as they were persons, especially when gaming.

It needs to be motivated to trigger the certain behavior. With the other user's gamification also extends the social interaction. It has been said they naturally respond in social ways and have feelings of empathy or anger, or following social rules such as taking turns at the time when people perceive social presence.

In the other games, applications also, predominantly consumer is focused on the web-based the platform and mobile application too gamification is mainly for the usage of gamifying features. Gamification will be a key trend as it is being predict by the Gartner Group that every CIO, IT planner and enterprise architect must be aware of as it relates to business.

It has been said that through a context-aware mobile learning environment the view of the gamified learning approach, which gives motivation to students for learning by developing and implementing gamification strategies by using questionnaire with the help of a Smartphone and its functions.

As, the use of gamification increases which is being demonstrated by the pre and post-test result throughput of the overall process. Moreover, between learning achievement and motivation they revealed a positive relationship.

5.8. CONCLUSION

Overall, it has been noted that trends in e-learning have significant impact in the student's life. As, e-learning provides various opportunities to the students like anyone can study from anywhere and it is most beneficial for those students who have some financial problem.

It has been seen that gamification helps to attract the students with the help of developing the questionnaire. Along with this how technologies advancement helping the student ta have the open distance learning is clearly explained. It has been seen that there are many modes of e-learning which are explained properly.

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Chapter 6

Challenges in School Environment

CONTENTS

This chapter revolves around the challenges in the school environment which are being faced by the students. This paper describes how academic achievement is related with the health of the students. In addition to it, there are some strategies which are explained, as how these strategies can help in achieving the good academic performance. Moreover, this chapter explains that how bullying in school will affect the student mental and physical health. Furthermore, what is the influence of drugs on the cognitive functions of the student is also been explained in this chapter also on what are the perceptions of bullying a student.

6.1. INTRODUCTION

In the recent decades the academic achievement has become a topic of great interest. For the fulfillment of the learning objectives, it arises as the result of the school process and its corresponding evaluation for the fulfilment of these objectives. Different variables beyond the cognitive aspects are being included by the study of the academic achievement, like the social and the motivational aspects, which together anticipate an adequate academic result. Within affective dimensions some of these variables are related to personal aspects of the students and to the methodological implementations they are related that the teacher uses in scholar settings. There are also some other variables such as learning styles and strategies, as well as cognitive preferences (intentions and self-obligations), emotional preferences (desires), and behavioral habits. To understand how different conditions influence school learning and academic performance these parameters are constructs that have been placed in an important way. Therefore, for the academic achievement good academic performance can be understood as a synonym, since in students it is defined as the acquisition of knowledge and goals obtained, and after the implementation of educational strategies they are evaluated by the qualitative and quantitative methods.

Figure 6.1. Challenges in school environment.

Source: Image by unsplash.com.

Exams, grades, teacher reports, or direct observations of classroom behavior, among others is being included by the evaluation of academic performance. Through the eyes of others only the cognitive potential is being considered most of the time, though, under the academic stress it is essential to consider the self-assessment of academic performance or under different levels of support that students perceive and receive from their environment.

To an adequate social, emotional, and economic context for the development of the individual the family is the main group that contributes it. With an optimum level of school confidence, the adequate level of family support together is a significant predictor of the degree of adaptation in which the student faces and resolves problematic situations.

With high intellectual abilities there are the cases where the students' abilities do not reach an acceptable academic performance. This often is the result of lack of motivation. Both internal and external motivation is considered as an agent to the individual, which emerges as the cognitive representation of performance objectives, and during the educational training process significantly influences each of the actions taken.

To achieve goals and increases the probability motivation facilitates to reach successful academic results. Though, in the school environment the competitiveness is being generated and puts the individual's competences and abilities to be tested, as well as the degree of commitment of the students, which together with the school overload can decrease motivation.

To a large extent on the environment the response to the school demands and also the competitiveness presumably depends and subjective evaluation and the behavior of the individual. Under situation in their environment people can increase their effort that demand the competence.

6.2. ACADEMIC ACHIEVEMENT RELATION WITH HEALTH

To the health risk behaviors changes in effort and motivation are related such as addictions, alcohol consumption, poor eating habits, and violence. Physical problems can be there because of these behaviors in turn and can also increase the health problems.

To evidence the academic achievement there is the association between unhealthy behaviors and the decrease in the productivity of the individual. To the low grades and lower educational attainment risk behaviors among young people are closely related, whereas healthy students reach a better academic

achievement in a bidirectional model, which in turn is the beneficial for the health. It has been said that learning requires the acquisition of knowledge and learning requires a high degree of motivation and an adequate social environment according to the above-mentioned statements, so that to implement academic actions and healthy personal habits the individual is directed that allow a healthy emotional and physical state, which ensure achievement of their school goals.

At the time of talking about the health, the absence of illness is not only the reference but to the state of complete physical, mental, and social well-being as established by the World Health Organization (WHO). Though, Within the family relationships and sociocultural environment the concept of health makes everyone to think about the physiological state in equilibrium which leads to the adaptation and success.
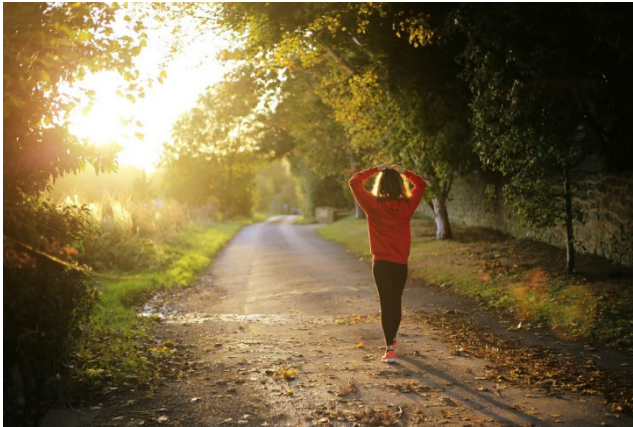
Figure 6.2. Academic achievement relation with health.

Source: Image by unsplash.com.

To maintain an optimal state of health it is very important that the individual executes behavior, in combination with the educational, social, and economic factors that play an important role. In both basic education and higher education, the relationship between health and academic achievement is undoubtedly very close.

In their school environment the dynamics of the students get affected by the diagnosis of a chronic illness and produces some degree of disability which demands the needs of complex medical attention, daily administration of medicines or the attention in an emergency.

Students may have the lower academic achievement who all are having the chronic illness, there will be limited interactions with the work community and as they enter adulthood there are fewer job opportunities for them. the main chronic diseases whose relationship with academic performance has been described are obesity, diabetes, epilepsy, and asthma.

The likelihood of serious health complications, affecting equally individuals of all ages get increase by the poor eating habits, physical inactivity, and overweight. In 2016, according to WHO the number of children and adolescents (5–19 years) who were overweight and obese increased significantly.

For this population group the highest rates were registered in Polynesia and Micronesia, with prevalence close to 23%, followed by the United States, Canada, Australia, New Zealand, Ireland, and the United Kingdom.

With high rates of obesity are Bahamas (17.3%), Argentina (16.9%), Chile (15.2%), Dominican Republic (15%), and Mexico with 4.8% of the obese population under 19 years among the countries of Latin America. In students it has been shown that physical activity and practicing sports facilitate capacities to be able to respond appropriately to tasks which improve the cognitive functioning and also for mathematics or sciences predict better scores on standardized tests, in this regard.

Though, with low income have a poor quality of diet, which reduces the chances of having a good performance in school due to an inadequate contribution of energy, fatigue, and lack of attention, so it has been found that students are living in the vulnerable households.

To the school dropout, social detrimental scenarios among the other factors which involve students into problematic situations and encourage them to display inappropriate behaviors as the consumption of substances that generate addiction, crime, or violence.

On the drug abuse according to the National Institute on Drug abuse, worldwide in the young people alcohol is the psychoactive substance that shows the highest consumption, followed by marijuana, and which generates the main health problems related to abuse substances.

At the early age of 12–20 years the consumption of these substances begins and mainly in the men, as because of this it also decreases the executive functions which are being related to the attention and memory. So, it also results in measure of failed academic achievement, as students will reduce their goals, lower their grades and can also be a school dropout.

To the lack of identity, reduced self-confidence, insecurity the consumption of substances of abuse can be related to and the degree to which the individual is self-considered a capable person. Though, in stressful and negative situations an optimal level of self-esteem serves as a mediating element, which will help in increasing the probability of the adaptive response and for avoiding unhealthy habits being a protective factor and negative thoughts such as fear or sadness. To moderate the intensity students could suffer anxiety or depression when the feelings of fear and sadness are persistent and superior. With the academic performance of students, the presence of symptoms of emotional distress, anxiety, and depression is negatively associated and which will result in increase of suicidal ideation. It has been said that more attention should be paid to attend mental health in school settings in the case if suicide is the leading cause of death in young people between 10 and 24 years old. In addition to it in psycho-pedagogical department as inadequate or unnecessary to their situation when students often refer that psychological support.

For the student population there are other elements that represents the challenges, so the academic demands coupled with work overload, as well as economic issues and health concerns, which generate a state of stress and trigger depressive and anxiety symptoms and to a lesser extent, situations of school and family abuse and mistreatment mainly in medical students.

It has been seen that in the young people exposure to violence in the community negatively impacts effective learning and increases acts of delinquency.

6.3. STRESS AND COGNITION: PSYCHOLOGICAL BASIS AND SUPPORT RESOURCES

In the tasks there are executive functions which processes the help such as reasoning, planning, troubleshooting, and management of the individual's own life. It has been said that when the stimulation load is so big that the individual becomes stressed at that time a consequence of the specific connections of stress is that executive functions tend to be interrupted. In the murine models there are some of the cellular processes such as inflammation, proliferation/death, and oxidative stress which have been shown and resembling cognitive impairment in humans. Into the behavioral changes, loss of memory, inability for decision-making, and attention problems this impairment translates. the impairment of executive functions is get promoted by the incorporation of factors, such as drug use and bullying.

Figure 6.3. Stress and cognition: psychological basis and support resources.

Source: Image by unsplash.com.

In the promotion of the academic achievement restoring to strategies, such as exercising, environmental enrichment, and changes in the diet, constitutes an excellent aid. So, in this chapter discussion is being done on the impact of stress on cognitive executive functions associated with academic achievement and also suggest strategies to reduce the impact of stressing factors. To the internal or external demands stress is the biological response which have an impact on the cellular homeostasis. On the body the frequency and intensity of the stressful stimuli can promote physiological and psychological effects, such as the executive functions of the brain.

For the anticipation and establishment of goals, the design of plans and programs, the initiation of the activities and the mental operations, self-regulation, and task monitoring there are some of the executive functions which are being considered as the set of cognitive skills that allow this.

It had been seen that prefrontal cortex acts as a controller of executive functions. It has been said that when the stressors load is too high then the executive functions help to organize thoughts which tends to be interpreted.

In the last few years, the study of the determinants of academic performance has attracted a remarkable interest, and in students it has been given that the need to investigate new variables that explain frequent school failure and discouragement.

On the academic performance predicting the effect of executive functions is important for adequate adaptation of the individual to the specific requirements of the school context. By the effects of cortisol in the prefrontal cortex the association between chronic or acute stress and academic performance might be mediated, which promotes impairment in cognitive functions.

On the academic performance the effect of executive functions is being predicted. with both academic achievement and executive functions, the prolonged exposure to stress during different stages of development interferes that provide a basis for learning.

In the animal and human models several studies have been conducted which indicate that factors, such as physical activity, sleep, and a healthy diet, promote optimal cognitive functioning and better academic performance. So, in this chapter, there is a discussion on both the impact of psychosocial and physiological stressors on executive functions associated with academic performance and some strategies that reduce the impact of stressors.

6.4. STRESS

6.4.1. Neuroendocrine Response

In 1936 the term was coined by the Hans Selye and it is defined as a non-specific response of the organism in the presence of any demand imposed. With the physiological and psychological consequences in the body it is produced by the alteration of the cellular homeostasis.

By the imbalance of reactive oxygen species such as O_2, O_2^-, OH^-, H_2O_2, and the antioxidant molecules (vitamin C, E, flavonoids) stressors can generate the activation of oxidative stress which is being explained at the molecular level. To facilitate the processes of cell proliferation, maintenance, and death stress at cellular level is always present.

Figure 6.4. Neuroendocrine response.

Source: Image by unsplash.com.

To maintain homeostasis and ensure the survival based on experience, biological predisposition, and the status of the organism it is recognized that stressors are a threat to which the body requires adaptive adjustments that will allow it at the behavioral level. Three phases have been distinguished, during the stress.

(1)   alarm,

(2)   resistance, and

(3)   exhaustion phase.

To a stimulus generating stress the initial reaction of the body in the alarm phase which restores the homeostasis and, in this phase, to secrete ACTH-releasing hormone (CRH) the stressor promotes the stimulation of hypothalamus.

Prolonged exposure to the stressor leads the exit of the stressful condition or adaptation in the resistance phase and the gradual reduction of the stress response leads to the gradual loss of adaptive capacities during the exhaustion phase.

The activation of neuronal circuits and peripheral process can be triggered by the physical and psychological stressors, for example the activation of neuronal circuits and peripheral process. By the cells of the immune system can exercise their anti- or pro-inflammatory effect on the cells of the CNS and peripheral organs cytokines produced.

6.4.2. Stress and Cerebral Cortex

With the emotions, memory, and planning the prefrontal cortex allows efficient connectivity between the circuits associated. This can be well explained with an example of this is the intricate relationship with neurons of the locus coeruleus, substantia nigra pars compacta, and ventral tegmental area, by neuromodulators such as norepinephrine and dopamine.

It has been said that the prefrontal cortex is highly sensitive to damage; for example, during acute stress in rats, the neurites change shape and length over several weeks post damage, despite to neuroanatomical location and catecholaminergic nature of its afferents. It has been seen that with the prefrontal cortex have been identified two sensors and/or regulators of stress associated, in the preclinical studies. With the amygdala the direct connection provides an important point of regulation. Due to the catecholaminergic nature of its innervating afferents the prefrontal cortex becomes highly sensitive to damage, in the presence of stressful conditions.

By the promotion of the release of noradrenaline and dopamine the critical point of regulation of the amygdala to the prefrontal cortex is characterized, which will act at the level of different receptors (D1, D2, A1, β1), activation of hydrogen, calcium, and nitrogen bombs (HCN channels), and even as triggers of the release of neurotrophic factors such as BDNF and GDNF. Moreover, the endocannabinoid-mediated pathway also acts as a regulator of stress and emotions.

Figure 6.5. Stress and cerebral cortex.

Source: Image by unsplash.com.

It has been said that the subject can solve the stressful situation and human studies have revealed that the "self-control of stress" can promote reduction of the action of the amygdala. On mental and physical health an opposite situation will lead deleterious effect.

The absence of control of stress can promote the acquisition of addictive behaviors, as it has been determined. Due to decreased mesolimbic dopaminergic function addiction to nicotine or even to the internet causes cortical alterations, during the adolescence.

A new line of study has opened on this topic by the limited studies. Interestingly, in human the incidence of stressors can promote the establishment of three levels of response to stress.

(1)   mesencephalic nuclei,

(2)   cellular response, and

(3)   systemic (immune-endocrine)

So, at these three levels a lack of control strategies can promote alterations, increasing the level cortisol in the blood, which has an impact on the psychomotor integrity of the individual. to manage the impact of academic stressors, such as arts-based activities or controlled physical activities at present, diverse activities are being suggested.

