Arab American University
Faculty of Graduate Studies

Planning for Change: Bridging the Gap between Secondary Education in Palestine and Future Job Prospects – Ramallah as a case study

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This thesis was submitted in Partial Fulfillment of the Requirements for the Degree of Master in Strategic Planning and Fundraising

November, 2019

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Declaration

I declare that the content of this thesis is my own research work, unless otherwise referenced. I certify that this thesis does not contain any material published before by another person or has been submitted elsewhere for any degree or qualification.

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Dedication

I would like to first and foremost dedicate this research to:

- My beloved wife for being my motivation and sponsor to complete my Master's degree.
- My mother, father and sisters who have always embraced education as the single most important tool to a person's needs in life.
- My Colleagues who always gave me that extra self-confidence.
- Most importantly Dr. Eyad Yacoub, my Thesis Instructor for his constant encouragement and guidance; without him this study may have not been possible
- Finally, the great Arab American University and its staff of Doctors, Scholars, Teachers, Administrators and Employees that really gave us the tools and knowledge to improve ourselves as human beings and intellectuals.

Acknowledgment

First and foremost, praises and thanks to God, the Almighty, for his continuous showers of blessings throughout my research work to complete my thesis and graduate with a master degree, giving me the ability to always move forward and grow with knowledge.

I would like to express my upmost gratitude to my supervisor Dr. Eyad Yaqoub for his continuous support and assisting me with my journey in concluding my thesis with the upmost professionalism.

Finally I would like to acknowledge the academic and administrative staff at the Arab American University whom would support me with all my questions and help me build a brighter future for myself and my beloved family.

Abstract

The Purpose of this study is to investigate the critical problem in Palestine that the educational system is facing in manner of the uneven distribution of educational streams in regards to secondary education. This and the fact that employment opportunities are becoming scarce and demanding sets of skills that have become basic for any job description; we took a closer look into the most crucial factors that would assist in steering education towards needs rather than wants. In our study we investigated entrepreneurship, vocational education, apprenticeship, and flexibility in education and compared attitudes verses perceptions in these independent variables in order to manipulate decision making.

This research is highly valuable for the ministry of education (MOE) in the strategic planning process in order to effectively steer education enrollment towards labor market needs, by studying crucial influential factors that students consider when making decisions in regards to their education. This research can be considered as a broad understanding of the Palestinian educational system and international systems as well as a backup to a series of important questions that will be distributed to students in the Ramallah City area which will be the basis of our analysis and recommendations.

The sample and population used for this study include students in secondary school level education in the city of Ramallah. With a sample size of 250 students between 10th and 12th grade. The study resulted in 5 recommendations that include creating a more flexible education system for youth to have easier access in transferring between vocational and academic education and in enrolling in universities. Second to activate apprenticeship, third for the MOL and MOE to plan together and not individually, integrate more skills in researching, technology, creativity and entrepreneurship and

decision making into the education system. And finally, to influence parents and teachers towards what the country is in need for conserving labor market needs.

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List of Abbreviations

- EDSP: Education Development Strategic Plan
- PCBS: Palestinian Central Bureau of Statistics
- MOEHE: Ministry of Education and Higher Education
- SDGs: Sustainable Development Goals
- EE: Entrepreneurial Education
- DE: Directional Education
- STEM: Science, Technology, Engineering and Mathematics
- OECD: Organization for Economic Co-operation and Development
- PISA: Programme for International Student Assessment
- TVET: Technical and Vocational Education and Training

Executive Summery

By 2022, nearly 50% of companies expect that automation will lead to some reduction in their full-time workforce and new productivity-enhancing roles will be created. As the world around us is changing, are we planning to change ourselves as well?[1]

There is a mutual vision between secondary schools all around the world and that of the Arab American University which seeks to graduate students who far exceed local and global expectations. The University has brought in the best of experience locally and internationally to teach their graduate studies and constructed a magnificent monument to accommodate free exchange of ideas, where research, creativity, innovation and entrepreneurship can flourish[2], but what has our secondary schools in Palestine changed in their methods of teaching, ideology and approach in order to keep up with a progressively shifting of future job requirements?

The purpose of this research study is to plan a brighter future for Palestinians. With unemployment rates escalating in many developed and developing countries, opportunities are becoming scarce. That being said, individual competitiveness is growing between nations for every person's need to acquire financial freedom in one way of form or another. Educational systems all over the world are demanding their schools to reform in such a way that can help provide children with the tools, skills and techniques to match the requirements of the job opportunities of the present and near future, by constantly analyzing what is needed to be taught in schools and changing the curriculum accordingly, also by influencing parents and teachers to influence children to major in academic streams that is needed by the labor market and not what is desired.

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[1] World Economic Forum, "The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution," in *World Economic Forum*, 2016.

[2] "Vision and Mission," ARAB AMERICAN UNIVERSITY, accessed February 22, 2019, https://www.aaup.edu/About-AAUP/Mission-and-Vision.

Palestinian secondary schools in both private and public schools have yet to manage a plan for implemented change. The Palestinian educational technique is best appropriate for the industrial age, teaching our children to obey the laws of the bell, sitting in their seat upright, neatly stacked one in front of the other just like a product assembly line, frowned upon to speak with their classmates and receiving teacher acceptance on graded test scores that measure a student's ability to memorize rather than to philosophize. This research study will assist on planning and implementation on a national level how and what our educational system should look like in the next 5 years. Pinpointing the most important factors that need to be changed, requirements of the present and future employment opportunities and how it can be implemented so that Palestinians can manage to further continue their education and become successful members of society.

A comprehensive investigation on top ascending educational systems around the world will be studied to determine the pros and cons of each educational system and their relation to student success for undergraduate studies and employment. Secondly, the criteria determined as best methods and approaches for educational structuring, skill acquisitions, planning, implementation and monitoring will be cross examined with the Palestinian ministry of education and higher education (MOEHE) with public and private schools in the West Bank to outline crucial areas for change that will ultimately suggest added value recommendations for the Palestinian national secondary educational plan that will improve the wellbeing of the future of Palestinian youth.

Planning a better educational system would greatly benefit the country as a whole. The world is only becoming more difficult in employment and achieving wellbeing that is why it would be valuable to conduct this study as a road map for future planning.

Chapter I: Background

1.1 Introduction

In the proposed research we will be investigating the best methods on planned education. Examining how governments play a crucial role in steering youth towards education that is relative to market needs through two main vehicles; ministry of education (MOE) and ministry of labor (MOL).

The Palestinian education system by nature is motivating students to enroll themselves in either literary or scientific streams of Injaz which was previously called tawjihi, which is the state examination for secondary students in Palestine. Even though there are other streams being promoted and available for the youth to enroll in, there must be a problem because less than 10% register in vocational and other streams. This in turn does not help unemployment and the cluster of graduates are being influenced to continue their education in that of the same fields.

This research will shed light to the future of learning in secondary schools. The MOEHE has developed the education development strategic plan (EDSP) for the years 2014 – 2019 that is an overall plan for the entire educational system and which the researcher will take into consideration when comparing it with other renowned countries in education. The research will in specific, study the skill being learned in relation to future job prospects and the different methods to steer society in the direction of education that the labor market is concerned with.

For this, the main question of this study will be revolving around the following question:

What impact does Directional Education have on the Palestinian Educational System in Relation to the Labor Market?

1.2 Significance of the Study

The importance of this study is to gather concepts and theories related to directional education and examine them with the Palestinian educational plan to better apprehend what common attributes if any are found and how the government can direct our youth to gain knowledge and skills in fields that we have scarcity in and also cross-examine the determinants that motivate and influence our youth to approach different fields of learning.