6.5. STRATEGIES FOR THE GOOD ACADEMIC PERFORMANCE: PHYSICAL ACTIVITY, SLEEP, AND DIET

6.5.1. Physical Activity

On the animal and human models several studies have been conducted which provides sufficient evidence for an important relationship between various factors such as physical activity, sleep, and healthy food, with optimal cognitive functioning. To a better academic performance this invariably leads. Through different stages of development, from prenatal to old age these studies have been conducted. By the activities or changes throughout life are short-term and long-term memory, learning, attention, spatial memory, and working memory, among others some of the cognitive functions that may be affected. There some evidence which suggest that connection between these cognitive functions, physical activity, nutrition, sleep time, and social interactions have a direct impact on the structure and function of the central nervous system.

6.5.2. Sleep

Today, among the people of all ages reduced and/or disrupted sleep has become common, including pre-school children. By the American Academy of Pediatrics, the reduction in the hours of sleep-in adolescents is considered a public health problem. to the deterioration of various physiological functions these changes can lead, such as learning, memory, and the deterioration of cognitive processes particularly in the brain and therefore it will affect the academic performance. By diverse brain areas, including the cortex, brainstem, hypothalamus, thalamus, and hippocampus, and the release of neurotransmitters sleep is being controlled and orchestrated as it is termed as the physiological process.

Figure 6.6. Strategies for the good academic performance: physical activity, sleep, and diet.

Source: Image by unsplash.com.

In addition to it, on a daily basis in the execution of tasks and behaviors in order to generate the wake-sleep cycle. Between the hippocampus and cerebral cortex; it has been suggested that during sleep there is a flow and storage of information and it has been seen that the during day time interaction between these areas promotes the consolidation of information gained and suggests that the storage´s model promote the short-term memory consolidation into hippocampus, and long-term memory on the brain cortex.

In the first place, different processes of memory storage are being provided by the Rapid Eye Movement (REM) sleep and slow-wave sleep (NREM), for example, while REM facilitates the non-declarative or procedural memory and learning it has been proposed that NREM facilitates declarative memory or explicit memory.

During NREM sleep, to the cortex for the long term the hippocampus consolidates the memory and transfers the information. For instance, during REM sleep cortical plasticity could be promoted which is being suggested by the Stick gold and colleagues and which also plays an important role in procedural memory or in a high-level cognitive processing, but not so in episodic memory bound to a hippocampal process.

6.5.3. Nutrition

To change or impact on various factors academic performance may be susceptible, such as those have previously addressed like sleep and physical activity among others. Though, with the aim of generating strategies that support mental health in school-age children and adolescents, it is important to know if the supply or nutrition can modify the student's academic performance or cognitive functioning.

At the time of childhood, it has been said that eating behaviors are very important. To processes of attention, memory, and learning brain uses the most glucose or energy, as it is given that in this stage.

Moreover, between the types of food and academic performance various analyses have noted the relationship to the breakfast hours. For example, which contains the greatest number of calories and few nutrients is fast food and junk food.

It was noted that with a better academic performance in children of preschool age low consumption of this type of food is being associated, particularly with less consumption of sugary drinks. The academic performance gets improved by the intake of vegetables and fruit, though in this regard more studies are needed in the different population.

6.6. STRESS IN NURSING UNIVERSITY STUDENTS AND MENTAL HEALTH

To cope with stimulus the term stress comprises the physiological and psychological responses that prepare the organism called stressors and that are interpreted as the challenges to the individual. From the first scientific description of stress by Selye deleterious effects of stress have been observed.

As response on the organism the D Traumatic events can trigger intense stress, while daily routines as job, economical, or academic pressures can elicit mild responses of stress during prolonged periods of time, as in both the cases by producing deleterious effects on health stress responses can be altered.

Though, it has been said that the concept of stress has been extensively used and discussed and at least two different perspectives of stress must be mentioned: one is organic and the other is psychological.

Figure 6.7. Stress in nursing university students and mental health.

There is another point of view that due to demands that exceed individual resources, affecting the adaptive, cognitive, and emotional capacities of the subject by which the stress occurs. If there is a talk about from this point of view then psychological stress has three types of cognitive assessments.

6.6.1. Stress and Health in Nursing Students

In students it has been seen that by exploring the effects of stress is important in many aspects, but the two are outstanding.

Firstly, in young student the effects of the stress can last until their adulthood and most of the students are young. Stress will result in increasing the risk of suffering mental health disorders among other risks on health. In the nursing student's mental health will be reviewed in other section.

Secondly, in the academic environments stress can reduce learning skills indispensable and since it reduces the resources of students to achieve academic success, so the reduction of learning skills is a factor of great importance. It has been said that by stimulus stress is being triggered and also according the age of the person.

As the harassment by peers, schoolwork pressure, and being treated careless by teacher's school environments can expose individuals to stressors in this sense. To produce psychosomatic pain, psychological complaints such as feeling unsafe and nervous, irritability, sadness, and depression all these stressors can be severe enough.

Between the peers and teachers, the effects of stress in school can negatively impact social dynamics and in consequence triggers mental health problems such as anxiety and depression these in turn can produce more stress.

In the health student's prevalence of the academic stress is very high, to several reports especially in nursing and medicine students. Therefore, in nursing students the importance of studying the stressors lies in the deleterious effects on cognitive performance and health, i.e., the development of mental disorders such as depression, anxiety, eating disorders, sleep, and substance use, but in students experiencing ineffective communication the experience of stress can result and inefficient at work, according to several reports. Though, the quality of healthcare services is being decreased in the nursing students.

6.6.2. Social Stressors in Academic Life

According to the experience of formative knowledge and applied knowledge social stressors affecting nursing students can be grouped. The academic life of the nursing student is being referred by the formative knowledge element. In full time a study that included 81 postgraduate students and part-time nursing in Jamaica, the authors found that 50% of participants indicated experiencing the moderate level of stress related to the program of study.

To the preparation the highest stress scores were related, the final result of the exams, and the academic load of the student. In the Latin America students these findings are similar, as in which 89 students of nursing from Lima (Peru) reported in 2005 excessive academic workload, academic test, and lack of time to complete academic assignments as the main stressful stimuli during training

According to a longitudinal research with 249 Spanish nursing students, to cope with stressful situations there exist differences between coping styles related to sex, being women who use more an emotional coping approach than men, while male students tend to use more behaviors as alcohol and drug consumption, regarding the styles of coping stress.

With the neuroticism and negatively with friendliness and scrupulousness, surprisingly the emotional coping observed was positively correlated.

6.6.3. Stress and Mental Disorders

In the young adult population mental illnesses are a health problem with high prevalence. In the areas of health sciences students are highly vulnerable especially within this population. For students there are some of the careers that are very demanding physically, intellectually, and emotionally such as medicine, density, and nursing, which are being exposed to high level of stress at the time of their formation.

It has been seen that they are exposed to severe emotional stress and exhaustion, particularly in the last year of student training. From some of the different ways the stressor they face comes such as academic factors, the demands of proper performance in clinical practice, academic assessments, and future expectations about employment.

Moreover, the student's learning ability and academic performance get affected by the social, emotional, and physical pressures, as well as family and personal problems and along with this the young students will feel the mental disorder such as anxiety and depression. The nurse patient relationship will also get affected by the impact of stress on the nursing students, as after an intervention with the patient nurses have more interaction. In the nursing staff stressors could lead to dissatisfaction and burnout and similarly being exposed to environment.

Up to 55% of young adults report depressive symptoms, burnout, and increased frequency of alcohol consumption during their life as student which is being estimated and about 42% of students develop a mental disorder, a situation that predominates in the female gender with a prevalence of 62% of this population, with an average age of onset of 23.5 years.

There are some of the common mental disorders which are affecting the students such as anxiety disorders, particularly in women and then the men they also report higher levels of stress. In the last year of their medical education seventy-five to ninety percent of medical students, including nursing, increase alcohol and tobacco consumption.

To cope with the experienced psychological stress, they are exposed to most of the cases (72%) feel a state of emotional well-being that helps, despite being aware of the consequences of excessive alcohol and tobacco consumption. In the nursing students something similar has been reported, where stress, environmental influences, social acceptance, and easy availability of alcohol, as well as anxiety generated by the difficulty of the educational program, are factors that increase alcohol consumption in this population. It has been said that 44.4% report feeling emotionally stressed and develop some mental disorder in the general population.

On the other hand, there are subjects which are being exposed to the stressor but with a network of emotional support reported feelings of happiness, so to decrease susceptibility to develop mental disorders it is being suggested that provide the support network help.

In the students the absence of such emotional support networks increases the risk of developing some mental disorder, as diagnosed by a psychiatrist

with no significant differences on prevalence between careers of the health science students reported having some physical illness or mental disorder.

For resistance to the mental disorders, it has been observed that factors such as religious practice are a potential factor, such as alcoholism, anxiety, depression, suicide rate, and burnout.

6.7. BULLYING IN SCHOOL

Worldwide it has been seen that buying in school is a significant problem and among adolescents and children it is one of the most common antisocial behaviors. Within the United States, Europe in almost every school implementing anti-bullying prevention programs and there are some of the initiatives in low-income countries, yet in schools it is considered as more pervasive problems than any other problems.

Evidence on school buying and a review of research is being provided by this topic of the chapter. It has been said that to reduce and prevent bullying there is a need to understand the definition of bullying in school, and the size of the problem, the consequences of bullying, academic correlations, who is at risk, students' perceptions of bullying and the evidence school-based programs. By the many scholars and organizations bullying has been defined differently. By the researcher the classical definition is first proposed, named as Olweus as "intentional and repeated acts that occur through physical, verbal, and relational forms in situations where a power difference is present." A researcher Olweus states that when the student is being repeatedly exposed and over time, he or she is being bullied to negative actions on the part of one or more students. Negative action is termed as the intentionally inflicts, or it is an attempt to inflict, injury or the discomfort on another.

Why Bullying is a Public Health Problem?

Health Consequences of Bullying

Who is at Risk for Bullying?

Students' Perception of Bullying

Figure 6.8. Bullying in school.

Though, when there are differences in power between the bully and the victims, bullying is likely to occur when the victim is unable to defend against bullying behavior. It has been said that bullying behavior can be direct, including face-to-face confrontation; such as hitting, damaging, kicking, and other types of physical harm; and indirect involving a third party, such as social exclusion, spreading rumors, and other types of psychological harms or even online.

Regarding the features of bullying most definitions of bullying have similarities such as being repeated over time, intent to inflict harm, an imbalance in power, and all highlight the chronicity of bullying. Bullying in the school is being defined by the Center for Disease Control (CDC) as any unwanted aggressive behaviors by another youth or group of youths who are not siblings or current dating partners that involves observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated.

It has been said that a new emerging type of bullying called electronic aggression or cyberbullying. Through the increasing virtual interactions among adolescents and children bullying through electronic media becoming a critical concern.

In the digital space this type of bullying is known as an aggressive online behavior, as repetitive, aggressive behavior using technology through cell phones and social media. There are some students who have experienced cyberbullying bullied through email, chat rooms, instant messages, websites, or texting.

It has been seen that from the traditional bullying this type of bullying is different in that it is difficult for school staff and administrators to control because it happens outside schools and mostly in the forms of anonymous messages posted online through social media. As the traditional bullying students who experience cyberbullying have similar consequences.

6.7.1. Why Bullying Is a Public Health Problem

Among the adolescents bullying in school is the most common type of violence, which is recognized as a serious concern for students and has become a public health problem and global concern. Though, it has been seen that it is difficult to estimate the prevalence of the bullying because of the different measures used throughout the studies, researchers have agreed that bullying is a pervasive and significant problem in the school today.

In 2016 a nationwide survey is being conducted, so in that survey the result was that 20.8% of the student's report being bullied. In 2015 a survey was conducted regarding the ages of students 12–18, 21% reported being bullied at school, 13% reported being made fun of, called names, and insulted; 12% were the subject of rumors; 5% were pushed, shoved, tripped, or spit on; and 5% of students were socially excluded.

An along with this in the same survey 4% of students experienced threatened with harm, 3% were forced to do things they did not like to do, and finally, 2% reported that their belonging was damaged on purpose.

It has been seen that if in the survey here is a talk about females, then females (23%) more than males (19%) reported being bullied and females (15%) were more than males (9%) being the subject of rumors. Therefore, male (5%) more than female (3%) students reported threatened with harm. Black students (25%) and white students (22%) more than Hispanic students (17%) reported being bullied in school.

From 9 to 98% the rate of bullying throughout the survey studies ranged. For students age 12–18 year was 35% for traditional bullying and 15% for cyberbullying and these are the bullying rates from 80 studies. It has been reported that only 36% of the children were bullied and 64% did not report to it.

In the year 2015 among high school students, 16% reported cyberbullying, and 20% are bullied on school propriety. And for the middle school students, 24% are cyberbullied, and 45% are inside the school. From 18 to 34% the rate of cyberbullying is doubled from 2007 to 2016.

There some students who are having the special needs, so these students get bullied two to three times more likely to be bullied than the normal students. In addition to it, in the school they found to report feeling unsafe as compared to their normal peers.

It has been seen that ethnic minorities are more likely to be bullied than others, African-American students (24.7%) more likely to report being bullied than Hispanic students (17.2%), followed by Asian student (9%).

It has been seen that because their sexual orientation about 74 and 36.2% of students were verbally and physically bullied and because of their gender expression about 55.2 and 22.7% of students were verbally and physically bullied. From the 19 countries the analysis of students has been done from those who have participated in the Global School-based Students Health Survey (GSHS), 34.2% of students reported being bullied in the last month,

55.6% of them had been victimized 1 or 2 days, and 7.9% all 30 days in the last month. For each country ranged from 20 to 61% the prevalence of bullying is there.

6.7.2. Health Consequences of Bullying

According to the scientific research on both victims and perpetrator it has been experienced that bullying has short and long-term psychological and emotional impact. Poor mental and physical health, more symptoms of anxiety, depression, the victims of bullying which have been reported and can cause sleep disturbance; nightmares; body ache; a headache; abdominal pain, and frequent illnesses. From direct physical or indirect psychological impact will increase the student absenteeism.

A suicidal behavior is being reported when students are bullied. The second leading cause of death is suicide among the students of age 15–29. For have suicidal ideation students who experienced bullying are two times at risk and who did not experience bullying 2.6 times more likely to attempt suicide than other students.

It has been seen that within the past year 17.7% of school-aged students had attempting suicide according to the Youth Risk Behavior Survey (YRBS). Between bullying and suicide, the depression, violent behavior, and substance abuse are among the most mediated factors.

6.7.3. Who Is At Risk for Bullying?

The students who are involved in the bullying are not having the specific profile. In the schools the findings in the previous studies explains that there are many factors impact the occurrence of bullying, which is being ranged from the students' sociodemographic, schools' size, number of students, and students' perception of bullying. in bullying both bullies and victims there are several studies conducted in which it has been found that the characteristics of those who involved.

At the later stages in the bullying cycle the result showed that preschool aggressiveness, low socioeconomic status, and poor family relationships increase the probability of involvement. According to the certain characteristics the students were categorized as per the result of Meta-analysis study, in which it is found that student who bullies others has a negative attitude toward other, trouble with academic and social cognition, and come from low-income family.

On the other hand, victims were likely to have the characteristics of bad self-recognition, lack of social skills, isolated and rejected by peers. As the passive or submissive victims, the victim of bullying viewed, often quiet, careful, sensitive and may easily cry, are unsure of themselves, having low self-confidence and a negative self-image.

The gender of the students is one of the main reasons that the students get bullied as per the previous research and by their peer females' students more likely of being harassed. As a reason for being bullied ethnic and racial background were also identified as a, minorities and Asian Americans students more likely to be a target of bullying behaviors than others. The students who are at a higher risk of being bullied are the E Students from lower socio-economic status.

As the characteristics of the mental health issue the research took into the consideration of those involved in school bullying. It has been said that one these critical issues is self-esteem. Though, this idea is being contradicted by some results and that low self-esteem is a prominent characteristic of the victims.

It has been said that it is for both the victim and bully and other supported that bullies often showed lower self-worth, but higher social acceptance. It has been seen that as a protective factor from involvement in bullying behaviors some research assessed self-esteem.

For bullying there some family factors such as employment status of parents show significant association with being at risk and among Greek students of 16–18 years old a result of cross-sectional study show that students of low school performance and unemployed father were more likely to be a perpetrator.

In Colombia an analysis has been done in 1000 schools on data of 5th and 9th-grade students, which shows that variables associated with bullying such as socioeconomic status, family characteristics, and community characteristics. The community who are associated with bullying revealed that male students, low level of family empathy, family violence, community violence, hostile aggressiveness, and supporting beliefs.

6.7.4. Students' Perception of Bullying

Over the last three decades bullying in schools has gained the attention of research, and there are some inconsistencies of how students perceive bullying. The bully as one who has characteristics such as feel superior, seeking the attention of another, giving the way the victim behaved or look

(e.g., wearing glasses, types of hairstyles or clothes), or act in a manner that makes others irritable, as per the research found that students perceive that.

In addition to it, for bullying students perceived the way the victim looks, talk or dress as an essential leading factor. It has been seen that there are some students with the perceived characteristics which are associated with the victim of bullying such as wearing different clothes, eating different food, listening to different music, and having strange behaviors.

Underneath a recent study found that students described a bully as "one who is a coward and lack of respect for other people, who wants to show power, wants to impress others, and wants to feel superior." The students who get bullied have the low self-esteem, talking or sounding different than others, shy, and having no friends.

For being bullied both victims and bullies, male and female students, agreed that being poor and fat were the main reasons. The main reason for getting bullied is different for male and female students such as male students who are physically weak and shorter girls. As a bad manner students perceive the bully and always making trouble in classrooms.

6.8. INFLUENCE OF DRUGS ON COGNITIVE FUNCTIONS

There certain drugs and if there is the misuse of that drug then it will represent not only a worldwide public health problem, but also an economic and social issue. For the drug consumption and addiction, adolescents and children represent the most vulnerable population.

In life at this early stage, a crucial phase of the neurodevelopmental process, substance abuse can induce brain plasticity mechanisms that may produce long-lasting changes in neural circuitry and ultimately behavior. The impairment of the cognitive functions is one of the consequences of these changes, with academic negative impact in the acquisition of new knowledge.

In 2015 according to United Nations Office on drugs and Crime, including independence around a quarter of a billion people used drugs, and approximately 29.5 million showed drug use disorders. Health disruption is being produced by drugs.

With an important worldwide rate of morbidity disorders related to the use of certain drugs are associated. It has been said that a wide range of drug-induced neurobiological modifications have been described, some of which

can affect learning and memory functions. At lower doses there are stimulant drugs like nicotine and amphetamine, improve cognitive function but impair memory performance at higher doses. There some of the depressant drugs like alcohol, on the prefrontal cortex function can cause long-term effects and also disrupting cognitive abilities.

On learning and memory several studies have suggested that the influence of psychoactive drugs might be explained and in learning and memory processes because of the shared neurobiological mechanisms involved and in the brain the drug-induced structural and functional changes.

Functionally, between the neural substrates of learning and memory there is an important overlap and those of addiction. There are some of the areas that show overlap include the cerebral cortex, hippocampus, amygdala and striatum and all of them are components of the mesolimbic dopaminergic system.

In the brain development adolescence is a sensitive period by a decrease in gray matter and an increase in white matter. At least in part the diminution of gray matter is thought to be due to the process of synaptic pruning, which is the developmental refinement of brain circuits by removal of superfluous synapses.

With the frontal lobe damage, low cognitive performance and emotional learning, as well as other behaviors early drug exposure is associated. In addition to it, to both prescription and social drugs impairs cognition it has been demonstrated that adolescent exposure, as well as other behaviors, in the adulthood.

Between the abuse of drugs and poor academic achievement there is a clear bidirectional relationship. To substance abuse than others it has been suggested that cognitive deficits could make adolescents more vulnerable and on the other hand other proposals argue that substance abuse is the source of cognitive impairments.

With the poor academic performance may be more prone to abusing illicit drugs the two possibilities are not mutually exclusive, which may impair their result at school even further. To explain each of these phenomena, in the following text there are several social science theories have been proposed and the focus will on the cognitive consequences of adolescent substance abuse and on cognitive abilities the functioning of the nervous system that may have a deleterious impact, and with life in general academic achievement and long-term satisfaction.

6.9. STIMULANT DRUGS

The natural counterpart of learning is memory, and for behavioral change both are necessary that precedes survival of species. To the exert detrimental impact upon learning and memory the substance abuse has been illustrated. It has been seen that through World Drug Report, 2017, 29.5 million people globally suffer from drug use disorders according to the United Nations Office on Drugs and Crime.
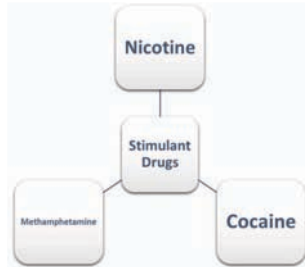
Figure 6.9. Classification of stimulant drugs.

With the stimulants as nicotine, methamphetamine (MA) and cocaine leading deficits in the area of executive function, the cognitive impairment is a well-established consequence of long-term substance abuse. On the individuals' stimulants are a class of illicit drugs that can have negative impact who use them, although by the believed benefits this impact might be masked.

6.9.1. Nicotine

The main psychoactive component of tobacco and the responsible agent of tobacco dependency is known as nicotine. Worldwide it has been seen that about one billion people smokes, despite its severe health consequences according to the WHO.

It has been said that both in animal and human models it produces positive effects improving cognitive functions, including sustained attention, vigilance, visuospatial selective attention, spatial working memory and associative memory, when the nicotine is administered acutely.

In other words, at some lower dose's nicotine tends to improve cognitive function and impair performance at higher doses. Moreover, in sustained attention heavy smokers under acute abstinence from smoking experience decreased neurocognitive functions, including impairments, working memory and response inhibition.

With smoking-related cues in adult heavy smokers there are strong activation of memory-related brain regions that include the dorsolateral prefrontal cortex and hippocampus which has been correlated. In emotional learning and reward-related learning these areas are involved.

6.9.2. Methamphetamine (MA)

A serious public health issue which is being represented by the MA abuse is associated with a high likelihood of relapse. By 2008 there are nearly 250 million people worldwide who have estimated to use MA, with abuse being among younger age groups.

For recreational purposes MA is mainly being used and it is known to induce a variety of desirable effects, including increased energy levels, positive mood, euphoria, reduced appetite, weight loss, enhanced mental acuity and social and sexual disinhibition.

Moreover, enhancement of cognitive function and ability to focus following drug administration is often claimed by the MA-dependent individuals. Though, in the brain structure and function this drug induces long term changes and changes in synaptic plasticity, cell death via apoptosis and neurotoxicity, and consequently, it causes dependence and withdrawal syndrome.

6.9.3. Cocaine

It has been said that especially for the adolescents, cocaine is considered as one of the most common recreational stimulants. It has been seen that half a million of the United States habitants use this drug weekly, so in this sense for societies worldwide cocaine addiction represents a substantial burden which is linked to the adverse outcomes such as violence, suicide and disability, as well as high rates of chronic relapse.

In the brain, to cause toxic effects crack cocaine use has been shown, particularly in the prefrontal cortex. With neuropsychological impairments these abnormalities are associated.

6.10. DEPRESSANT DRUGS

For initiation of alcoholic beverage consumption adolescence is the critical period. Among the teenagers' epidemiologic studies reveal that alcohol use is remarkably common, with increasing rates of alcohol abuse in the US including heavy episodic drinking.

Marijuana is considered as the social drug which is most frequently consumed by this cohort after alcohol and tobacco. Moreover, it has been seen that a high percentage of alcohol abusers also consume marijuana. Several studies have been conducted and which shows that both alcohol and marijuana tend to alter the structure and function of the brain and in young adults and adolescent associated with impaired decision-making, memory and impulsivity.

Figure 6.10. Types of depressant drugs.

6.10.1. Ethanol

It has been said that between early onset of alcohol intake and alcohol-related problems in adulthood there is the evidence that shows a direct correlation, which suggest that adolescent exposure to the reinforcing properties of this drug increases the probability of its abuse later.

Therefore, the effect of exposure to alcohol depends to a great extent on how much and for how long it is consumed, as for other addictive substances.

6.10.2. Cannabis

Recently, to play an important role in the diminution of gray matter it has been seen that endocannabinoids, endogenous ligands that bind to and activate the same receptors as 9-delta-tetrahydrocannabinol (THC), the psychoactive component of cannabis, were found. Among the teenager's cannabis is the third most prevalent drug, apart from alcohol and tobacco.

It has been said that when initiated early in life there are many studies in humans have shown that chronic cannabis consumption, and also correlates with a range of cognitive impairments in adulthood, including learning and memory deficits.

At present, due to the myriad of confounding factors the evidence remained equivocal, partly and the characteristic of human studies, as well as different methodology employed by the distinct studies, some unveiling clear effects, while others finding marginal or no effects.

6.11. CONCLUSION

Overall, it has been suggested that school environment plays a very important role in the student's life. So, mental health of the students is related with the development of the personality of student. Bullying affects the student mental and physical health and student with low financial background face more bullying.

As a result, bullying, dealing with drugs are some of the most important challenges which are being faced in the school environment and to overcome all the challenges there are many strategies like nutrition, sleep and physical activity which has been explained.

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Chapter 7

Interventions for a Successful Health – Academic Achievement Bionomy

CONTENTS

In this chapter, interventions for a successful health academic achievement bionomy have been discussed in detail. The relationships with peers, associations with academic achievement, and its associations with mental health have also been discussed in detail. The assessment of language disorders in school-age children has also been discussed in this chapter. The children's relationships with teachers and their associations with academic achievement and associations with mental health have also been discussed in this chapter.

This chapter also discusses about the interventions for the prevention of internalized problems of children and youth, in detail. The health, academic achievement and school-based interventions, the concept of health, and the role of resilience and psychological well-being in school engagement and perceived academic performance have also been discussed in this chapter.

Finally, academic self-efficacy, approach to learning and academic achievement has been discussed in this chapter.

7.1. INTRODUCTION

A growing body of evidence supports the relevance of social-emotional learning (SEL) in schools. SEL refers to the process of learning how to detect and control emotions, develop caring and concern for others, make responsible decisions, form positive connections, and deal effectively with difficult situations. Direct instruction and the creation of secure, caring, and supportive learning environments in which all students feel valued, respected, and connected are both used to foster it.

The studies tying SEL to a variety of favorable student outcomes, including improved academic success, social behavior, and emotional well-being, back up such claims. With research evidence, this chapter discusses how SEL, particularly relationships as a vital component of SEL, relates to academic success and mental health, particularly among kids.

This chapter also presents evidence-based approaches to support healthy relationships and learning settings, based on the fact that they often do not feel effective in supporting SEL owing to a lack of training and information.
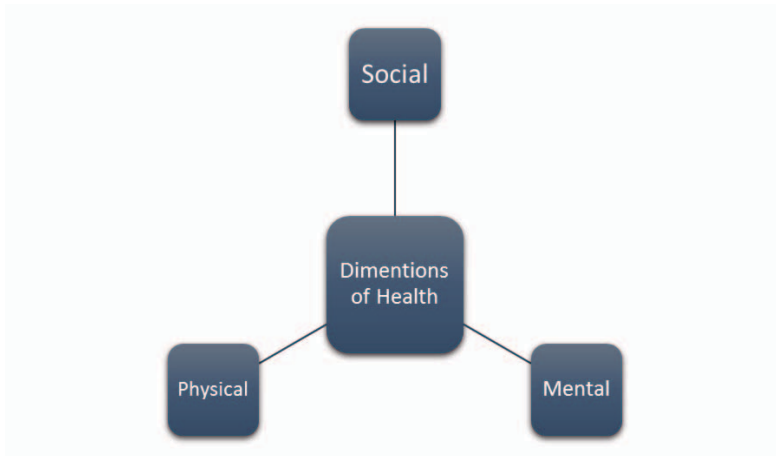
Figure 7.1. Image showing dimensions of health.

7.2. RELATIONSHIPS AND SCHOOL SUCCESS: FROM A SOCIAL-EMOTIONAL LEARNING PERSPECTIVE

Nine out of ten children and young people aged 5–18 in Canada and the United States attend school (Van Pelt, Clemens, Brown, & Palacios, 2015). As a result, estimates suggest that students become increasingly disengaged as they progress through secondary school, with some studies estimating that 40–60% of youth demonstrate signs of disengagement (Yazzie-Mintz, 2007), which are frequently associated with other forms of school maladjustment.

In light of the fact that school adjustment problems are associated with a variety of different types of dysfunction throughout life (Domitrovich, Durlak, Staley, & Weissberg, 2017; Greenberg, Domitrovich, Weissberg, & Durlak, 2017), it is critical to understand the process by which students adjust to schools and to identify different approaches to supporting them.

Schools are, by their very nature and purpose, difficult environments for students, particularly for young people. The instructional aspects of classrooms and schools, such as didactic small- and large-group instruction, teacher-initiated or monitored learning activities, and programd curricular sequencing, are examples of these problems.

At the moment, there is a great deal of knowledge regarding how students' cognitive and language abilities, as well as their socioeconomic and ethnic origins, work as predictors of their accomplishment and adaptation.

The many different forms of interpersonal obstacles that students face in school are less widely known than they should be. Teens are increasingly under pressure to compare and evaluate themselves in relation to their classmates and schoolmates, as well as their abilities and achievements in comparison to those of their peers. This pressure extends beyond basic tasks such as relating to classmates and schoolmates and forming relationships with teachers.

The students face many of these obstacles again and over again as they go through the grades. They must manage their demands in dyadic and group situations in each new classroom, as well as reestablish relationships with their classmates and teachers, in each new environment.

Furthermore, it is possible that these difficulties will be exacerbated when pupils switch schools or have to deal with school transitions in general (Dupere, Archambault, Leventhal, Dion, & Anderson, 2015; Eccles, Wigfield, & Schiefele, 1998)

In light of the foregoing, educational and developmental researchers have an important work ahead of them: investigating the functions of students' classroom/school interpersonal skills and interactions as antecedents to school adaptation and adjustment.

Indeed, in contrast to the traditional emphasis on the three Rs, which include reading, writing, and arithmetic (Jaffe, Wolfe, Crooks, Hughes, & Baker, 2004), an emerging line of research points to the importance of the fourth R of education, which is relationships (Jaffe, Wolfe, Crooks, Hughes, & Baker, 2004).

In support of this, the research on school environment (Thapa, Cohen, Guffey, Higgins-D'Alessandro, 2013) and social-emotional learning (SEL) (Schonert-Reichl, & Hymel, 2007) emphasizes the importance of connections in promoting academic achievement and mental well-being.

In recent years, the acceptance of SEL has been spreading slowly but steadily around the world (Schonert-Reichl & Hymel, 2007). The social-emotional learning (SEL) refers to the process by which children and adults learn a set of skills and competencies that include the ability to recognize and manage emotions, develop care and concern for others; make responsible decisions; establish positive relationships; and deal effectively with challenging situations.

These skills are promoted through both direct instruction and the establishment of a safe, caring, and supportive learning environment

(Weissberg, Durlak, Domitrovich, & Gullotta, 2015). Its significance is demonstrated by the fact that it is associated with a variety of favorable student outcomes.