Furthermore, the study will gather directional education theoretical framework to reach an intuitive understanding of the main influential factors in educational planning and decision making in education paths. The study will provide conclusions and recommendations that will benefit decision makers in developing national education plans and policies and finally the study will provide an abundant reference paper for directional education.

1.3 Problem Statement

In Palestine more than 90% of youth enroll in either scientific or literary streams for the injaz secondary exam that qualifies them to further continue their academic education afterwards in a variety of universities. Meaning less than 10% are registering for commercial, agricultural, industrial, hotel, technology and economic streams according to the Palestinian central bureau of statistics.[3]

The Palestinian ministry of education and higher education in their education sector strategic plan for 2017 – 2022 commented on the very low percentage of only 3% from the total number of enrolled students at a secondary education level for 2015/2016 as a key challenge that they are facing that constitutes for an ever growing gap between education and labor market needs in skills. In addition, they have referred to Injaz (previously called tawjihi) as a real problem in its ability to measure skills and knowledge, rather it is an examination based on memorization.4

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[3] "PCBS | Education," accessed February 11, 2019, http://www.pcbs.gov.ps/site/lang__en/708/default.aspx.

According to the PCBS's latest press release (April – June, 2018) on the results of the labor force survey announced that unemployment in Palestine has reached 19.1% in the West Bank of which 49.9% among youth aged between 20 – 24 years of age.[5] These numbers are very alarming and unemployment is one of the main reasons for migration to other countries where people are seeking to look for employment opportunities aside from political conflict and education.[6]

Studying the policies set forth by the ministry of education and higher education to influence diversity in secondary educational streams enrollment namely speaking, directing the youth to more reasonable education aligned with labor market demands and to assess the skills attained in Palestinian secondary education to compete for employment opportunities locally and abroad will help us evaluate the Palestinian educational system and practical policies that would improve youth employability. Thus, the problem of the study can be defined in the following statement:

“Uneven distribution in educational streams, has led us to investigate what factors influence directional education to steer Palestinian secondary students towards labor market needs.”

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[4] “EDUCATION SECTOR STRATEGIC PLAN 2017-2022” (Palestinian Ministry of Education and Higher Education, April 2017).

[5] “PCBS | PCBS : Press Release on the Results of the Labour Force Survey Second Quarter (April – June, 2018) Round,” accessed February 22, 2019, http://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=3212.

[6] “Migration,” August 24, 2018, http://www.un.org/en/sections/issues-depth/migration/index.html.

1.4 Objectives of the Study

The Palestinian Ministry of Education and Higher Education is the sole representative of Education in Palestine. The MOEHE mission is to provide education for all Palestinians and to continuously improve its quality and standards in order to meet the needs of learners in order to adapt to the changing requirements of the present and near future.[7] The Ministry's Plan has recognized the every growing need for its educational system to be compatible with the labor market and refers to their continuous collaboration with the Ministry of Labor. They are aware of the changing skill requirement in employment that have been imposed due to new advancements in technology and globalization. And they are alarmed by the significantly low numbers in vocational education. The purpose of this study is to examine the current situation, policies and future plans undertaken to resolve the above mentioned difficulties.

Therefore, the main objective of this study is as follows:

Assess Directional Education key indicators on the Palestinian Secondary Educational System in respect of present and future market needs.

From this main objective the following sub-goals can be derived:

1. To examine the compatibility of the Palestinian Secondary Education System with Directional Education.
2. To demonstrate how directional education could affect student's decision making when enrolling themselves in scientific, literal, vocational or other streams.
3. To examine whether or not directional education can be used as a powerful tool to diversify education in Palestine.

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[7] "Vision and Mission - Ministry of Education and Higher Education, Palestine," accessed February 22, 2019, https://www.mohe.pna.ps/moehe/visionandmission.

4. To investigate the skills secondary students are being engaged with in education that fit labor market needs and decision making.
5. To explore the relationship between the study's independent and dependent variables.

1.5 The Research Questions and Hypothesis

Many different questions have been raised after exploring deeper into the literature that has been researched, these questions would give a clearer understanding of the most important aspects related to directional education. After a review of the main problems that are faced by the society in this context, it would be of great significance to answer the following questions:

The first main research question: How can directional education be used as a tool to steer Palestinian secondary students and the educational system towards labor market needs?

Sub Questions:

1. Is there an alignment between skills being taught at a secondary level with needed labor market skills suitable for present and future employability and its effect on decision making?
2. What impact does entrepreneurial education have on student preference for secondary educational streams and would it diverse their perusal in educational and future career options?
3. What impact would apprenticeship programs have on student educational preferences?

4. How do Palestinian youth view vocational education and what key aspects on this matter affect their decisions?
5. How would the flexibility of educational structure towards continuing education impact student educational stream diversification?
6. Who are the key influencers on educational decision making by secondary students?
7. What is the relationship between the study's independent and dependent variables?

The second main question: Is there an alternative hypothesis (H_1) proving that the independent variables of acquiring new skills, entrepreneurial education, apprenticeship, vocational education opinions, flexibility in educational system have a significant impact on diversification of streams in secondary education

Out of our second question the following hypotheses are derived:

Hypothesis 1:

There is a significant relationship between school type and new skills of the 21st century.

Hypothesis 2:

There is a significant relationship between academic streams in secondary education and perception towards entrepreneurship

Hypothesis 3:

There is a significant relationship between academic streams in secondary education and the level of student’s perception towards (apprenticeship) practical and vocational education

Hypothesis 4:

There is a significant relationship between academic streams in secondary education and the level of flexibility in the Palestinian educational system.

Hypothesis 5:

There is a relationship between the academic stream of students and the academic stream of their parents and teachers preference

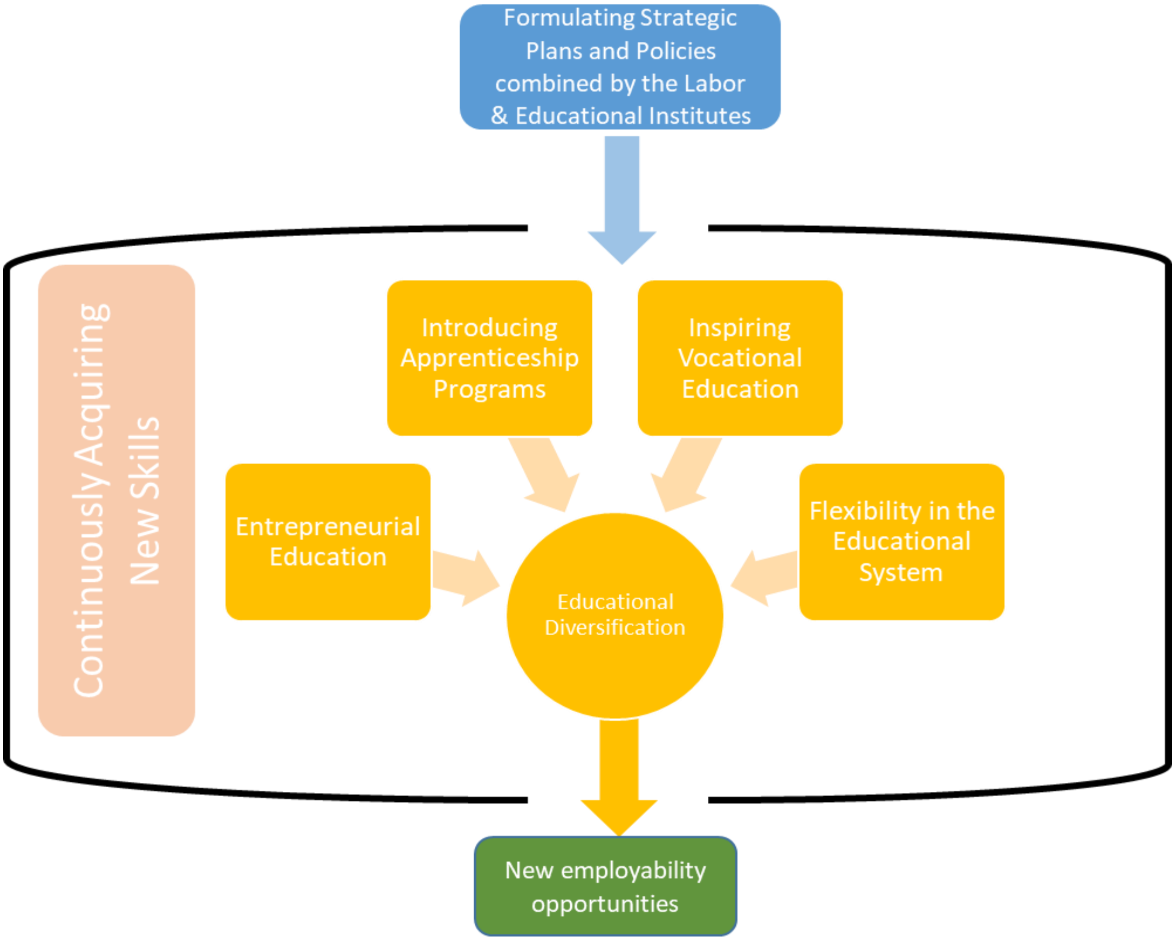
Hypothesis 6:

There is a positive effect for acquiring twenty first century skills, perception towards entrepreneurship, and flexibility in the education system on the perception towards practical and vocational education.

1.6 Conceptual Framework

Below in figure 1. A conceptual framework has been developed for the study given previous knowledge and theories studied in the literature with the additional observation on the subject at matter of the researcher from the researcher’s point of view.

Figure 1. 1: Conceptual Framework


Formulating Strategic Plans and Policies combined by the Labor & Educational Institutes
Continuously Acquiring New Skills
Introducing Apprenticeship Programs
Inspiring Vocational Education
Entrepreneurial Education
Flexibility in the Educational System
Educational Diversification
New employability opportunities

1.7 Scope and Limitations of the Study

The study will focus primarily on the education sector strategic plan (2017 – 2018) with secondary schooling in Ramallah Governance of the West Bank of Palestine. In particular, the focus of the study will be on perceptions and behaviors developed by secondary students on the educational structure, diversity of educational streams, 21st Century skills and employability. The study will review governmental institutions, non-governmental institutions, and private sector and Palestinian youth.

1.8 The Study's Community

The research community will be consisted of youth enrolled in secondary education from the population of Ramallah Governance from the West Bank. Our questionnaire will be completed by students ranging between 9th and 12th Grade, females and males, along with being distributed to private and government schools.

1.9 Definition of Terms

Secondary Education:

Secondary education is a stage of education that is after primary education. In Palestine, it is considered within the basic education segment as a subdivision and is an intermediate stage before entering higher academic education; that is, prior to college or university.

Injaz "Tawjihi":

Injaz which was previously name or called Tawjihi is the state examination that is mandatory on all students who finish their secondary education as an evaluation certificate on how well they have gained knowledge from their education. The passing or failing of this exam is a student's acceptance or rejection to continue their education in college and/or university with consideration to the score that has been earned.

Employability:

Employability is the mix of skills and abilities that a person has that increases their eligibility to acquire work and maintain employment.

Labor Market:

Labor market is the actual market where supply of employees meet the demand for work labor by the employers, accordingly to the supply and demand; in addition to taking into consideration that the people with the best of skills are initiated for recruitment first.

Directional Education:

Directional education is the plans, policies and decisions taken by the MOE as a governmental institute in a country with consideration of needs in the labor market to manipulate the decisions made on education by society that best benefits the interest of the citizens, the economy and the country as a whole.

Higher Education:

Higher education is the educational stage that follows secondary education, which is provided by colleges and universities and end with a certificate in a Diploma, Bachelor’s Degree, Masters and PHD respectively.

Entrepreneurial Skills:

A set of qualities that a person obtains through gaining skills related to creativity, decision making, persuasion and educated risk taking that empowers and motivates ones interest in starting up a business for profit rather than work for income.

Apprenticeship:

Is a form of job training that a person seeks to gain experience and knowledge from work rather than from school and can be seen as an added value to education for future employment.

Virtual Employment

Work that is done outside of the traditional office space of a company and is related to self-employment for activities required by a company that considers outsourcing as a better cost efficient opportunity

Chapter II: Literature Review

2.1 Educational System

There are many different understandings of education. For the purpose of this study, we will use Peter's broad definition which he mentions in his book "Education and Ethics". He describes education as a task of achievement that aims to enlighten a person with knowledge, skills and set of new experiences by understanding and learning from other people or situations.[8] The United Nations consider it as a tool; further explained below in their sustainable development goals (SDGs) education, can be considered as a major factor and tool to achieve many other SDGs such as poverty eradication, health, income generation and even act positively on climate change by lowering pollution levels. For the purpose of our study, we will define education as the process by which a person or group of people receive a set of skills, knowledge and experience through the process of learning in order to achieve individual development and better overall wellbeing.[9]

Many countries have different approaches to ensure that their citizens receive the right education that they need. These approaches are derived from the policies that they decide on that formulates the overall educational system that best suites the needs of their community. In order to compromise a well-developed educational system there is a need to first collect appropriate data, evaluate and continuously review existing programs, constantly reviewing studies and most importantly exploring the future to guide educational policy and decision making. The main key stakeholders in any educational plan or policy are parents and teachers. Policies can be formulated and then through strategic planning can be implemented, evaluated and redesigned. One of the key factors to a successful thought out plan is to include trends in the various sectors in the future and the financial resource of the country in order to best evaluate what the economy requires from the education sector.[10]

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[8] Richard Stanley Peters, *Ethics and Education (Routledge Revivals)* (Routledge, 2015).

[9] "Sustainable Development Goals," UNDP, accessed February 11, 2019, http://www.undp.org/content/undp/en/home/sustainable-development-goals.html.

2.1.1 Sustainable Development Goal

Development in its simplest forms can be understood as the improvement of the human quality of life or welfare for present and future generations. The quality of life can best be improved through three main indicators education, health and income. These indicators are most often interrelated with one another and effect the overall wellbeing of an individual, society and environment as well. As Dr. Barbier referred to (chambers, 1986b p.7) Poor people in their struggle to survive are driven to doing environmental damage. [11]

Sustainable Development Goals (SDGs) are a set of 17 global goals that the United Nations have issued as an action plan to end poverty and guarantee that every person can live in peace and prosperity and protect the planet. Almost all 17 goals are considered to be interconnected with one another and related to each other in order to reach a unified framework to tackle the most important issues facing all countries around the world in a joined effort. [12]

The fourth goal from the 17 established goals is quality education. To ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. In their framework to achieve quality education, education has been referred to as the most unique defined goal that can directly achieve all other SDGs most notably in health, growth and employment as well as sustainable consumption, production and climate change. They have defined in 10 different targets toward achieving this goal, but one target stands out exceptionally for the purpose of this study. Target 4.4 encourages the increase in the number of youth whom have relevant skills both technical and vocational that would assist in the employment of decent jobs and entrepreneurship. They have openhandedly related technical and vocational education with employment of decent jobs and have emphasized the importance of entrepreneurship as an official educational target that would help in employment. [13]

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[10] Wadi D. Haddad and Terri Demsky, *Education Policy-Planning Process: An Applied Framework. Fundamentals of Educational Planning 51.* (ERIC, 1995).