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7.3. RELATIONSHIPS WITH PEERS

Peer groups become increasingly crucial during early adolescence, when young people begin to seek independence from their parents and establish their own identities (Brown & Larson, 2009; Harter, 1990). At the heart of this section is the concept of school bullying, which is a vital peer-group phenomena that frequently jeopardizes students' academic and psychological well-being.

The Bullying is often defined as an aggressive peer-to-peer conduct characterized by a power differential between the perpetrator and the victim; this conduct is also characterized by the fact that it is repeated over time with the purpose to injure the victim (Hawley & Williford, 2015).

The bullying is still a big problem in schools all over the globe, according to researchers and educators, and there is evidence that engagement in bullying (whether as a victim or as a bully) has a negative impact on the health of children and adolescents.

For example, more than 40% of Canadian children in grades 6–10 reported being bullied as well as bullying others, and this high frequency continues to exist (Currie, Zanotti, Morgan, Currie, de Looze, Roberts, Samdal, Smith, & Barnekow, 2012). Bullying can manifest itself in a variety of ways, including physical attack, ethnic prejudice, rumor victimization, sexual harassment, and verbal abuse.

In fact, being victimized by peers is related with a wide range of problems, both immediate and long-term. These problems include challenges with one's mental health, academic performance, and overall well-being, among other things (McDougall & Vaillancourt, 2015).

Bullying's harmful repercussions, on the other hand, do not stop with the individuals who are bullied. An investigation of kids in grades 8 to 10 found that over 90% of the children had watched either their classmates or other students being bullied at least once during the school year, and that seeing bullying was linked to greater levels of sadness (Bonanno & Hymel, 2015).

Figure 7.2. Children learn to form a healthy relationship with peers in school.

Sources: Image by Wikimedia.

7.3.1. Associations With Academic Achievement

Academic achievements among kids are extremely important in determining future school and job choices. A growing corpus of studies has established that there are strong connections between school bullying and academic success (Buhs, Ladd, & Herald, 2006; Konishi, Hymel, Zumbo, & Li, 2010).

Students who are bullied by their classmates are more likely to have low academic achievement (Buhs, Ladd, & Herald, 2006; Konishi, Hymel, Zumbo, & Li, 2010), as are children who bully others (Pereira, Mendonca, Neto, Valente, & Smith, 2004).

This body of research is consistent with the ideas that children's social experiences at school have an impact on their academic success (Weissberg, Durlak, Domitrovich, & Gullotta, 2015; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).

According to a new meta-analysis including 29,552 school children, there is a statistically significant negative association between peer victimization and academic performance (Nakamoto, & Schwartz, 2010).

The effects of school-level variables on individual academic performance have only been explored in a few research (Konishi, Hymel, Zumbo, & Li, 2010; Strm, Thoresen, Wentzel-Larsen, & Dyb, 2013) that have looked at bullying.

A study done by Konishi et al., (2010), who conducted one of the few multilevel studies in this field, discovered that bullying at the school level was connected with worse grades among 15-year-olds. The purpose of this study was to address the need to explore individual and environment factors on students' academic progress at the same time.

Bullying has also been shown to be associated with higher rates of high school dropout. A study conducted by Cornell and colleagues (Cornell et al., 2013) discovered that the incidence of bullying as reported by both ninth grade students and instructors was a predictor of dropout rates for this cohort four years later.

7.3.2. Associations with Mental Health

Researchers have long documented that being involved in bullying as both a victim and a bully appears to compound the effects of bullying, with bully-victims suffering poorer results than either bullies or victims, as well as being at increased risk for a variety of mental health conditions.

Anxiety, low self-esteem, despair, self-harm, suicidal ideation, physical injury, substance misuse, and misbehavior are all examples of mental illnesses (Berkowitz & Benbenishty, 2012; Copeland, Wolke, Angold, & Costello, 2013; Chang, Lee, Chiu, Hsi, Huang, & Pan, 2013).

After controlling for initial psychopathology, a recent trajectory study (Haltigan, Vaillancourt) demonstrated that stable victims had higher levels of anxiety, depression, and attention-deficit hyperactivity disorder than low-involvement students; similarly, stable bullies had higher levels of anxiety, and those who shifted from victimization to bully had higher levels of anxiety and depression.

These findings highlight the need of taking into account a child's history of engagement in bullying throughout time, as well as viewing bullying as a dynamic experience that is impacted by the surrounding social environment.

They would guess that the incidence of school bullying is decreasing as a result of the increasing efforts to eliminate bullying. However, this may not always be the case, particularly for students who identify as sexual minorities. Students who are stigmatized or ostracized because of their ethnicity, sexual orientation, or mental or physical disease are frequently the targets of bullying, with the majority of incidents occurring in schools.

According to a new trend research on harassment among teenagers, students who identify as sexual minorities continue to report greater rates

of victimization than their exclusively heterosexual classmates through the course of their academic careers (Saewyc, Konishi, Poon, & Smith, 2011). Victimized sexual minority kids were at the greatest risk not just for mental health problems, but also for substance abuse problems.

Figure 7.3. Bullying severely affect the mental health of children.

Sources: Image by pixabay.

7.4. RELATIONSHIPS WITH TEACHERS

Researchers and educators have increasingly recognized the need of fostering a pleasant school climate in order to build social and emotional competences while also optimizing kids' learning; instructors are the key to fostering this type of environment (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Farmer, Lines, & Hamm, 2011; Williford & Wolcott, 2015).

Teachers' ability to build strong and supportive connections with their students is critical to the healthy development of all children in schools (Pianta, Hamre, & Stuhlman, 2003; Wang, Brinkworth & Eccles, 2013).

The positive student-teacher connections serve as a resource for kids who are at risk of failing to graduate from high school, whereas conflict or separation between students and adults may increase the likelihood of failure (Ladd & Burgess, 2001).

Despite the fact that the form of these interactions varies as kids age, the desire for students and adults to connect in the educational context remains significant from preschool through high school (Crosnoe & Johnson, Elder Jr., 2004).

Despite the fact that schools are increasingly focused on standardized testing and accountability, the social and emotional quality of student-teacher connections has been shown to positively impact both academic and social-emotional growth (Gregory & Weinstein, 2004).

As a result, student-teacher connections present a unique entry point for educators and those trying to improve the social and emotional learning environments of schools and classrooms, among other things.

7.4.1. Associations with Academic Achievement

Despite the fact that children spend less time with instructors during high school, there is compelling evidence that connections with people in these contexts are among the most significant indicators of academic achievement (Wang, Brinkworth, & Eccles, 2013).

In several studies, the quality of the connections that children have with their instructors has been found to be connected with the academic and social-emotional results of students (Hamre & Pianta, 2001).

According to attachment and self-determination theories, high-quality student-teacher interactions are most commonly characterized by high levels of warmth, sensitivity, and emotional connection as well as low levels of reliance, negativity, and conflict (Bowlby, 1969; Deci, & Ryan, 2012; Spilt & Koomen, 2012). In spite of the fact that the need for emotional support is perhaps more self-evidently important in the lower grades, adolescents are highly sensitive to the emotional rapport they establish with adults in school settings, and the experience of strong connections with adults has been consistently linked to long-term academic success (Bell, Allen, Hauser, & O'Connor, 1996).

Roorda et al., (2011) conducted a meta-analysis and discovered statistically significant connections between student-teacher connections and students' academic engagement and achievement from preschool through high school. Studies conducted over an extended period of time (Hamre & Pianta, 2001; Maldonado-Carreo, & Votruba-Drzal, 2011) have also demonstrated beneficial connections between high-quality student-teacher interactions and academic adjustment.

In spite of the fact that both family and teacher support are crucial in predicting kids' success, research has shown that the student-teacher relationship was the component most closely connected with development in academic success from eighth to twelfth grade (Gregory & Weinstein, 2004).

7.4.2. Associations with Mental Health

In recent years, school connectedness has emerged as a critical area for developing protective factors for improved educational results and reduced rates of health-risk behaviors in adolescents (Blum & Libbey, 2004; Lester, Waters, & Cross, 2013).

In addition, students who are not engaged in their learning or who have poor relationships with their teachers are more likely to use drugs and engage in socially disruptive and sexually risky behavior, to experience anxiety or depressive symptoms, to have poorer adult relationships, and to drop out of secondary school (Bond, Butler, Thomas, Carlin, Glover, Bowes, & Patton, 2007; Voisin, Salazar, Crosby, Diclemente, Yarber, & Staples-Horne, 2005).

Consequently, the potential repercussions of pupils becoming disengaged from school are quite serious. According to longitudinal studies conducted in the United States, high school students who feel more connected to their instructors had lower rates of emotional distress, suicidal thoughts, suicidal behavior, violence, drug misuse, and early sexual engagement.

Figure 7.4. Teacher full attention to child helps in building self-confidence.

Sources: Image by pxhere.

7.5. PREVENTION OF INTERNALIZED PROBLEMS OF CHILDREN AND YOUTH IN ACADEMIC SETTING

Internalized difficulties are characterized as a collection of emotional symptoms directed towards a single person that include increased effortful behavior control, unhappiness, low self-esteem, behavioral inhibition, and phobias.

Despite the fact that children and teens generally a healthy demographic, research shows that 20% of them may have mental health issues until their early twenties, with anxiety and sadness being the most common (WHO, 2012; Lack & Green, 2009; Jane Costello, Erkanli, & Angold, 2006).

That statement is not surprising when we consider that puberty and adolescence are associated with increased sensitivity to social cues, a desire for approval from important others, immaturity of the neurobiological system associated with emotions, progressive loss of parental control, and a greater importance of peers.

Half of all mental problems start before the age of 14, with anxiety starting between the ages of 6 and puberty (Merikangas, He, Burstein, Swanson, Avenevoli, Cui, Benjet, Georgiades, & Swendsen, 2010).

However, when discussing variables that help children and teens succeed, the school setting is inevitable. Shy or withdrawn conduct, constant worrying, anxieties, melancholy, loneliness, pessimism, and a low sense of self-worth seems to be an inescapable component of any classroom.

According to newer American epidemiological studies (Merikangas, He, Burstein, Swanson, Avenevoli, Cui, Benjet, Georgiades, & Swendsen, 2010), there is a prevalence of 32% anxiety disorders and 14.3% mood disorders in the 13 to 18-year-old age group, with around 8% of American youth suffering from a major depressive disorder.

A British study of children aged 5 to 15 years old discovered a prevalence of 3.7% for any anxiety illness (Merikangas, He, Burstein, Swanson, Avenevoli, Cui, Benjet, Georgiades, & Swendsen, 2010).

The 1-year incidence rate of major depression in teenagers is between 5.6 and 10%, with 17.9% having a repeat episode within a year (Barrera, Torres, Muoz, 2007; Seeley, Rohde, Lewinsohn, & Clarke, 2002; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993).

The high prevalence of comorbid anxiety disorders, disruptive behavior disorders, and suicide attempts are all linked to adolescent depression (Barrera, Torres, & Muoz, 2007; Seeley et al., 2002; Lewinsohn et al., 1993).

By late adolescence, twice as many girls as boys are sad, and 40% of those who suffered depression as a child or adolescent go on to have serious depression as adults (Lewinsohn et al., 1993). The recurrence and chronicity are highly likely after the first major depressive episode (Lewinsohn, Allen, Seeley, & Gotlib, 1999).

The depression is a serious public health concern that necessitates the creation, implementation, and evaluation of treatments to prevent its beginning, according to statistics from around the world. According to the World Health Organization, depression is the third greatest cause of worldwide disease, with expectations that it will overtake obesity as the top cause by 2030 (WHO, 2013).

Depression has a significant influence on physical health: 40–60% of persons who have experienced depression die prematurely (WHO, 2013), have higher rates of smoking, and suffer with heart disease as a result of numerous conditions influencing their quality of life (Sher, Lolak, & Maldonado, 2010).

When it comes to adult expenditures, a thorough European research indicates that the yearly cost of mood disorders is 113. 4 billion Euros, with 33.3 million persons afflicted (Gustavsson et al., 2011). Families, communities, and governments are all affected by the burden, which is not only human but also economic.

All of this evidence suggests that it is critical to address emotional health issues early on, shifting the focus from treatment to prevention and early intervention (Merikangas et al., 2010), allowing future adults to reach their full potential.

Emotional well-being affects children's and adolescents' self-esteem, prosocial behavior, school attendance, and success, as well as increasing the risk of suicidal behavior, smoking, substance abuse, and delinquency (WHO, 2012; Morgan et al., 2008), as well as career choices (WHO, 2012, 2017; Ford, Goodman, Meltzer, 2003).

A strong sense of self, as well as problem-solving abilities, social competence, and a sense of purpose, are passed from infancy to adulthood (Morgan et al., 2008).

These resources attest to positive outcomes, acting as buffers in times of danger, stress, and adversity, and they are reliant not only on the kid or teen, but also on family features and the circumstances in which they live (Morgan et al., 2008; National Research Council, 2009).

Many experts believe that research into therapies for children and adolescents should be prioritized because adolescence is frequently when the first indicators of psychopathology appear.

Given that rates of emotional ill health rise throughout this developmental stage, adolescence appears to be a critical window for preventative

treatments. Anxiety and mood disorders can be prevented, according to a 2009 Institute of Medicine study on the prevention of mental, emotional, and behavioral diseases (National Research Council, 2009).

7.6. INTERVENTIONS FOR PREVENTION OF INTERNALIZED PROBLEMS OF CHILDREN AND YOUTH

7.6.1. Changing Role of Schools in Modern Era

In the digital era, schools must rethink their mission like knowledge is nearly ubiquitous, but meaningful connections are becoming increasingly uncommon. Schools must give vital skills for future education, job, and life in general in order to prepare future individuals for full-scale difficulties. Young individuals require social and emotional skills in addition to cognitive capabilities in order to develop effectively and become empowered and contributing members of society.

A holistic approach to education is required in modern schools, which must include emotional and social well-being in their curricula (Durlak et al., 2011; Weare & Nind, 2011; Weissberg, Goren, Domitrovich, & Dusenbury, 2013; Barry, Clarke, Dowling, 2017; Clarke et al., 2015).

Implementing treatments and specialized classroom-management methods that foster emotional awareness, positive goal attainment, the maintenance of healthy connections with others, and responsible decision-making can help to reduce subjective suffering as well as behavior problems. Those competencies are taught in the context of socio-emotional development and universal curricula from preschool to middle school.

The school interventions that teach socio-emotional learning improve mental health, social functioning, positive health behaviors, and academic success, according to international evidence (Durlak et al., 2011; Weare & Nind, 2011; Weissberg et al., 2013; Barry, Clarke, Dowling, 2017; Clarke et al., 2015). The cost-benefit analyses back up the argument like data from 2011 shows that for every dollar invested in socio-emotional development, the average return is 11 dollars. (Belfield et al., 2015). It is crucial to figure out if universal evidence-based programs can meet the requirements of young people with various characteristics, and if improving social and emotional skills and building resilience is a suitable method (Barry, Clarke, & Dowling, 2017).

7.6.2. Evidence-Based Prevention Programs for Internalized Problems

Because a large proportion of children and adolescents with anxiety disorders and depression are not being treated, universal prevention programs that promote well-being and preventative interventions are even more important (Beardslee et al., 2013; Pennant et al., 2015).

The lack of effective treatment is most often due to issues with care delivery and access to services, but it may also be attributed to low symptom awareness, stigma, inappropriate therapy, and a lack of financing (Merry et al., 2012).

The goal of a comprehensive response to the problem of internalized issues is steadily shifting to prevention, which might reduce the strain on health care and social services.

When considering a general evidence-based approach to internalized problems, findings from a literature review (Terzian, Hamilton, Ericson, 2011) suggest that educating adolescents on how to cope with negative thoughts, solve problems more effectively, and develop active coping strategies, as well as supporting caring relationships, is an effective strategy.