[11] Edward B. Barbier, “The Concept of Sustainable Economic Development,” *Environmental Conservation* 14, no. 2 (1987): 101–110.

[12] “Sustainable Development Goals.”

Sustainable Development Goals however, can only be truly defined in practice. It requires many interventions in the form of indicators, close monitoring, evaluation and renewal for it to be attained and sustainable throughout time and ever changing technological advancements. It is a common interest of the entire world but should be viewed in individual ownership form to ensure its implementation within a group effort concerning policy makers, institutions and social movements within the state.[14]

2.1.2 Palestinian Education System Overview

The Palestine education system in reference to the Palestinian education plan 2017 - 2022 is divided into four main sections[15]:

1- Pre-School Education

2- Basic Education: From first grade through ninth grade is divided into two stages

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[13] "Education 2030: Incheon Declaration and Framework for Action for the Implementation of Sustainable Development Goal 4: Ensure Inclusive and Equitable Quality Education and Promote Lifelong Learning... - UNESCO Digital Library," accessed February 10, 2019, https://unesdoc.unesco.org/ark:/48223/pf0000245656.

[14] Robert W. Kates, Thomas M. Parris, and Anthony A. Leiserowitz, "What Is Sustainable Development? Goals, Indicators, Values, and Practice," *Environment(Washington DC)* 47, no. 3 (2005): 8–21.

[15] "EDUCATION SECTOR STRATEGIC PLAN 2017-2022."

- First stage of basic education (Grades 1-4) also known as the preparation stage. This primary stage of basic education is the foundation stage that ensures balance and development of personality (mentally, emotionally and physically)
- Second stage of basic education (Grades 5 – 9) also known as the empowerment stage. This stage is designed to enable children to acquire an expanded base of knowledge and sciences.

3- Secondary education (Grades 10 – 12) also known as the acquisition stage. Students have the choice to continue in their secondary education through three different streams academic, vocational or technical. They join these streams according to their capacity and inclination and in accordance with the law and regulations governing this process. It is aimed at assisting students to start their practical and university lives, as it is a bridge between basic education, higher education and the labor market.

4- Higher education: It is the higher stage of education served by universities, academic and technical colleges that would provide those who finish their accredited hours with a university certificate.

5- Non-formal education: An educational activity outside the constructs of the education structure of schools and universities, through institutions such as non – governmental organizations, factories, and other institutions.

The Palestinian educational system with respect to the Palestinian MOEHE has a total of 1.2 million Palestinian youth enrolled in both primary and secondary education that includes the West Bank, Gaza and Jerusalem. These students are spread across 2,298 schools that are either registered as UNRWA, private schools and public schools. The below figures reflect over 82% of the students enrolled in primary stages and the remaining 18% being enrolled in secondary educational levels. In reference to gender equality between males and females overall there is more female students to male student at 55% to 45% respectively.[16] الكتاب الإحصائي التربوي السنوي للعام الدراسي 2017 – 2018

Table 2. 1: Number of Palestinian Children Enrolled by Gender

Education Level	Schools	Male Students	Female Students	Total Students
Primary Education	1,795	517,749	504,334	1,022,083
Secondary Education	1,201	102,848	128,307	231,155
Total	2,996	620,597	632,641	1,253,238

Source: MOEHE, Gender vs. Educational Level

2.1.3 Types of Secondary Streams in Injaz

Focusing more on secondary education, there have been many new developments in the Palestinian streams made available for secondary education. In the past, there were only two main streams for secondary students to select from, either to enroll as literary or scientific streams. Today the MOEHE offers nine different categories for students to choose from. There are currently about 85 Thousand students registered in the 12th grade which is the final year of education in the secondary stage preparing students to take the state general secondary exam "Injaz" that will qualify them to have the opportunity to register themselves in either one of Palestine's post-secondary educational institutes that consist of 15 universities, 18 university colleges, and 20 community colleges.

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[16] "Publications and Studies - Ministry of Education and Higher Education, Palestine," accessed February 11, 2019, https://www.mohe.pna.ps/general-education/general-education/Brochures-and-Studies.

Two thirds of Palestinian secondary students that sit for the state general secondary exam “Injaz” pass the exam with a minimum passing grade of 50%. Shockingly 90% of Palestinian students enroll themselves either under scientific or literary streams, with less than 10% compromising for the additional 6 streams that were added to the secondary education system.[17]

Table 2. 2: General Secondary Compulsory Exam Streams

Secondary Stream	Percentage of Students
Scientific	27.92%
Literary	60.15%
Commercial	7.75%
Agricultural	0.12%
Industrial	3.23%
Religious Studies	0.19%
Hotel and Hospitality	0.14%
Home Economics	0.44%
Technology	0.05%

Source: MOEHE, Educational Streams

Which leads us to one of the main research questions for this thesis, why and how can it be resolved.

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[17] “PCBS | Education.”

2.2 Future Job Prospects

2.2.1 The Future of Jobs Globally

Automation, innovation and technology three terms the future of jobs cannot but be considered as a basic attribute for what lies ahead. According to a survey and study that has been researched by the World Economic Forum business, in the close future of 2022 will advance in four specific advances concerning technology: artificial intelligence, big data analytics and cloud technology, universal high speed mobile internet.

There will be a clear expectation of shift in work load from human to automation and demands for professional experts will most likely increase in areas related to software & application developers, social media specialists, customer service workers, sales and marketing professionals, data analysts, scientist, trainers and innovators.[18]

This is not a red alert to total artificial intelligence domination. There are many tasks that robotics currently can't do and most likely will not be able to do in the coming future. Humans do have an advantage over robots on psychological processing where we as humans get our creative intelligence to come up with valuable and unique ideas. Another big score for human race is our social intelligence which involves negotiation, persuasion and care of one another. In addition to psychological processing and creativeness, we as human beings also have the gift of perception. Cluttered and small spaces is not a robot's most desirable environment because it is hard for them to collectively understand objects in spaces. Technological advances are testing and modifying their abilities in large open spaces where they are improving very fast such as in large warehouses, factories and airports. So can we derive the most popular job roles of the future from the intelligence that we are most unique for as humans.[19]

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[18] Forum, "The Future of Jobs."

2.2.2 Socio-Economic Development in Palestine

According to the United Nations Conference on Trade and Development (UNCTAD) Palestine is far from any sort of development, in the past few years the exact opposite of development is vastly impacting society and economy. With almost being at the verge of collapse the Israeli occupation is only pressuring the Palestinian Authority more and more.

The Palestinian economy deteriorated between 2018 and 2019 drastically as the income per capita fell more than 1.7%, with about one in every three Palestinian not being able to find a job unemployment is sky rocketing and poverty only deepening.

Palestinian Manufacturing has shrunk from 20% to 11% from the gross domestic product from 1994 to 2018 and agriculture and fishing plummeted below 3% from 12%. This has only been made possible by the occupation when in the West Bank alone there are over 705 permanent physical obstacles handicapping the movement of Palestinians, workers and goods. Out of the West Bank the Palestinian market is also isolated from the rest of the world, Israel has made it more than difficult for trade with the outside world, making Palestinians rely on Israel the occupier than on themselves.[20]

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[19] Carl Benedikt Frey and Michael A. Osborne, "The Future of Employment: How Susceptible Are Jobs to Computerisation?," *Technological Forecasting and Social Change* 114 (2017): 254–280.

[20] "Report on UNCTAD Assistance to the Palestinian People: Developments in the Economy of the Occupied Palestinian Territory," n.d., 15.