Terzian and colleagues looked examined 37 programs (Terzian, Hamilton, Ericson, 2011) that addressed internalized issues in general, such as depressed symptoms, suicidal thoughts or acts, anxious symptoms, PTSD, and shy or withdrawn conduct.

Twenty-four programs out of thirty-seven had a good impact, three had mixed results, and ten were ineffective. Programs that were shown to be effective were either therapeutic (individual, family, and group) or skills training (individual, family, and group).

According to the evidence, good programs should teach children and youth to cope with negative thoughts and feelings by

- developing cognitive-behavioral skills like thought monitoring, identifying triggers, and reframing negative thoughts, and
- investing in coping skills like relaxation, seeking help from others, and teaching participants to react adaptively to stress.

In this research, 10 out of 19 preventative interventions were shown to have a favorable influence on at least one internalizing disorder. After 2010, a number of reviews and meta-analytic studies looked at the effectiveness of various types of interventions, whether they were universal or focused on

specific populations at various levels of risk, as well as those with already diagnosable internalized problems (Merry et al., 2012; Terzian, Hamilton, Ericson, 2011). The targeted prevention trials covered both selecting people at greater risk and recommended programs concentrating on symptoms signaling the start of disease.

The children with diagnosable mental health issues, children with raised family hazards such as violence, abuse, and disagreements, and children and teens who have experienced trauma or bullying are examples of populations at increased risk.

The inclusion of secondary prevention studies, i.e., those that included children and teenagers with a history of anxiety or depression, was questioned (Merry et al., 2012). However, past history is often not adequately characterized.

In the future, further research into preventive treatments targeting against internalized symptoms, particularly in school settings, is needed. The results are varied or minor to moderate, and the most troubling aspect appears to be that the benefits dissipate quickly once the program is completed.

The duration of universal preventative programs varies from 3 to 9 months. Evidence suggests that there are techniques to reduce depressed symptoms and, in some situations, clinically severe depression episodes.

7.7. HEALTH, ACADEMIC ACHIEVEMENT AND SCHOOL-BASED INTERVENTIONS

Education institutions' principal goal is to meet educational standards. However, research shows that there is a link between academic success and student health. Low scholastic performance is linked to health issues such as vision and oral health problems, asthma, teen pregnancy, malnutrition, obesity, chronic stress, inattention and hyperactivity disorders, and risk-taking behavior such as aggression and violence, unsafe sexual activity, unhealthy eating, physical inactivity, and substance use, as well as risk-taking behavior such as aggression and violence, unsafe sexual activity, unhealthy eating, physical inactivity, and substance use (Knopf et al., 2016).

Given that health issues have a substantial impact on students' overall performance, it is important to examine the numerous health determinants and how they affect pupils. Because of the link between health and academic success, identifying health issues that affect student performance is critical. It is necessary to comprehend the idea of health in order to comprehend the

link between health and academic accomplishment. The majority of school-based health intervention techniques are based on a poor understanding of health. By emphasizing illness treatment, health intervention initiatives have tended to focus on the so-called pathogenic approach. A rise of school-based clinics focusing mostly on illness treatment demonstrates this.

The World Health Organization (WHO) emphasized, however, that health is a complete state of well-being, not just the absence of illness. Various theories and models have been proposed to this end in an attempt to describe health as a complicated notion. The notion of Salutogenesis, first by Antonovsky in 1917 and further explored by Lindstrom in 2010, is one intriguing notion.

The idea proposes that health is a continuous process that focuses on the interaction between health, stress, and coping (Antonovsky, 1979). The idea considers health in its whole, recognizing that it is more than just the absence of disease. People build and live health in the settings of their everyday lives, according to the World Health Organization, which said in 1986 that health is generated and lived by people in the places where they learn, work, play, and love.

This point was made at the Bangkok Charter for Health Promotion, which called for a setting-based approach to health promotion (WHO,2005). As a result, schools must devise health intervention programs and offer kids with healthy settings.

Health services, health education, a healthy environment, physical activity programs, counselling, psychology, social services, nutrition services, improving employee well-being, and family-society involvement approaches are all said to contribute to students' academic performance in various ways (Rasberry, Slade, Lohrmann, Valois, 2015).

In this context, the Institute of Medicine decided that strengthening schools as the heart of health is necessary (Institute of Medicine, 2012). School-based health interventions are critical for improving health and academic success results.

7.8. A CRITICAL GLANCE AT THE CONCEPT OF HEALTH

One of the primary aims of the Sustainable Development Goals is to improve people's health, which is undoubtedly one of society's most essential values. Many individuals consider health to be one of life's most valuable assets. As

a result, health should be safeguarded and improved to the greatest extent feasible.

It is critical to achieve health because healthy individuals benefit their families, communities, and countries. Because young people will be the future workers and leaders, society should prioritize their health. When dealing with societal health issues, it is necessary to have a thorough awareness of the numerous components that impact health.

However, health is a nebulous and enigmatic notion, and there is no universal agreement on how to define it. It is one of those notions that is frequently overlooked. One of the reasons health is difficult to describe is that it encompasses a variety of fields (e.g., medical sociology, health psychology, and medical demography) and is infused with political, medical, social, economic, and spiritual elements. Health is a concept from the past that has evolved throughout time.

Health was originally mentioned in Old English literature as Haelen, which literally meant to heal. Helthe is a Middle English term that refers to a person's physical, mental, and spiritual well-being. The phrases health, restoration, and hygiene appeared in literature during the seventeenth and nineteenth centuries (Cook, 2004).

The term health reappeared after WWII with the establishment of the World Health Organization in 1948, which defined it as a condition of complete physical, mental, and social well-being rather than simply the absence of sickness or infirmity.

However, the WHO definition provided in 1947 has been widely criticized for a variety of reasons, the most prominent of which being that health cannot be regarded a state owing to its dynamic character; for example, a person's health can alter at any time. A person can have a headache at any moment, and it will go away in a matter of minutes.

The spiritual part of health is also left out of the definition. Because it encompasses five aspects of health, including values and beliefs, feeling of fulfilment, completeness in life, human spiritual relationship, and God or some sort of directing authority, the spiritual side of health is also an essential component of health. Another critique derives from the fact that happiness is a subjective and difficult to quantify concept.

It might also be argued that the definition considers health as a final result, but health might be seen as a means to an end in obtaining something useful, such as students wanting to be healthy in order to pass exams.

Furthermore, health should not be seen from an individual viewpoint, as the term suggests; rather, health should be viewed from a communal or social viewpoint, as it is heavily impacted by family values and cultural standards.

All of these objections highlight the elusive nature of health as a concept and how it has been perceived through a narrow lens. As a result, it is necessary to consider health in a larger context, particularly when it comes to the younger generation in today's complicated society.

7.9. THE ROLE OF RESILIENCE AND PSYCHOLOGICAL WELL-BEING IN SCHOOL ENGAGEMENT AND PERCEIVED ACADEMIC PERFORMANCE

Despite the fact that resilience is studied across a wide range of fields in the social and health sciences, no one definition of the term has been agreed upon by the scientific community (Masten, 2014). Almost all definitions, however, are based on two crucial elements: considerable risk exposure and positive adaptation (Masten, 2014; Luthar & Cicchetti, 2012).

The American Psychiatric Association defines resilience as "the act of adjusting successfully in the face of adversity, trauma, tragedy, dangers, or severe causes of stress," according to the American Psychiatric Association (American Psychiatric Association, 2004).

Numerous definitions of resilience have been suggested in the area of psychology from this highly human-centered perspective, each subject to the specificities of the many conceptual tendencies approved by their authors, and therefore the widely agreed necessity to explain and describe the construct (Davydov et al., 2010).

There is presently no consensus on the definition of resilience in research, as is typically the case with scientific words, yet the majority of writers believe that it entails resistance to or a positive and effective means of coping with danger and adversity (Masten, 2014).

On the one hand, there are definitions that consider resilience to be a process. Masten (2014) described it in this way like the capability for or outcome of successful adaptation in the face of difficult or frightening conditions. Soon after, Luthar and Zigler (1991) defined resilience as a dynamic process that leads to constructive adaptation in the face of adversity.

Adversity, positive adaptation, and the emotional, cognitive, and social systems that impact human growth are the three fundamental features of this concept, according to these writers.

Resilience was described by Luthar et al., (2000) as a dynamic process involving positive adaptation in the face of considerable adversity. In other words, despite the influence of potential dangers to their development process, the person is exposed to a high-intensity risk and, at the same time, deploys a series of adaptive actions.

Masten (2001) adopted a similar definition, referring to resilience as a phenomena marked by positive results despite substantial obstacles to adaptation or development.

Luthar (2003) defined resilience as the expression of positive adjustment despite significant life adversities, whereas Wyman et al., (1999) defined resilience as a diverse set of processes that alter children's interactions with adverse life conditions to reduce negative effects and promote mastery of normative developmental tasks. The Individual capacity or aptitude to endure and restore one's equilibrium after suffering certain catastrophic situations has also been defined as resilience. According to Richardson et al., (1990), resilience develops as a result of an inner or extrinsic driving force that comes through the processes of trauma recovery.

Connor and Davidson (2003) described resilience as a collection of human attributes that enable a person to thrive in the face of adversity, based on this theoretical model (Richardson et al., 1990; Richardson, 2002).

In other studies, resilience has been defined as the ability to tolerate change and adversity (Campbell-Sills, Cohan, Stein, 2006), the ability to adapt to adversity (Stanton, Revenson, Tennen, 2007), effective coping (Tugade et al., 2004), a complex behavioral repertoire (Agaibi et al., 2005), and personal stability. Despite these differences in definitions, a set of similar features may be established that link resilience to human qualities, some form of disruption and subsequent growth, adaptive coping, and positive outcomes in the face of adversity.

This research is based on Connor and Davidson's (2003) definition of resilience, which said that the phenomena contained human attributes that enable an individual to thrive despite adversity (Masten, 2001). These writers choose a changeable construct over a static notion of what resilience entails, based on Richardson's model (Richardson et al., 1990; Richardson, 2002).

Indeed, empirical research has shown that resilience is a multifaceted trait that changes based on context, time, age, sex, and cultural origin, and may even manifest in different ways in the same person depending on their circumstances (Werner et al., 1992).

In this view, resilience refers to a pattern of positive adaptation, with resilient people displaying a resilient pattern or resilient attributes that allow them to cope well with stress. This unique collection of resilient characteristics is then engaged in a dynamic interplay with other intrinsic or environmental variables that impact the individual's capacity to adapt to adversity. As previously stated, the increasingly common salutogenic method allows clinical psychologists to investigate the function of resilience.

As Ursano (1987) points out, the research of trauma reaction should also encompass the study of resilience and health. The origins of Connor and Davidson's model (Connor & Davidson, 2003) are subject to these two researchers' attempt to examine resilience as a health or well-being indicator.

The Connor-Davidson Resilience Scale (CD-RISC) (Connor KM et al.,1999) was created to assess the impact of medication and other treatment interventions. The scale documented the clinical improvement found in the research, with high resilience scores being related to the individual's overall recovery.

These findings are important, according to Prince-Embury (2013), since the scale's scores have been proven to be responsive to genuine improvements in participants' psychological well-being, implying that high resilience levels are linked to an improvement that extends beyond symptom relief. They are also significant because they show that resilience is malleable. As a result, the study added to the growing body of evidence showing resilience may be measured, modified, and enhanced through treatments (Connor & Davidson, 2003; Vaishnavi et al., 2007). The psychological well-being is one of the elements that is linked to both resilience and academic success. There are three main components to psychological well-being-

- contentment with one's life;
- good emotions; and
- negative influence (Rodríguez-Fernández & Goñi-Grandmontagne, 2011).

To obtain high levels of subjective well-being, a person must be content with their lives, have a mostly positive affectivity, and have a low degree of negative affect. As a result, psychological well-being is entirely subjective

and evaluative, with the most essential factor being how each person evaluates his or her own life (Diener, 2000).

The inclusion of the concept of life satisfaction as a key variable in psycho-educational studies is a positive development because the manifestation of a sense of well-being in relation to oneself can be considered a personal development milestone within the educational context (Rodrguez-Fernández et al., 2012).

The life satisfaction has been recognized as a cognitive component of subjective well-being, and it manifests itself in the form of a person's overall assessment of their life (Pavot et al., 1991). As a consequence, life satisfaction is the outcome of the subject's comparisons of events in their life to a standard they have set for themselves (Atienza, 2000). As a result, life satisfaction is envisioned as a resultant variable that analyses the self-perception of overall happiness.
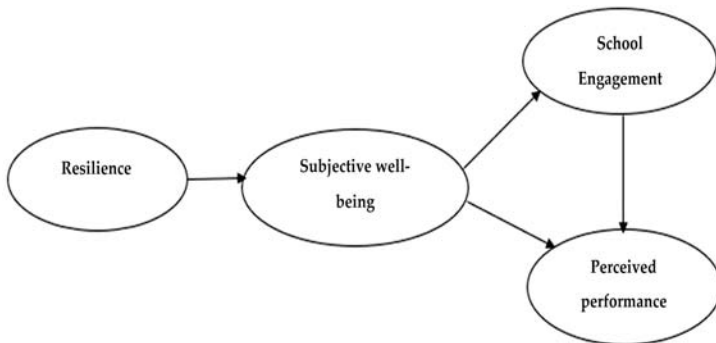
Figure 7.5. Structured model depicting the resilience and psychological well-being in school engagement and perceived academic performance.

7.10. ACADEMIC SELF-EFFICACY, APPROACH TO LEARNING, AND ACADEMIC ACHIEVEMENT

Adolescence is a crucial phase in a person's growth and socialization, during which they face numerous life changes and obstacles. Many features of a school environment, where a teenager spends a substantial amount of time, are protective in nature and are connected to an adolescent's subsequent experiences and behavior. One of them is academic success. School achievement is a key predictor of many aspects of adolescents' life trajectories and serves as a foundation for their future socialization into

adulthood. The increased wealth, better health, and happiness are just a few of the numerous benefits that await academically successful students (Bruyn et al., 2003). According to the National Youth Risk Behavior Survey (YRBS, 2009), teenagers from 9th to 12th grade that exhibit no symptoms of health risk behavior obtain higher grades than students of the same age who show symptoms of health risk behavior.

In the professional literature (Helus Z et al., 2009; Sedláková D. Rozvoj, 2009; Lukáová, 2010; Zins et al., 2004), school success is defined as achieving societal needs for a pupil personality student's via the implementation of a school.

Some studies (Zins et al., 2004) discuss the relationship between school success and social and emotional learning, pointing out that in recent years, all nations around the world have experienced unacceptably high levels of school violence, bullying, truancy, adolescent suicides, and other forms of negative behavior.

Personal well-being and positive classroom relationships, according to the authors (Zins et al., 2004), are closely connected to school achievement. Supporting personal well-being not only reduces the number of occurrences of childhood depression, but it also helps youngsters succeed in school.

Academic accomplishment is a result of a student's performance that demonstrates how far he or she has progressed toward personal and educational goals at school. Academic achievement is a construct with more different domains of learning than cognitive goals like knowledge, critical thinking or intellectual areas like numeracy, literacy, history, and science, but it is primarily focused on cognitive goals like knowledge, critical thinking or intellectual domains like numeracy, literacy, history, and science (Steinmayr et al., 2014).

Academic accomplishment is the consequence of education in the sense that it reveals the amount to which a student, instructor, curriculum, or even an educational institution has met set educational goals (Kpolovie et al., 2014). Academic accomplishment, according to Slavk (1999), is a method of recognizing a student's degree of knowledge, working, and learning activities.