2.2.3 Entrepreneurship an Alternative Solution (Remote Employment, Virtual Employment and Free Lancing)

Entrepreneurship Education (EE) is an important feature regardless of economic circumstances that is not confined to boundaries of shortage in job opportunities because in contrast it creates opportunities through its activation creating economic growth with in communities. It not only develops new skills related to creativity but also creates new jobs and career opportunities. All students can benefit from receiving new forms of education even if not all students will become entrepreneurs and follow through to eventually open their own private micro small to small business that would, if given the appropriate resources grow to become medium sized business. The benefits are numerous over the lifetime during their career as this type of educational system influences knowledge, attainment of new skills, competences and attitudes in which would also be essential for career development and business development even as an employee in an organization.[21]

In the study undertaken by Sanchez that address the impact of an entrepreneurship education program on entrepreneurial competencies and intention they confirmed in their study that the EE program positively impacted students to have higher self-efficiency, pro-activeness, risk-taking propensity, and intention to become self-employed higher than before they were enrolled in the program. [22]

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[21] Mário Raposo and Arminda Do Paço, “Entrepreneurship Education: Relationship between Education and Entrepreneurial Activity,” *Psicothema* 23, no. 3 (2011): 453–457.

[22] (Sánchez, 2013)

2.3 Integrating Education and Labor

2.3.1 Education and Employability

Due to globalization, there is an increase in competition between countries on the quality of their workforce, higher levels of education and quality of education are necessary so that people can be considered for a full time job. Having a diploma, finishing your secondary education or even higher education is not a golden ticket to employment but it is the best investment a family could make to prepare their children for the future. All these demands in the market are what fuel our educational system to continuously achieve new approaches and methods to increase the quality of education. On the contrary, governments are pressured on reducing taxes which in turn reduces total educational expenditure.[23]

The dilemma between academic education and vocational education in relation to employability can best be defined in the opportunity cost-benefit analysis with consideration of risk. Young people face a dilemma in choosing between perusing an academic education on the mere hopes that they would later find a good paying job in their field of study and would ultimately have climbed the latter to success and gain a prestigious career. The drawback would be if they unsuccessfully attain their academic education which would mean more money and time spent to later hold a lower skilled job that that would lead to a dead end employment for the sake of employment. [24]

As we previously mentioned education is closely related with almost all other sustainable development goals. The eighth SDG mentioned in the United Nations

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[23] T. M. Bray, *The Shadow Education System: Private Tutoring and Its Implications for Planners* (UNESCO International Institute for Educational Planning., 1999).

[24] Colin Crouch, “Skills-Based Full Employment: The Latest Philosopher’s Stone,” in *Vocational and Adult Education in Europe* (Springer, 1999), 29–47.

General Assembly in 2015 is decent work and economic growth.[25] Education is a key factor for work, more precise decent work through employability. Employability has many different definitions for the purpose of this study we will define it in the sense of the International Labor Organization they tend to describe this term as a smooth transition into the work force by the development of skills, policies and systems associated with labor market needs.[26]

2.3.2 New Sets of Skills and Techniques

The sustainability of jobs to computerization is retreating year after year. With technological advancements happening so quickly there has been a strikingly fast takeover of jobs by machine learning and mobile robotics. In Carl Frey and Michael Osborne's 2013 module, they have examined over 702 detailed occupations and elaborated on their prediction that most workers in transportation and logistics occupations will both with administration and labor in production occupation are of risk to losing their jobs in the years to come with advancements in computerization. Their findings also imply that the race ahead will be for low-skill workers to redirect their skills toward non-susceptible to computerization tasks such as creativity, social skills and social intelligence as well as persuasion. [27]

It is not easy to simply list down the skills and techniques needed for future employment, because life expectancy of these qualifications are too short, they are ever changing so quickly due to continues advancements and changes in the market supply and demand. Because it is hard to predict it is best to emphasize on flexibility in functioning as a key criteria. Though there are three schools that we can consider for the purpose of this study on how to best provide our youth with the appropriate set of skills and techniques to be able to further extend their illegibility for employment:[28]

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[25] "Sustainable Development Goals."

[26] "Skills, Knowledge and Employability," accessed February 11, 2019, https://www.ilo.org/global/topics/skills-knowledge-and-employability/lang--en/index.htm.

[27] Frey and Osborne, "The Future of Employment."

- System of Apprenticeship: on the job training in parallel with classroom work and reading, it would help enable practitioners to gain a license to practice a certain profession
- Internship System: provide vast opportunities for employment with minimal pay or without for a limited time period for organizations to be able to filter and recruit according to their needs.
- Mixed Approach: combines the above two options one after the other allowing for a longer more aggressive filtering system, mainly used in Japan.

Avil Beckford founder of the invisible mentor wrote in the Forbes magazine an article depicting her insight on what skills will be needed in 2020. They listed 10 different skills that basically revolved around critical thinking, problem solving, creativity, social intelligence and service orientation. But Avil further elaborated on additional skills she finds as basic needs to comprehend with future changes:[29]

- Learning How To Learn
- Speed Reading and Reading Intelligently
- Note-Taking
- Analyzing Information
- Spotting Patterns and Trends
- Communicating Written and Oral

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[28] Crouch, "Skills-Based Full Employment."

[29] Ellevate, "The Skills You Need To Succeed In 2020," Forbes, accessed February 11, 2019, https://www.forbes.com/sites/ellevate/2018/08/06/the-skills-you-need-to-succeed-in-2020/.

- Understanding and Leveraging Technology
- Cultural Awareness and Sensitivity

The above mentioned list covers a wide variety of different skills that should be infused into the national educational system. It would help give the tools for young people to be able to become more employable in the labor market today and in the future. Many organizations are looking for basically two types of skills soft and hard skills, tangible and intangible. These skills have been reported in Jane Andrews and Helen Higson's study on graduate employability after studying a list of four European countries and 67,000 students; they were able to divide them into three main categories that best depict what organizations find influencing for employability and those that students found as best helpful in their work environment.

- Acquisition and Application of Knowledge
- Interpersonal Competencies (written, presentation and communication skills)
- Work Experience and Work Based Learning

Applying these skills increase employability opportunities and vastly help the average graduate to be more effective and efficient in the work force allowing for potentially faster career development.[30]

2.4 Directional Education

2.4.1 Defining Directional Education

As previously mentioned in the literature review, there is an ever growing concern by students to attain preferred education that would develop the skills and knowledge for them to compete in the workforce today and the future. These skills begin development in the early stages of primary education and more specific in secondary education and often lead a person to continue in a specific field of post-secondary education. Governments have a constant desire for economic growth and development, they look forward to being able to provide their youth with key characteristics that are needed and matched with the workforce market decreasing unemployment in order to create better overall well-being.

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[30] Jane Andrews and Helen Higson, "Graduate Employability,'Soft Skills' versus 'Hard'Business Knowledge: A European Study," *Higher Education in Europe* 33, no. 4 (2008): 411–422.

In many literatures, papers and studies this is referred to in specific frameworks as strategic planning that will later be better defined in section 1.4.1. Others tend to call it educational design, employability and/or policy. For the sake of the conceptual framework that lies ahead in chapter 3, we will be using the terminology Directional Education. Where governments interact specific policies for the purpose to direct their youth between vocational and academic education depending on the workforce market requirements to ensure future employability.

So why directional education? Because regrettably many young people have poor decision making skills and more precisely when these decisions are made on the basis of their background information of why they choose to study what they do. Studies have shown that youth are not well informed about the employability of certain studies, the wages associated with what they are studying, and almost half are not familiar with the market conditions and requirements in their line of study.[31]

2.4.2 Impact of Directional Education

While education alone has a positive impact on almost all aspects of life and the 17 SDGs that have been developed by the United Nations in 2015 that will predominantly provide for a better future for Palestinian youth protecting them from poverty, child marriage, child labor and any more immoral situations.[32] Directional education has a more specific positive impact on youth and economy in developing and developed countries alike. DE will better equip our youth with the appropriate ongoing dynamic change of the skills and knowledge that they will receive in the education during primary and in more specific secondary education. Because DE is constantly changing according to new research, economic and labor market. Its impact on the economy would also be positive for the mere fact of focusing the country education system to emphasize a particular stream that is in need or shortage of keeping the labor market always saturated with qualified and employable youth.

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[31] Mona Mourshed, Diana Farrell, and Dominic Barton, *Education to Employment: Designing a System That Works* (McKinsey Center for Government, 2013).

In Palestine, it is clear to say that there is no educational planning worth mentioning, as an indicator of directional education; we can consider either equal enrollment between various fields or enrollment in specific fields according to market needs but the table below shows there is none of the two referring to rationality in related majors. STEM (Science, Technology, Engineering and Mathematics) combined accumulated to only 6% of the total number of graduates in 2016. Media, Communications and Art also combined do not exceed 6% and Business Related Fields hold the majority of enrollment reaching about 23%.

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[32] “Education,” accessed February 12, 2019, https://www.unicef.org/education.

Table 2. 3: Palestinian University Graduate Breakdown, 2016

Major/Field of Study	2016 Graduates	Share of Graduates
STEM	2,679	6.15%
Business Related	9,967	22.89%
Media, Communications, Art	2,847	6.54%
Other	28,051	64.42%
Total	43,544	100.00%

Source: MoHE, breakdown of field of study in universities

2.5 Strategically Planning Education and Labor

2.5.1 Defining Strategic Planning

There are many understandings for strategic planning each expressed and viewed in differently. Some define it as a process or activity to attain an end goal by prioritizing and efficiently using resources to ensure end results. For the purpose of this study, Mintzberg Harvard Business Review on the "fall and rise of strategic planning", as he expresses Strategic Planning is a combination of actions that comprise a single goal oriented objective. It is a mix of "Strategically Thinking" and "Planning". Strategically thinking is to think creatively and intuitively on a certain matter that would ultimately articulate a not too clear vision of direction. Planning on the other hand is a systematic based programming of events step by step in relation to information, data and analysis to configure and invent new categories according to ever changing environments.[33]

In respect to the literature review and our aim to construct a directional education concept that integrates secondary education with labor planning we will be reviewing the Palestinian Educational Plan for 2017 – 2022 to pinpoint key factors that involve directing education towards labor market. We will also be reviewing countries that have been rated in the top 10 countries in education around the world to gain basic knowledge of their experience and success.

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[33] Henry Mintzberg, "The Fall and Rise of Strategic Planning," 1994.

2.5.2 National Secondary Education Plan

After reviewing the Palestinian education strategic plan 2017 – 2022 the following notes are worth mentioning[34]:

- It is said that there is great cooperation between the MOL and the MOE within the framework of the High Council for Vocational and Technical Education in order for this education and training to be well promoted.
- The MOL provides services at vocational training centers for dropout students.
- The labor sector is closely related with the educational sector in regards to developing technical and vocational education, adapting skills and competences of secondary education to the current and future labor market needs.
- The education sector is closely connected with the economic sector in terms of skill and facilitating “school to work” preventing mismatching with the labor market.
- The MOEHE moves towards digitalizing education to make education based on four components related to infrastructure and the fourth component the training and rehabilitation of teachers.

The strategic plan revolves around three main overall goals:

1- Ensuring safe, inclusive and equitable access to quality education at all levels of the system.

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[34] “EDUCATION SECTOR STRATEGIC PLAN 2017-2022.”

2- Developing a student-centered teaching and learning pedagogy and environment that aims to ensure quality education, improve outcomes, promote evaluation and set fourth progress measuring mechanisms.

3- Enhance accountability and result based leadership, governance and management. The MOEHE seeks to strengthen monitoring and organizational role in the education sector by institutionalizing the educational strategic planning process and ensure proper application of the plans and policies.

For the purpose of our study we will be further examining the following key policies and strategies to be:

- Align education system outputs with individual student needs in order for them to pursue further education or positively engage themselves in the community development.
- Conduct a thorough and comprehensive reform of the general education curricula and assessment and evaluation system to equip students with the 21st century skills.
- Expand options and opportunities available to students in the secondary level by raising awareness of the academic and vocational capabilities.
- Create balance between the rates of students enrolled in education streams (science, humanities and vocational)

In the plan they have indicated that studies show society's perception of vocational education as not positive and that the majority of students and families prefer academic education. In order to reach success and sustainability in vocational and technical education the following policies must be enforced:

- Developing partnership and networking among governmental and non-governmental vocational education institutions and labor market institutions in two governorates every year.
- Promote awareness of students, teachers and the local community about the importance of vocational education by conducting awareness raising activities, implemented in partnership by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) a German public benefit organization.
- National apprenticeship strategy to be circulated to all vocational schools
- Facilitating vocational stream students’ enrollment in universities by providing more vocational majors.
- Enhance cooperation opportunities with the private sector by encouraging them to invest in education.

2.6 Educational System Approach – Another Point of View

Educational systems vary from one country to the next. Apart from the pack there are a few countries that have gained considerable achievements in education and would be a valuable asset to this research to review in order to gain the experience of others of these countries according to the latest surveys conducted by the Organization for Economic Co-operation and Development Programme for International Student Assessment (OECD PISA) report are Singapore, Japan, Estonia, Canada and Finland[35]. For the purposes of this study it is worth further mentioning the key aspects of the Finnish educational system, the Singapore education system and the German Technical and Vocational Education and Training (TVET) system that make them unique in every way that they are.

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[35] “Singapore Tops Latest OECD PISA Global Education Survey - OECD,” accessed February 20, 2019, http://www.oecd.org/education/singapore-tops-latest-oecd-pisa-global-education-survey.htm.

2.6.1 The Finnish Approach

The Finnish Educational System Consists of Early Childhood, Pre-primary education, Basic Education, after the state examination in either academic or vocational students are eligible to continue their bachelor’s degree and later Master’s degree in either or universities or applied universities and finally doctoral degree from universities. Education in Finland is free from childhood care up to bachelor’s degree. Most educational institutions are publicly funded, those that are privately owned follow the curricula and requirements of the country. Finnish universities are almost entirely independent corporations under public law. Local administration play a key role in educational institutions whether they be public or private, Education Policy is the responsibility of the Ministry of Education and the Finnish National Agency is responsible for the implementation of those policies. Local administration is under the authority of the municipality whom make decisions on allocation of funding, local curricula and recruitment of personnel in coordination with the principal of the public schools. Quality assurance is based on steering instead of controlling, in Finland there are no school inspections rather they use the ideology to steer through information, support and funding. There is a yearly national evaluation on outcomes of learning in comparison to the national plan, learning is evaluated on language, mathematics, arts and crafts. These evaluations are not used to rank the schools but rather evaluate their accomplishments in consideration to the national plan. In Finland the educational system is single structured meaning basic education is not divided into sub-sections of primary and lower secondary, only in the last three years are specialist teachers in subjects introduced to students. Both general and vocational educational learning gives students eligibility to continue in higher studies. Vocational education and training is organized in cooperation with the world of work, vocational study scope consists of a minimum of three years study and a minimum of half a year on-the-job training. [36]