In the research, school performance is examined in terms of assessing educational accomplishments (learned knowledge, abilities, and competencies) from two perspectives: heteronomous and autonomous (Zins et al., 2004; Vereová & Foglová, 2016). HAA is for heteronomous evaluation of academic accomplishments, which is an assessment of educational

outcomes done from the outside, primarily by a teacher or other educational actors.

A school assessment represented as a grade is one of the techniques of heteronomous teacher assessment and is still the most popular approach to learning outcomes aiming for the maximum possible objectivity (Zins et al., 2004; Vereová & Foglová, 2016).

In the light of the objectivity of heteronomous assessment in general in its many forms, they have point out that a teacher's ability to evaluate a student's performance necessitates a high degree of competence. According to research by Lent et al., (1984) and Lukáová (2010), one of the most important elements of heteronomous evaluation as a predictor of school achievement is the technique used to assess education at schools. The educational process necessitates evaluation and categorization.

They offer feedback to students and tell them of their assignment completion status. A classification is a grading system that expresses evaluation in suitable grades. For a pupil or student, his or her parents, and teachers, evaluation and categorization contain motivating and informative components (Zelinková, 2011).

A teacher's heterogeneous evaluation of a student's academic achievements is linked not only to a student's performance on standard tests for the relevant school subject and year of study, but also to a teacher's regard for a student, his or her performance and qualities, and thus to assigning personality and reasoning attributes to a student's performance.

Grade point averages (GPAs) and standardized test scores have long been used to assess students' academic achievements (Hoge et al., 1989; Kuncel et al., 2005; Malá, 2009). The internal attributes like self-efficacy, self-evaluation, and drive that are highly associated to success are also significant. And academic success and achievement too (Bandura, 1997; Jinks et al., 1999; Zimmerman, 2000; Chemers et al., 2001; Valentine et al., 2004; Zajacova et al., 2005; McIlroy et al., 2015).

The academic achievement is considered as a result of three sets of factors, according to Astin's Inputs-Environments-Outcomes model (Pascarella & Terenzini, 1981):

1.	Inputs: Students family, demographic features, and social experiences, are taken into consideration.
2.	Environment: Students come into contact with a variety of individuals, programs, policies, cultures, and experiences while

attending college and on campus.

3.   Outcomes: As they exist after graduation from high school are the following: knowledge, skills, and competences, beliefs, attitudes, values, personality characteristics, and behaviors.

Also, according to York et al., (2015), academic success is a multifaceted notion that includes the following components: accomplishment of learning objectives, acquisition of desired skills and competences, persistence, school satisfaction, academic accomplishment, and professional success (post-college performance).

In contrast to the heteronomous evaluation of academic achievement, the autonomous evaluation of academic achievement is an expression of a comparison between achieved results and assumed objectives, values, or criteria established by the student himself or herself, and is thus an evaluation from the inside.

The autonomous evaluation of a student is an important factor in determining his or her level of school satisfaction and psychological well-being in school. It also serves as a significant motivator for the student's continued acquisition of knowledge, skills, and competences in the school environment. It goes without saying that the ability to evaluate one's own academic performance is an internal attribute that is significantly associated with academic success.

The college students frequently do informal evaluations of their own course performance, and earlier research has demonstrated that the accuracy of these self-evaluations is positively connected with real course accomplishment (Moreland et al., 1981).

The notion of self-assessment may be used to describe the process of independently evaluating one's own academic progress. When a learner assesses himself or herself, he or she is more likely to have intrinsic motivation, internally regulated effort, mastery of goal orientation, and more meaningful learning experiences.

In most cases, a student's self-assessment entails the student making judgments about his or her own achievements and the effects of their learning (Yan & Brown, 2016). A cyclical process (Yan, Brown, 2016; McMillan & Hearn, 2008), self-assessment is composed of three sub-processes: self-monitoring, self-evaluation, and the identification and implementation of instructional correctives, if needed (McMillan & Hearn, 2008).

An important role in the development of positive self-perceptions that lead to increased motivation is played by self-assessment. It is well

recognized that a student's level of involvement is influenced by his or her perceptions about their own abilities.

7.11. CONCLUSION

There is a complicated link between health and academic success, according to research. Academic performance and health problems such as mental illness, depression and anxiety, vision and oral health problems, asthma, teen pregnancy, malnutrition, obesity, chronic stress, aggression and violence, unsafe sexual activity, unhealthy eating, physical inactivity, and substance abuse have all been linked in studies.

Poor retention, school failure, grade retention, school dropout, absenteeism, and poor attention are all consequences of such health issues. According to research, the more health problems pupils faced, the more likely they were to be at risk academically.

Schools and colleges have a unique opportunity to educate pupils about life in general and illness in particular. Schools should develop conducive settings and policies, as well as support services, that encourage individual and group student health. Comprehensive school health services, which include a variety of interventions, are thought to improve kids' academic achievement.

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Chapter 8

Psycholinguistic Perspectives on Bilingualism

CONTENTS

This chapter revolves around the psycholinguistic perspectives on bilingualism. It begins with explaining the psycholinguistic perspective on development of phonetic category formation in children who are bilingual. It further illustrates the bilingual and self-perception along with the self-efficacy through the veil of two languages. As the chapter proceeds, it highlights the cross-language information retrieval using two major methods and they are LSI via SDD and LSI via SVD, respectively. It also deals with the cross-lingual and cross-chronological information access to multilingual historic documents which further depicts the different manuscripts during the ancient time period. Towards the end, it states the innovative multilingual captcha based on the handwritten characteristics, data gathering and preparation. It also addresses the different algorithm techniques mainly the handwriting characteristics and technique implementation.

8.1. INTRODUCTION

Over the past 30 years, the association of phonetic frameworks in bilingual speakers has been widely studied. Phonetic category formation alludes to the cycles by which second language learners or bilinguals come to recognize phonetic details of share phonemes in every language.

The majority of the studies' dealt with adult speakers who after fully acquiring their first language (L1), learn a second language (L2). These studies for the most part centered around how the impact of one language on the other relies upon the age of the learner when he/she is exposed to a second language. The current chapter deals with phonetic features of sound created by bilingual kids. Bilingual kids are not the same as second language learners or adult bilinguals because their language structure of two languages keeps on developing during formative processes. Consequently, it is important to study bilingual kids to comprehend how phonetic categories are organized and develop across languages and how L1 and L2 frameworks associate with one another. Two further inquiries are brought up in studying phonetic categories in bilingual kids. To begin with, presently accessible studies looking at phonetic improvement in bilingual youngsters fundamentally centered around stop consonant creation; restricted proof in regards to whether phonetic features of different categories (e.g., vowels) are alike stops available. Second, kids who are encouraged to learn two languages are either sequential or simultaneous bilingual. Regardless of whether phonetic categories of sequential bilingual and simultaneous bilingual kids demonstrate comparative characteristics is not either examined very well.

8.2. A PSYCHOLINGUISTIC PERSPECTIVE ON DEVELOPMENT OF PHONETIC CATEGORY FORMATION IN BILINGUAL CHILDREN

8.2.1. The Speech Learning Model for Phonetic Systems in Adult Bilingual and L2 Speakers

Flege (1987), who is a well-known researcher, offers the Speech Learning Model (SLM) to represent how people figure out how to produce the consonants and vowels of their L2. The point of the model is to describe the production limits of experienced L2 students zeroing in on more perceptual strands of students instead of their motoric limitations. Accordingly, the Speech Learning Model (SLM) postulates that trouble to deliver a specific L2 phoneme is credited to a perceptual impediment to perceiving the sound, and not to difficulty in production. An essential presumption in Flege's model is that phonetic components of the L1 and L2 are identified with one another at the degree of allophones, and the language specific features of speech sounds are shaped in long haul portrayal called phonetic categories. Since insight assumes a significant role in the foundation of phonetic categories, a new phonetic category can be established for the L2 sound if bilingual speakers are able to perceive phonetic differences between L1 and L2. The probability of setting up a new category is additionally expanded by the level of disparity between an L2 sound and its nearest related L2 sound.

Figure 8.1. The speech learning model for phonetic systems in adult bilingual and L2 speakers.

Source: Image by unsplash.com.

Flege (1987) further assumed that a solitary phonetic category is utilized to measure comparable L1 and L2 sounds because of identical classification. On the off chance that sounds in the L1 and L2 are perceptually connected, their apparent similarities may obstruct the formation of category by what Flege alludes to as the 'mechanism of equivalence classification. For this cycle, assimilation of phonetic category may happen.

Flege and Eefting (1987) studied the voice-onset-time (VOT) values of English and Spanish stop consonants as delivered by English-Spanish bilinguals. They noticed that English-Spanish bilinguals created stop consonants in English with VOT values similar to those found in Spanish, recommending that phonetic category formation was hindered because of resemblance in stop consonant creation.

Flege additionally forecasts two conditions in which productions of bilingual may vary from that of monolinguals: a bilingual's category formation is diverted away from the L1 category to keep up the phonetic difference between categories sharing a typical L1–L2 phonological space; subsequently, portrayals delivered by bilinguals depend on characteristics non-identical with monolinguals.

Bohn and Flege (1992) studied the production of English and German vowels by German adult learners of English. They noted that these bilingual speakers delivered vowels so that they were able to keep up the contrasts within the individual's phonological space. During this cycle, phonetic category dissimilation may occur.

8.2.2. Linguistic System Models in Bilingual Children

While SLM was created to elucidate L2 learners and adult bilinguals, the linguistic system model is a hypothesis in regards to language procurement in bilingual kids. The focal point of this hypothesis is whether bilingual kids develop a couple of linguistic systems in the learning of their specific language.

The one-system model, also known as the Unitary Language System (ULS), was initially estimated by Volterra and Taeschner (1978) and the two-system model, also called the Dual Language System (DLS) hypothesis, was postulated by Genesee (1989).

Under the Unitary Language System (ULS) model, during the development of early language, bilingual kids would receive contributions from the two languages and join the data into a single language system.

As the process of language acquisition proceeds, more advanced linguistic skills are developed by bilingual kids and go through a differentiation process. It is during this cycle that these kids recognize the contrast between languages and achieve the status of bilingual.

The Dual Language System (DLS) theory remains as an option in contrast to the Unitary Language System (ULS) hypothesis. The DLS hypothesis postulates that from the beginning of the language acquisition process, establish two separate linguistic systems. Under this model, kids acquire double language information and separate this data into two different language systems.

Figure 8.2. Linguistic system models in bilingual children.

Source: Image by unsplash.com.

These kids do not go through a period in which their linguistic systems are combined. They have separate linguistics systems from the beginning of the procurement processes, along these lines kids are constantly viewed as bilinguals under the DLS hypothesis. Since the Dual Language System and Unitary Language System hypotheses are important for understanding bilingual kids, more definite data on every hypothesis is discussed.

8.2.3. Unitary Language System Hypothesis

Under the ULS theory, Volterra and Taeschner (1978) guarantee that between infancy and the age of three, to become bilingual, children progress through three stages. The first phase of language obtaining in bilingual children shares numerous similarities with the language improvement of monolingual kids.

Children organize the information into one system when they receive input from both languages. Volterra and Taeschner give proof of this by taking note of an absence of translation equivalents during the beginning phases of language development.

Kids getting double language input seem to try not to learn words in both languages that share a similar meaning. Volterra and Taeschner created three phases dependent on a study carried out on two German-Italian bilingual sisters and from information taken from Leopold (1970).

Speech samples from these three subjects were taken between 1 year and 2 months and three years and nine months. Their parents stipulated that they utilized the one parent, one language strategy and along these lines spoke to kids in their native languages.

The information gained during their study implied that kids do indeed learn translation equivalents between languages. Volterra and Taeschner discredited this thought by recommending that meanings of word have contextual ties which impact the kid's utilization of a word; consequently, they would not be viewed as a translation equivalent.

During the second phase of language procurement, the kid can differentiate between the vocabularies of every language yet at the same time keeps on applying similar syntactic standards to the two languages. Proof for this phase of language improvement in bilingual kids is found in the presence of translation equivalents.

Now the kid's language shows that he or she has words in both languages with corresponding and same meanings. The presence of translation equivalents shows that the kid can differentiate lexical things of one language from the other, and he or she can sort them by language.

Despite the difference made between lexical things of every language, the incorporation of grammatical components from one language into the other keeps on recommending a unified system. During the third stage, language procurement in the bilingual kid is finished.

Both the syntactic linguistic systems and lexical systems are differentiated. Volterra and Taeschner tracked down that the kids from the Leopold study and the German–Italian study applied and distinguished the suitable syntactic rules of each particular language as early as three years and nine months. Children become bilingual at this stage.

8.2.4. Dual Language System Hypothesis

Paradis and Genesee (1996) contend that bilingual kids may get distinct linguistic systems, and represent an extra choice to the DLS by further arranging these systems into autonomous (no collaboration between the two language frameworks) and reliant (interconnection between the linguistic frameworks).

Assuming these linguistic systems are established individually, then we would anticipate the acquisition of every language by a bilingual to impersonate that of a monolingual speaker of each particular language. Nonetheless, if the two linguistics systems interconnect during the acquisition of language, we would anticipate seeing three cycles like acceleration, delay, and transfer in every language.

Transfer happens when bilinguals consolidate grammatical components of one language into the grammar components of another language. Acceleration happens when grammatical properties take place prior in bilinguals than in prototypical developing monolinguals.

Delay is the cycle where a load of concurrent language procurement creates setbacks for the grammatical development of bilinguals when contrasted with monolinguals.

8.3. BILINGUALISM AND SELF-PERCEPTION: SELF-EFFICACY THROUGH THE VEIL OF TWO LANGUAGES

The study discussed in this subject of the chapter centers around the development of self-efficacy, which Bandura (2001) has characterized as the faith in one's abilities to start, execute and manage an assortment of activities determined to achieve desired objectives. Self-efficacy credence's are known to be key determinants of individuals' future and current conduct.

For example, people who have high self-efficacy in contrast with the individuals who have low self-efficacy will, in general, tend to take demanding activities, are tenacious, allocate significant efforts to commence activities, and experience less unfavorable emotional responses if troubles are experienced.

Self-efficacy beliefs likewise assume a significant part in molding individuals' self-regulatory processes, for example, self-monitoring and goal setting

Figure 8.3. Bilingualism and self-perception: self-efficacy through the veil of two languages.

Source: Image by unsplash.com.

The writers' study originates from the acknowledgment that however the construct of self-efficacy exists in an assortment of cultures, the data that individuals reveal about their self-efficacy is probably going to be molded by not just oneself report instrument utilized to assemble data about such a development, yet additionally, the language in which it is composed. Current work depends on two key suppositions:

1.   a language entails its culture, including its unique denotations, prescriptions, responses, and connotations.
2.   even though translations of expressions utilized in estimation scales to allude to an individual's capacities are viewed as linguistic equivalents, they may not be equivalent culturally.

Hence, a bilingual speaker's reactions to a scale, which accumulates data about his/her convictions in personal capabilities, can accidentally adjust to the language wherein the scale is composed and, subsequently, to the unique denotations, prescriptions, responses, and connotations of its accompanying culture.

This specific change performed by the bilingual speaker is probably going to persuade divergent responses to apparently similar statements presented in his/her two languages in the light of the fact that every statement remains theoretically not at all like the other.

Supporting proof is given by the writers' empirical studies of English-Arabic bilinguals who assessed their abilities through a self-efficacy scale either converted into Arabic or written in English. Evidence is clarified by depending on a social constructionist system, as per which various languages, like English and Arabic, can evoke distinctive culturally oriented selves who are however associated with a solitary speaker.

In particular, a solipsistic self, which is thought to be elicited by English, is a self that is interpreted as autonomous and made aware of internal thoughts, motives, and goals. It is hence the self of an individual who is inclined to see himself/herself as the one in particular that truly matters.

Alternatively, a contextualized self, which is thought to be evoked by Arabic, is a self that is related at its core. It is hence the self of an individual who acknowledges that in-group goals truly matter and are above personal goals.

8.3.1. The Selected Context: The Kingdom of Saudi Arabia (KSA)

KSA is at present a country where the conflict among Western influences and traditions, in the form of norms and values, is simmering so intensely at the outside of an unruffled cultural and social that its rattles are difficult to overlook. For example, a cacophony of voices once in a while heard before is manifest in the upsurge of the use of social media. Simultaneously, the resulting enthusiastic discussions stay disguised in individuals' computers and smartphones as obvious public social affairs stay tightly regulated or unfeasible.

Likewise, ladies may wear hijabs and abayas when visiting places of mixed gender population, like restaurants and shops, however underneath, they usually wear t-shirts, pants, and other Western-style pieces of clothing.

> In particular, among the enormous contingent of youngsters who live in KSA, English is rapidly moving from only being the language of business transactions to being the language through which friends are made and education is imparted.

On the off chance that the utilization of foreign language grows in a social group, not just its apparent utility is probably going to be all the more broadly perceived, yet in addition individuals' contact with, comprehension of, and internalization of the culture that the language carries in aims to be extraordinarily elevated.

Along these lines, indications of progress in KSA may appear to the untrained observer as murmurs instead of thunders, however, they are just about as persistent and palpable as the notable elaborateness of Arabs' verbal communication patterns. As indicated by scholarly narratives, a couple of key dimensions can be utilized to differentiate the conventional culture of KSA from the culture of English-speaking nations, like the USA, including uncertainty avoidance and vertical collectivism.

From the vantage point of an individual's identification within the group to which he/she belongs, collectivism alludes to looking at oneself as identified with others in mutual interdependent relationships. At the point when an interdependent self-shapes individuals' communications with one another, relationships within the group to which one belongs and its objectives are probably going to be profoundly valued.

In comparison to collectivism, individualism alludes to a perspective of an individual's character whereby one sees himself/herself as to a great extent autonomous of the in-group (i.e., independent). In this manner, one's very own objectives supplant those of the group.

In the event that collectivism directs protection of in-group social bonds, in this manner making one's actions highly regulated and expressly guided by norms of the group, individualism dictates self-interest and independence, subsequently making relations time-bound agreements dependent on an equilibrium of benefits and costs.

In one or the other context, the proportions of verticality allude to the simple reality that the group to which one belongs is perceived as hierarchically organized, and, within it, inequality and diversity are endured. The most noticeable consequence of verticality in collectivism is service to or even sacrifice for the in-group, on the other hand, individualism is competitiveness. Interestingly, the traditional culture of KSA has been marked as being vertical collectivistic with a significant degree of uncertainty avoidance. In particular, it is a culture that perspectives change just as the ambiguity and uncertainty that tend to go along with apprehension.

All things considered, it is a culture that has high respect for the conservation of the status quo through conformity to group values and norms. On the other hand, the culture of the West, encapsulated by the USA, has been characterized as being vertical individualistic with low uncertainty avoidance. It is essential to remember that the previously mentioned distinctions are starkly dichotomous, however, actually, the limits forced by conceptual categories are frequently obscured.

8.4. CROSS-LANGUAGE INFORMATION RETRIEVAL USING TWO METHODS: LSI VIA SDD AND LSI VIA SVD

The retrieval of information (IR) is centered around the issue of discovering data that is pertinent to a particular question. Usually, in numerous fields of studies like theology, mathematics, medicine, international law, among others, there is a need to recover pertinent data from data sets that have documents in numerous languages, which makes reference to cross-language information retrieval (CLIR), whose goal is to recognize valuable data in the same and different languages than the language of the inquiries. For instance, a client could pose an inquiry in language X (source language) to find documents in languages X, Y, Z (target dialects).

Numerous strategies have been utilized in IR, among them, the vector model, which explicates documents and queries as vectors and data recovery, depends on operations. Latent semantic indexing (LSI) is an IR strategy dependent on the vector model, which replaces a term-document matrix with a sum of matrices of a specific structure. In this sense, QR, the semi-discrete decomposition (SDD), ULV factorizations, and the singular value decomposition (SVD), have been utilized in LSI to IR.

The SDD has shown benefits in saving storage of large databases yet has not been tested in CLIR. This chapter evaluates and examines a strategy for bilingual recouping data (English-Spanish) because of semi-discrete decomposition (SDD), which recovers pertinent data in the two languages when inquiry is made in Spanish.

Figure 8.4. Cross-language information retrieval using two methods.

Source: Image by unsplash.com.

Likewise, four case studies are presented that show the performance of the LSI through the SDD strategy for CLIR and the outcomes are contrasted with those acquired by applying the Latent semantic indexing through the singular value decomposition method. To do this, a database was created amalgamated documents (Bible Gospels) in English and Spanish.

8.4.1. The CLIR Problem

Various documents can contain data that is conceptually similar without utilizing the same words. Individuals when they make an inquiry in an IR framework, for instance, a search engine like Google, do so by concept, and the words they use in it for the most part do not match with those of the pertinent documents. Thusly, the primary aim of cross-language information retrieval, which is the recovery of significant data in the same and other languages to the inquiries, is exceptionally influenced on the grounds that they should be compared in terms of various languages.

To address this set of circumstances, between languages, databases have been made, which are assortments of documents that consolidate low percentages of languages and for its development, it is important to consider two ideas of a close relationship with cross-language information retrieval: parallel aligned corpus and fusion strategies.

8.4.2. Parallel Aligned Corpus

A parallel text is a text guided by its interpretations in different languages. Huge assortments of parallel text are called parallel corpus. To utilize a parallel corpus effectively, it is important to adjust the original content to its (your) translation (translations), that is, you should recognize the words or phrases in the original content with their relating translations in different languages. This is known as the parallel aligned corpus.

As expressed by Kolda et al., (2007), maybe the greatest choice to make while carrying out LSI multilanguage is which parallel aligned corpus to utilize. In this work, we have embraced the Bible as our own, and the purposes behind this are:

1.   it is presumably the most interpreted book in the entire world, which permits us to have numerous interpretations of the same documents.

2.   given its presentation by verses and chapters, its parallel alignment is worked with.

3.   in the event that allude to the Gospels (Matthew, Mark, Luke, John), it is not difficult to distinguish realities identified with the existence of Jesus and accordingly perceive important documents for inquiries made in this context.

8.5. CROSS-LINGUAL AND CROSS-CHRONOLOGICAL INFORMATION ACCESS TO MULTILINGUAL HISTORICAL DOCUMENTS

In this subject of the chapter, presenting the work in acknowledging data access across various languages and periods. These days, digital collections of historical documents need to deal with materials written in numerous languages in various time frames. Indeed, even in a specific language, there are critical contrasts over time in terms of vocabulary, script, and grammar.

The objective is to evolve a technique to access digital collections in a wide range of periods from ancient to the present day. We present a data extraction strategy for digitized historical manuscripts of ancient Mongolian for lessening labor-intensive analysis.

The proposed technique performs computerized analysis on historical documents of Mongolia. Named entities, for example, place names and personal names are extricated by utilizing a support vector machine. The extricated named entities are used to make a digital edition that reflects an ancient Mongolian historical manuscript written in a traditional

Mongolian script. The Text Encoding Initiative rules are acquired to encode the transcriptions, interpretations of ancient words, and named entities. A web-based prototype system is created for using digital editions of ancient Mongolian historical manuscripts as scholarly tools.

The proposed model has the ability to search and show conventional Mongolian content and its literal interpretation in Latin letters alongside the featured named entities and the scanned pictures of the source composition.

As historical materials are progressively being preserved digitally, multilingual materials concerning a variety of languages and historical periods have been made accessible to the general public on the Internet. Lately, various enormous digital library projects have been initiated, for example, HathiTrust, Europeana, Google Book Search, and World Digital Library.

These sites make multilingual materials covering numerous languages and chronicled periods accessible to people in general. There are different technical challenges, nonetheless, in carrying out universal integrated access to these advanced assortments because of this extraordinary variety, and challenges occur in getting to these data sources, essentially because of the variety of languages.

Figure 8.5. Cross-lingual and cross-chronological information access to multi-lingual historical documents.

Source: Image by unsplash.com.

Indeed, even within the same language, significant contrasts exist in script, grammar, and vocabulary contingent upon the historical period, and this is the essential driver of the troubles in carrying out universal information access.

Along these lines, this section presents our way to deal with providing cross-chronological and cross-lingual access to historical documents that account for the evolution of languages over periods ranging from ancient to modern. Especially, in this part, we present our approach in giving cross-chronological and cross-lingual data admittance to historical materials in a less investigated language like ancient Mongolian.

8.5.1. Ancient Mongolian Manuscripts

This segment briefly describes certain features of Mongolian manuscripts and the current circumstance of digitized ancient historical materials written in ancient Mongolian and in the digital era the challenges presented by them. A brief introduction of Mongolian manuscripts is given below:

Mongolian historical documents have been written in various scripts, that is, Horizontal square script, the traditional Mongolian script, Square or Phags-pa script, and Soyombo script. Among them, for more than 800 years, the traditional Mongolian script is the most well-known and longest-enduring script and has better supports with the PC frameworks as of late since its incorporation into the Unicode Standard in September 1999.

On the 20th of June, 2017, the Soyombo and Horizontal square scripts (also known as Zanabazar scripts) were normalized in the latest version of the Unicode Standard. Notwithstanding, this study centers around the traditional Mongolian script on account of its availability of digital texts, improved support at the computers, and its popularity.

In the year 1946, Mongolia has made language changes to eradicate the difference between spoken and written Mongolian language, and the Cyrillic script was transformed to Mongolian. The spelling of present-day Mongolian in the Cyrillic letter set was formed on the articulations in the Khalkha language, the biggest Mongol ethnic group.

The Mongolian people were separated from their historical archives written in traditional Mongolian script because of this radical change. Modern Mongolian reflects the unique pronunciations in modern dialects while manuscripts in traditional Mongolian script preserve ancient writing.

Comprehending historical documents in traditional Mongolian script is turning out to be as equally significant as comprehending modern Mongolian in Cyrillic script. Although, it is not a simple task to read traditional Mongolian documents by using literacy in modern Mongolian. Traditional Mongolian is a different language with grammar disparate from that of modern Mongolian.

The traditional Mongolian script is written in columns advancing from left to right and vertically, from top to bottom. This script has four derivative scripts: Sibe (Xibe) script, Manchu, Todo or Clear, and Vaghintara.

The Manchu script was a writing system in the Qing dynasty and the Todo script was utilized by the Oirats and Kalmyks. Xinjiang, in the northwest of China, utilized the Sibe script. The Buryats utilized the Vaghintara script.

Additionally, the conditions that the manuscript went through a process of reprinting or copying with potential corrections, changes, and accidental mistakes makes researchers wonder which old spelling is right or what the ancient word-initially implied.

Researchers had been bringing up now and then that copies could not meet the requirements of researchers who need to contemplate them as source material. In addition, numerous different transcriptions, interpretations, commentaries, and annotations have been recommended by humanities scholars. In addition, compositions are pregnable to degradations and might have physical damages, missing parts, or lacunas, which require reconstructions of the original text.

Generally, in this digital era, there are two primary requests from both researchers and users for making ancient Mongolian manuscripts usable. Initially, a digital representation that describes a given manuscript in a modern language is useful for people who want to search, browse, and read ancient Mongolian manuscripts.

Furthermore, in the field of humanities, acquiring knowledge by analyzing numerous historical documents is a significant task. There are growing requests from Mongolian humanities scholars to perform text analysis at a massive scale with accurate and prompt outcomes. Having a digital portrayal that completely reflects a given manuscript is an anticipated interest for scholars who wish to study it as a pedagogic source utilizing a computer.

However, due to the lack of natural language processing (NLP) tools that can handle ancient Mongolian, computerized text analysis of Mongolian historical documents has not been done. Such requests have urged us to present our methodologies in giving universal information access to ancient Mongolian historical documents.

8.5.2. Ancient Mongolian Manuscripts in the Digital Age

There are a small number of digital texts of ancient Mongolian manuscripts as per the knowledge. A couple of ancient Mongolian historical manuscripts including:

1. 'Qad-un ündüsün-ü quriyangγui altan tobči neretü sudur' (the Altan Tobchi or the Golden Summary: Short history of the Origins of the Khans) (written in 1604) also known as 'Little' Altan Tobchi

2.   the 'Asaraɣči neretü-yin teüke' or 'Asragch nėrtĭĭn tǔǔkh' (the Story of Asragch) (written in the year 1677), which were written in traditional Mongolian script, have been changed over to digital texts and made freely accessible through the traditional Mongolian script digital library (TMSDL).

TMSDL can be utilized to retrieve and access the historical manuscripts written in traditional Mongolian script utilizing a question in modern Mongolian (Cyrillic). The study accomplishments, and the experiences acquired from the development of the TMSDL, have inspired us to share further study outcomes in developing methods to giving cross-chronological and cross-lingual data access to ancient Mongolian historical documents.

Surely, there have been few studies on text mining for the Mongolian language, and due to the lack of research in those areas, none of the studies have considered text mining on ancient Mongolian historical documents.

Because of the eminent dissimilarity between modern Mongolian and medieval Mongolian, the existing NLP tools, do not perform well on ancient Mongolian texts which were designed on modern Mongolian. Along these lines, further computerized analyses of ancient Mongolian historical documents are vital.

8.5.3. Information Access to Mongolian Historical Documents

In the past years, the requirement for using digital portrayals and giving access to historical documents supported the development of different devices for publishing, translating, and annotating historical manuscripts.

In order to proffer computer technology-driven solutions to solve the challenges faced by Mongolian humanities scholarship, additionally, to benefit the new accomplishments in the digital humanities around the world, it is important to analyze the prerequisites of Mongolian historical documents for digital tools.

In this segment, techniques for integrated access to historical documents that are capable of adapting with linguistic transformations from ancient times to the present. In the first place, for digitized ancient Mongolian historical documents, the information extraction method is proposed.

The proposed technique extricates named entities from historical manuscripts by using machine learning techniques. Outcomes will be used for building computerized text portrayals that encode corrections, interpretations, named entities, the possible alterations, and errors of ancient

Mongolian words in a modern language. In the later segment, how to develop a digital edition of Mongolian historical documents by considering various requirements and features of Mongolian manuscripts is discussed.

8.5.4. Information Extraction from Ancient Mongolian Documents

This segment talks about a data extraction technique for digitized ancient Mongolian documents by utilizing the characteristics of the traditional Mongolian script. Named entities, for example, place names and personal names are extricated consequently from the digitized text of ancient Mongolian documents by utilizing a support vector machine (SVM) for aiming to lessen the labor-intensive analysis on historical text.

Named entity extraction (NEE), data extraction, and annotations or tagging can transform plain content into organized information for effective use and study, by means of NLP applications and analytical methods. State-of-the-art NEE frameworks for English produce close human execution to separate named entities.

In any case, there has been little study on the mining of text or NEE for the Mongolian language, and none of the studies have considered text mining on ancient Mongolian historical documents because of the absence of study in those areas. Along these lines, proposing a data extraction strategy for ancient historical documents in traditional Mongolian script is essential.

8.5.4.1. Proposed Approach

The proposed strategy absorbs the extraction rules of individual names from annotated preparing corpora and afterward extricates individual names from ancient Mongolian texts by utilizing SVM. The accompanying segments describe the primary three segments:

(1)   pre-processing,
(2)   annotating, and
(3)   named element extraction.

8.5.4.2. Preprocessing Step

The initial step is to split computerized ancient Mongolian plain content into tokens. This is important on the grounds that we need to mark up every token in the following tasks. A token is frequently a word delimited by space, however, there exist some special highlights for traditional Mongolian script.