The Policies used to upgrade the Finnish education are based on fairness, creativity, professional teacher and trust unlike other countries who structure their policies around accountability and vigorous state exams. After Finland passed through an economic crisis in the early 1990s with an exploding unemployment rate from 4% - 18% the education system redesigned itself to foster innovation, research and development, information and communication technologies. They increased their focus on literacy and numeracy that included reading, writing, mathematics and natural sciences, in addition to encouraging teachers and students to try new ideas and methods in teaching and learning through innovations and cultivate creativity in schools, this and with a mixture of continual adjustment of schooling to the changing needs of individuals and society is what made the Finnish educational system so great. [37]

2.6.2 The Singaporean Approach

After the economic recession in 1985 – 86 the Ministry of Trade and Industries in Singapore requested that education for each individual should be developed in the form of creativity and flexible skills so that Singapore can maintain their competitiveness in the global economy. Soon after the educational system began working on increasing school autonomy giving them control over management, recruitment and management in addition to interschool competitiveness inspiring schools to compete between one another for better financing and support by the Ministry of Education. On a Curricula front the Singaporean approach had two main initiatives on curricula for basic education[38]:

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[36] "Finnish Education in a Nutshell" (Finland Ministry of Education and Culture, 2017).

[37] Pasi Sahlberg, "Education Policies for Raising Student Learning: The Finnish Approach," *Journal of Education Policy* 22, no. 2 (2007): 147–171.

1- Thinking Schools, Learning Nations: The focus of this strategy was the developing of students to become active learners with critical thinking skills and developing a school culture that would foster the initiative. The strategies undertaken where to include explicit teaching of critical and creative thinking skills, reducing subject content and greater weight on process rather than outcome.

2- Master-plan for Information Technology in Education: this initiative focuses both on using technology in teaching and learning in addition to actually learning information technology.

2.6.3 The German Approach

Internationally, Germany is appraised for their vocational education system that is generally seen as an effective way to create a skilled labor force and to assist youth in their shift from school to work. They are best known for their dual system between education and apprenticeship training, where they have graduated over 600,000 young people in hundreds of different occupations annually that has given them a well renowned title between all countries for their productivity and quality. The German Vocational Education System is very much closely related to their secondary education system where as early as ages of 10, children have the choice to enroll themselves in either of the following streams:

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[38] Jason Tan and Saravanan Gopinathan, “Education Reform in Singapore: Towards Greater Creativity and Innovation?,” 2000.

- Gymnasium: prepare them for an academic career
- Realschule: to prepare them for a technical or administrative career
- Hauptschule: to prepare them for a vocational career include apprenticeship

As mentioned earlier a child chooses their course of study from as early as 10 years of age and most often does not change their course of education once they reach upper secondary education. Both in Gymnasium and Realschule they have an opportunity to advance for education into university as for Vocational Education they have the opportunity to apprenticeship and early employability.[39]

2.7 Literature Review on Theories

Andreas Krapp (2007): The Study *An educational-psychological conceptualization of interest* Discuss that most interests, that are relevant for learning and working exist only for a short period and are activated by external encouragements (situational interests). And that there are other content specific interests that stabilize an interest for a longer period of time with relation to life-course significance of developing a person.

Krapp advocates that a person develops interest to a certain topic through three: (a) a situational interest that is triggered by an external stimuli for the first time; (b) a situational interest that lasts for an enough period of time to keep the interest encouraged (C) an individual interest that engages a person to be motivated to continue in that endeavor. Yet Krapp suggests that one should explore reasoning and emotional process to truly define terms of interest in relation to vocational training.[40]

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[39] James C. Witte and Arne L. Kalleberg, "Matching Training and Jobs: The Fit between Vocational Education and Employment in the German Labour Market," *European Sociological Review* 11, no. 3 (1995): 293–317.

Damon Anderson (2009): The Study *Productivism and ecologism: changing dis/courses in TVET* is built on two main assumptions when referring to vocational education and training in regards to a productivity approach. Anderson assumes that training leads to productivity which in turn leads to economic growth also known as training for growth, in addition Anderson assumes that acquiring skills would ultimately lead to employability which leads to job opportunities later defined as skills for work.

He proposed in his study a conceptual framework revolved around a cluster of generic skills. The main four skills are work readiness and work habits, interpersonal skills, enterprise innovation creativity skills and learning, thinking and adaptability skills. These four broad interpretation of skills are conceived from 24 different skills that represent two clusters one of which is an enterprise cluster and the other an innovation and creativity cluster.

He argues that there is a clear disappearance of physical labor jobs and that they are being replaced with jobs that require a more abundant package of skill. And this, on a stance, requires a change in the preparation of people in the new workforce.[41]

Kara S. Finnigan & Betheny Gross (2007): The Study *Do Accountability Policy Sanctions Influence Teacher Motivation? Lessons From Chicago's Low-Performing Schools* reviews how policies that were taken in the United States (Chicago) after the no child left behind act was recognized, applied a mixture of both assistance and consequences to under performing schools in order to hold educators (Teachers) accountable for student performance.

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[40] Andreas Krapp, "An Educational–Psychological Conceptualisation of Interest," *International Journal for Educational and Vocational Guidance* 7, no. 1 (2007): 5–21.

[41] Damon Anderson, "Productivism and Ecologism: Changing Dis/Courses in TVET," in *Work, Learning and Sustainable Development* (Springer, 2009), 35–57.

The act was based on the theoretical assumption that penalties would motivate school staff to perform better and focus higher attention on the outcomes of student learning and acquiring of knowledge.

Finnigan and Gross examined these assumptions based on expectancy and incentive theories in order to recognize whether or not motivation levels have changed as a result to the accountability policies that would affect teacher motivation. The study intertwines more than one theory on motivation, incentives and policies of accountability together in order to make a clear design on how a performance-based accountability policy works towards teacher expectancy and motivation and what responses are of a result.

Finnigan and Gross found that motivation decreases for teachers whom are in schools that are struggling to meet standards, this is due to the longer that they are on probation in reference to the act the lower their expectancy is to achieve the goals set for them to attain. However an accountability policy did show that teacher do respond towards probation and sanctions for moral reasons of self-reliance to achieve high standards and so they would change their way of teaching and use new techniques in the class anticipating better learning results.[42]

M. Burton, J. Sorensen & S. Dobrev (2016): The Study: *A Careers Perspective on Entrepreneurship* revolves around the characteristics of the pathways that lead to entrepreneurship rather than the characteristics that an entrepreneur has. The researchers emphasize that decisions to pursue a certain path (career) are made very early in a person’s childhood years and is most likely not to change. Entrepreneurship can be characterized to be heterogeneous and is popularly captured by startups that have been launched by very successful people in early stages of their life (High School and University). For many, an entrepreneurial role is a transitional one, entry is based on best of opportunities and exit is based on promising opportunities presented elsewhere. This would mean, entrepreneurship can be viewed as a step along a career path rather than to a final destination where a person has reached a point of no return.

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[42] Kara S. Finnigan and Betheny Gross, “Do Accountability Policy Sanctions Influence Teacher Motivation? Lessons from Chicago’s Low-Performing Schools,” *American Educational Research Journal* 44, no. 3 (2007): 594–630.