For example, in traditional Mongolian script, particular words with the last vowel letter 'e' or 'a' are segregated outwardly from the previous consonant by a narrow gap.

Also, some additional suffixes are segregated outwardly from the stem of a word or from other suffixes. Nonetheless, the 'e' or 'a' is an essential part of the word stem, and also any joined suffixes are viewed as an essential part of the word overall.

In Unicode, control characters narrow no-break space (NNBSP) and Mongolian Vowel Separator (MVS) handle the conduct of Mongolian vowels 'e' or 'a' and suffixes toward the end of a word. This data can be utilized as a component in SVM.

The following stage is to annotate tokens and develop gold standard annotations. Due to the absence of NLP devices and part of speech data for ancient Mongolian manuscripts, initially, all the personal names are described in the 'Little' Altan Tobchi utilizing the physically assembled individual names' guides (arrangements of individual names) acquired from the 'Qad-un ündüsün quriyangɣui altan tobči-Textological Study' [2002].

After changing over to an organized format that is appropriate for a linear classifier, that information is loaded into the classifier for training, which returns a likelihood network that is, a model. The classifier is instructed with gold standard annotations of tokens with known classes (i.e., individual names). In correlation to each class weights

for each feature are calculated by the classifier. This can be viewed as a likelihood of an article having a place with a specific class (i.e., individual names) while having those particular attributes. These weights are saved in a probability matrix that is, the NEE model, which in the next steps will be utilized for classifying unseen named entities

8.5.4.3. Annotating Step

In this progression, every token of digitized ancient Mongolian manuscript will be annotated with the right tag. The IOB2 format is utilized for labeling tokens. 'B' tag shows the start of an individual name, and the 'I' tag demonstrates the tokens inside an individual name. 'O' tag demonstrates different tokens which do not belong to individual names.

'Start/End' (SE) chunk tag set, is also utilized because of some unique features of traditional Mongolian script, which along with the IOB2 tags, addresses the character position in a word. 'S' tag is joined to the first

character of each word including the individual names and 'E' tag is attached to the last character.

Thusly, every token will incorporate the (1) IOB2 tag and (2) SE tag. SE labels are helpful when there is a distinction in word boundary between prepared information and the test information. Especially, a methodology dependent on SE tags could enhance the SVM projections when there is no stemmer for traditional Mongolian.

Once the IOB2 and SE tags are attached to each token, the features for chunking s extracted that will be utilized to become familiar with the standards of individual name extraction.

8.5.4.4. Named Entity Extraction Step

In this progression, the proposed approach needed to track down the individual names in ancient Mongolian digitized scripts. This technique directs the grouping and classification of tokens by SVM. By inputting the extracted features to SVM, the classifier in the SVM calculates a probability of a token belonging to personal names.

The highlights of a token may be potential hints to the proposed approach of whether this token is a named entity. At the end of the day, few features are required to We consider the following features of traditional Mongolian script for distinguishing personal names.

Preceding information of the current token: If the preceding token is generational or dynastic data, an acquired or lifetime title of honorability, or a conventional distinct expression, it could demonstrate that the current token is a personal name.

- **Beginning of a sentence:** For instance, personal or subjects names are usually toward the start of a sentence.
- **Suffix:** In traditional Mongolian script, many humankind and living being proper names take only certain plural suffixes such as 'ner' or 'nar' and possessive suffixes.
- **Special non-word boundaries:** In traditional Mongolian script, although suffixes are an integral part of the word, some suffixes are visually separated from the stem of a word or other suffixes. Additionally, certain words with the last vowel letters 'a' and 'e' are separated visually from the previous consonant by a narrow gap even though they are an essential part of the word stem.

- ***End of token or special word delimiters*:** A token is generally a word delimited by space, yet there exist some special characteristics in traditional Mongolian script.

- ***Information of the preceding and following tokens*:** A feature is also extracted by looking at the context of the succeeding, current, and preceding IOB2 annotations (as of now, the window extends from Cn−2 to Cn+2). Mislabeled IOB2 annotations could be corrected by such a feature.

8.5.5. Fusion Strategies

The main objective in CLIR is to evolve tools that permit the terms of query to concur with those of documents that depict the similar or same meaning, regardless of whether they are in different languages.

The objective is the development of a parallel aligned corpus utilizing the languages of the documents, which can be done for the case of two languages, for instance, taking parts of documents in a specific language and adding them to the relating documents of the other language. This is known as a fusion strategy.

This work tries to recuperate pertinent documents in English and Spanish when questions are made in Spanish utilizing fusion strategies, which merge around 10% of documents. The main objective behind every fusion utilized is to take a particular amount of verses in a specific language and add them to the corresponding verses of the other language.

8.6. INNOVATIVE MULTILINGUAL CAPTCHA BASED ON HANDWRITTEN CHARACTERISTICS

Completely Automated Public Turing Test to Tell Computers and Humans Apart (CAPTCHA) is a sort of test that is regularly utilized by various sites on the Internet to distinguish between automated bots and humans. Most sites make it mandatory for users to pass the CAPTCHA prior to filling out most forms or signing up.

Today CAPTCHA is even utilized on some applications on mobile phones to give a higher security level that can safeguard mobile applications and websites against pernicious attacks via spammers and automated bots. The method basically depends on utilizing the human acknowledgment capacity, which is not available in machines or automated bots, through utilizing the handwriting features in planning CAPTCHA.

The originality of the strategy proposed in this work is that it acquires handwritten characters of four languages (Spanish, English, French, and Arabic) to create handwritten multilingual CAPTCHA text. The procedure was appropriately tested and the underlying analyses' outcomes for the strategy have shown a promising security level that every one of the methods would give.

Web applications have become a daily necessity for most people and they are increasing rapidly. Some of the examples of day-to-day activities for Internet users include accessing websites, creating an email account, and using social networking sites.

The security aspect is being threatened with the fast evolution of the Internet. There has been a tremendous increase in the number of bots (robot) programs that attack websites. These bots can cause a significant amount of damage and can bring down the site.

Figure 8.6. An illustration of CAPTCHA.

Source: Image by Flickr.

These attacks can take numerous forms, for example, worms, viruses, DDoS attacks and numerous other malicious devices. They are likewise considered as the main reason for email spam. Subsequently, clearly stopping such bots through a reliable Completely Automated Public Turing Test to Tell Computers and Humans Apart (CAPTCHA) is unavoidable. All the more in this way, in a multilingual world, multilingual CAPTCHAs are essential.

The most common techniques that can be utilized to distinguish between artificial agents (or bots) and humans is Totally Automated Public Turing

Test to Tell Computers and Humans Apart. For time being, the rapid development of free web services has led to the misemploy of spam and automated bots, which has brought about genuine security issues in web services. Utilizing CAPTCHA in its different kinds has demonstrated to be successful in securing sites, and the services they give, from any damage brought about by bots' attacks.

8.6.1. CAPTCHA Technique Based on Handwriting

This technique embraces the handwritten text in the CAPTCHA pictures and applies a distinctive element (separating handwritten characters). This element can help in separating it from any past handwritten CAPTCHA techniques, and potentially improves security level.

Also, the CAPTCHA's content consolidates numerous text dialects alongside the default language (English) which makes it a multilingual CAPTCHA. The other language is chosen from a bunch of languages (French, Arabic, Spanish, and English) based on the region to which user belongs to.

The principle justification for giving multilingual CAPTCHA is that other OCR programs in different dialects have not reached the professionalism level of the English OCR yet, and to grow the CAPTCHA usage scope to be utilized around the world.

Toward the start, distinctive handwritten characters were gathered from 100 volunteers. Each volunteer wrote the alphabet characters of the 4 adopted languages for the research, each utilizing their own style of handwriting.

The handwritten characters were grouped and stored in a database. These characters were utilized to integrate random words that produce the CAPTCHA text, and clients ought to identify the words to pass the CAPTCHA. Moreover, for adding an appropriate security level that will shield the website services from attacks by the bots, some contortion strategies are applied on each handwritten character independently at the generation process so that the difficulty for bots to break the CAPTCHA is increased, other than the handwritten characteristics that are genuinely resistant for such bots to break.

This procedure goes through two fundamental stages as a component of its generating cycle: the main stage is data gathering and preparation, and the subsequent stage is CAPTCHA execution with some steps included in each phase.

8.6.2. Data Gathering and Preparation

This phase goes through six steps. They are as follows:

The initial step is characters' samples creation. In this progression, samples for each character in the four diverse adopted dialects (Arabic, French, English, and Spanish) that will be utilized in the CAPTCHA text are made. Samples distribution is the second step. In this progression, the CAPTCHA characters' samples were dispersed to 100 volunteers and each volunteer wrote the samples' characters of the 4 adopted dialects by their own style of handwriting.

Thus, an aggregate of 100 distinct instances with various handwriting styles for each character in each language is developed. Thus, practically more than 10,700 samples' characters that were required to be stored on a database to be utilized later in the CAPTCHA implementation stage.

The third step is converting samples into computerized format. Here, every one of the gathered samples were scanned and stored in computerized designs (pictures). The fourth step is arranging information. In this step, the gathered information is sorted into four dialects. Thus, now, there are 4 sets of pictures, each set has a place with one language, and there are 100 distinct pictures for each character in every language. Besides, 4 tables were made on the database to store the pictures that will be utilized later to create the CAPTCHA.

The fifth step is grouping the overall nations into groups as indicated by the language spoken there. The nations go with one of the four adopted dialects. However, the remainder of the nations where their primary spoken language is not one from the four adopted dialects, they are classified as English-talking nations. After that the list of the nations with their matched languages is stored on the database.

The sixth step is recognizing a list of unsuitable words in each language and storing it on the database as well.

8.7. ALGORITHM TECHNIQUE

8.7.1. Handwriting Characteristics

While designing new CAPTCHA technique, choosing and utilizing the handwriting was not decided randomly without any logical reasons. Actuality, it was picked after a very long search and study of what features the handwriting has, and how it very well may be used in security field.

However, the handwriting in general has a few attributes that can only be used by individuals. Because of the human brain's superior capability, the mind can recognize and analyze unclear handwritten digits and characters. It additionally can identify numerous distinctive handwriting styles written by various individuals. Besides, the human mind has the advantage of utilizing its experience to sort out uncompleted words that have missing letters or uncompleted characters. It even can peruse the Arabic words written with no dots on its letters, in light of the fact that the words' shapes can be sufficient for the brain to sort out the words, not at all like OCR machines which generally cannot identify the words in the event that they are not complete or without dots in Arabic words case. Generally, this affirms the human ability in using the handwriting characteristics, which cannot be found in any OCR machine, and it encourages to go through this CAPTCHA strategy which depends on handwriting.

8.7.2. Technique Implementation

The generation process of this technique begins by getting the client's IP address. Then by utilizing the IP-API service, it gets the nation's name where the user is located at the hour of accessing. Therefore, language of that country will be recovered from the database utilizing the nation's name, where a list of nations is arranged and categories into one of the adopted languages (French, Arabic, Spanish, and English).

A list of each of the adopted language was generated which contains the nations which speak the particular language. Subsequently, the nation's classification is done dependent on the official language spoken in each country. However, if the nation's name is not on any of the four nations' list, then, at that point English will be the default language to utilize.

Figure 8.7. Algorithm technique implementation.

Source: Image by unsplash.com.

Moreover, the client's site default language will be determined and contrasted with the recovered nation's language, the site's default language will be utilized if they are different.

Besides, after the language has been decided on, the CAPTCHA generation process will proceed onward to the following stage which is choosing the word length of the CAPTCHA. The length of the word is picked randomly from five to eight characters.

Then, the word development cycle will begin by choosing the handwritten characters and twisting them independently. In any case, this step will be done in different manner if the previously decided language is Arabic. At the point when the CAPTCHA word is produced, it is shown to the user in one of adopted languages (Arabic, English, French, and Spanish).

differently if the previously decided language is Arabic. When the CAPTCHA word is generated, it is displayed to the user in one of adopted languages (French, Arabic, Spanish, and English).

8.8. CONCLUSION

This chapter gives an insight to the reader about the psycholinguistic perspectives on bilingualism. In the beginning it discusses a psycholinguistic perspective on development of phonetic category formation in children who are bilingual which includes different aspects such as the speech learning model for phonetic systems in adult bilingual and L2 speakers, linguistic system models in bilingual children, unitary language system hypothesis as well as the dual language system hypothesis.

It also puts emphasis on the bilingualism and self-perception together with the self-efficacy through the veil of two languages. It outlines the cross-language information retrieval using two major methods that are LSI via SDD and LSI via SVD which incorporates the CLIR problem and parallel aligned corpus. Then, it goes on elaborating the cross-lingual and cross-chronological information access to multilingual historic documents which have their traces from the ancient Mongolian manuscripts, information access to Mongolian historic documents, fusion strategies, etc.

This chapter puts highlights the innovative multilingual captcha based on the handwritten characteristics, data gathering as well as preparation. In the end, it illustrates the two distinct types of algorithm technique, they are handwriting characteristics and secondly the implementation of the techniques.

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INDEX

The Social Benefits of Education

This book takes the readers through different aspects of the social benefit of education, its role, the benefits of learning, the role of higher cognition and edification, the role of multilingualism in education. This book sheds light on the several trends prevailing in E-learning, challenges in the school environment, interventions for successful health, as well as the psycholinguistic perspectives on bilingualism. The first chapter stresses on the basic overview of the social benefits of education, the role of education in shaping society, and talks about how education leads to higher income. This chapter will also emphasize how the implementation of education helps in reducing the crime rates, it addresses racism as well, the returns to education differ by race, and it mentions the implicit bias. The second chapter takes the readers through the concepts of all the benefits of learning, such as the cultural and personal advantages of learning. This chapter will provide highlights on the individual benefits from training and development, organizational benefits from training and education, the benefits of learning outside the classroom, family life, and learning. It also focuses on the adult theory and why it is consequential. Then, the third chapter explains the role of higher cognition and edification, the importance of higher education. It also illustrates the challenges to higher education's most essential purposes. This chapter also sheds light on the significance of improving the quality of higher education, along with the culture change for learning. The fourth chapter introduces the readers to the roles of multilingualism in education, the human rights perspective, pedagogical perspective. This chapter also explains the advantages of bilingualism as well as the multilingualism, advantages of societal bilingualism, and the aspects and dimensions of bilingualism and multilingualism. The fifth chapter throws light on the trends in E-learning. It gives an overview of new E-learning. This chapter contains different approaches of E-learning, such as the good, the bad, and the ugly side of distance learning in higher education, improving the student success rate in open distance learning, applying a usability technique, fixing the ready in E-learning readiness, as well as the research study on the importance of gamification. The sixth chapter takes the readers through different challenges in the school environment, academic achievement relation with health, the psychological aspect such as stress and cognition. The readers are then told about the strategies for good academic performance like physical activities and proper sleep. It also sheds light on the bullying in school, and the influence of drugs on cognitive functions. The seventh chapter explains the interventions for successful health, relationships and school success, relationships with peers and teachers. This chapter also emphasizes the prevention of internalized problems of a child, health, and academic achievement, along with the academic self-efficacy approach to learning. The last chapter of this book sheds light on the psycholinguistic perspectives on bilingualism, the speech learning model. This chapter also mentions the linguistic system models, bilingualism and self-perception, cross-language and cross-chronological information access to multilingual historical documents, and addresses the algorithm technique.

This book has been designed to suit the knowledge and pursuit of the researcher and scholars and to empower them with various aspects of social benefits of education, bilingualism, and multilingualism so that they are updated with the information. I hope that the readers find the book explanatory and insightful and that this book is referred by scholars across various fields.

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