The authors make mention of two theories on entrepreneurship the first of which states that entrepreneurship is necessity-based (e.g., Joona & Wadensjo, 2013) as they are pushed into it because they lack other opportunities and the second there is Opportunity – Driven (e.g., Sørensen & Sharkey, 2014) because they perceive that there are potential rewards greater than those obtained from employment.[43]

Michael Borchert (2002) The Study *Why Don't More Students Major in I.S,* completed a survey of 325 High School Students used an ordinal ranked series of factors that was established in the literature review that affect career choices in high school students. The dependent variables relating to environment, opportunity and personality, found that students who worked and received a paycheck indicated that they have already started exploring a possible career. This information is applicable to our study in the impression that will be explored in our questionnaire if students were given the opportunity to apply for apprenticeship and be involved in a legitimate part time job with pay would this influence them to choose a different field of study. As indicated by Borchert's study it would give them either positive or negative feedback that would be beneficial for them to experience the qualities that a certain field may have to offer.[44]

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[43] M. Diane Burton, Jesper B. Sørensen, and Stanislav D. Dobrev, "A Careers Perspective on Entrepreneurship," *Entrepreneurship Theory and Practice* 40, no. 2 (2016): 237–247.

Randall McGarey Haney (2002) The Study *Secondary Student Perceptions of Vocational Education* conducted a survey with 357 students on vocational education, skills training, industrial arts and technology education. The study was conducted to understand the reason behind the ever declining rates in vocational education in the United States that has dropped 4.4% within the time period of the study that was conducted in 2002. The Study focused mainly on the relationship between the perception of the secondary students and their background according to (gender, race, religion and other personal background variables) and influence by teachers and parents alike. The study being conducted in our research will measure both vocational education and skills training regarding area and gender background with a relation to reasons of what main factors would mostly influence them to be studied.[45]

Cathy Hall, Jeremy Dickerson, David Batts, Paul Kauffman & Michael Bosse (2011) The Study *Are We Missing Opportunities to Encourage interest in Stem Field* completed a survey of 132 High School Students between the ages of 12 and 18 by using a two part questionnaire. The Study related to various factors that influences students consideration of career options focused on specific influences on career choices and the interest of students by using 10 influences rated on a five part Likert scale that included friends, peers, parents, teachers, counselors, the media, degree options, earning potential and affordability. These influencers were cross checked with five factors that considered to develop career interest through having friends with the same interest, family in that field of work, teacher encouragement and knowledgeable school employee on different career options. The conclusion of the study resulted that an interest in the field was the most important consideration in a student's choice of career with parent influence second. This conclusion set the stage for our study to reciprocate the same Likert scale to dig deeper in the question if Entrepreneurship was made available through practical experience would it encourage high school secondary student to part take in it as a career option.[46]

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[44] Michael Borchert, *CAREER CHOICE FACTORS OF HIGH SCHOOL STUDENTS*, 2002.

[45] Randall McGarey Haney, *Secondary Student Perceptions of Vocational Education*, 2002.

Beggs, Bantham & Taylor (2008) The Study *Distinguishing the Factors influence college students choice of Major* completed a study that conducted a survey of 852 college students. The study found that the most important factor related to a student's decision on choosing a major was "Personal Interest" that being if the student is exposed to that particular area an interest would be developed and if not exposed there would not be any interest at all. Other major findings included job characteristics that being the beginning expected salary and potential earning, in addition to, major characteristics related to easy earning of degree and reputation of the faculty.

These findings concur to our present study that will be answered in the questionnaire that if secondary students were exposed to a particular area of work through apprenticeship and vocational studies it would increase the influence of them choosing a variety of different fields in relation to secondary education instead of the basic literary and scientific streams .[47]

Waddi D. Haddad & Terry Demsky (1995): The Research *Education Policy-Planning process: an applied framework* Highlights issues on educational planning and analyzing them within the Palestinian Context. Mainly it is concerned with policy making and planning in the educational sector. The author argues that policies can be formulated and through effective planning these policies can be put into effect, evaluated and if need redesigned.

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[46] Cathy Hall et al., *Are We Missing Opportunities to Encourage Interest in STEM Fields*, vol. 23, 2011.

[47] Jeri Mullins Beggs, John H. Bantham, and Steven Taylor, "Distinguishing the Factors Influencing College Students' Choice of Major," *College Student Journal* 42, no. 2 (June 1, 2008): 381–394.

A proper analyst must take into consideration the macro-economic situation in general and human resources situation in particular in order to design an educational plan that is suitable for economic context. Predicting future trends in different sectors is highly needed to assess what the economy requires from the education sector. Haddad refers to two major factors that affect policy making, the first which is labor markets as they are a significant illustrator on needs for education and skill training and the second the level of economic development and growth rates which enforces constraints on the educational system in the form of ability to build schools and expand which as a result estimates a prediction on taxation by the government which will influence educational expenditures.

The conceptual framework for formulating policies and its application refer to educational planning as not being neither procedural nor linear. Rather educational planning should have clearly defined objectives, acknowledged causative relationships between a number of variables and predictable rationalities. Decision-makers and planners as such should have diversified perspectives and are actively involved in the process of which policies are created, implemented and redesigned. [48]

2.8 Comments on the Literature Review

All the previous studies have established the concept that the educational system should be driven by educational policies that are in parallel with the dynamically changing labor market requirement that properly positions employability factors needed in secondary education and economic development.[49] The Educational system is best situated in this occurrence as flexible in its role to direct students toward a variety of streams in order to get the best out of diversification of qualifications and skills to ensure competitiveness in the labor market locally and as well as internationally.

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[48] Wadi Haddad and Terry Demsky, *Education Policy-Planning Process: An Applied Framework*, Fundamentals of Educational Planning 51 (Paris: UNESCO, International Institute for Educational Planning, 1995).

Vocational education and training is a stream not to be taken lightly as it has helped many countries progressively develop and maintain a healthy environment for the acquiring of new and specific skills that meet labor market demands but is not the only forth mentioned education system that can release distress on unemployment, as it has been previously mentioned entrepreneurship is best equivalent and exceeding in capabilities to increase acquiring of new and specific skills in addition to reduction of unemployment by self-employment and employment of others once a startup has been successfully funded and established creating opportunities as a ripple effect along its way.

In the literature review three main countries have been studied as exemplary case studies that reflect well planned and functional educational systems of those countries were Finland, Singapore and Germany. While each had uniquely independent different approaches to a better educational system they each were compliant with the same concerning fact, their educational systems change and are redesigned according to predictions of labor market needs.

All the descriptive studies that used a qualitative method in data collected including questionnaires that are relevant to our line of study embarked on exploring ideally what influences students to choose a certain career path or their perception positively or negatively towards various majors, vocational education, information systems from either a career choice according to job characteristics, or personal background related to education decisions while using primarily an ordinal ranked series of factors or Likert scale.

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[49] Haddad and Demsky.

What makes this study unique and distinguishes it from the bunch is its grouping of unique independent variables (Skills, Entrepreneurial Education, Apprenticeship, Vocational Education, and Continuing Education) that have not before been examined together and cross examined with the dependent variable being choice in field of study on a secondary level. The study will fill the gap in the literature in understanding the correlation between these factors together as a significant tool that governmental institutions in education can use for planning and policy making in Directional Education that would steer youth towards labor market needs rather than personal intuition.

Chapter III: Methodology

This chapter shows the analytical part for the research, and include the description of the research approach, population and sample, research instruments, validity and reliability.

3.1 Research Methodology

The study depends mainly on the analytical descriptive approach to answer the research questions and test a series of hypothesis. This approach includes descriptive variables (frequencies and means), hypothesis testing by using ANOVA test, multiple regression and chi square test.

3.2 Population and Sample

The population of the study include all students in secondary school level in Ramallah. The sample of the study was selected by using the method of simple random sample with size of 250 students from a total of 135,878 Students in a secondary level (10th through 12th Grade) in the West Bank according to the Palestinian Central Bureau of Statistics[50]. In order to further collect a more accurate number of students from 9th to 12th grade in the Ramallah Governorate Region, a field visit to the Ministry of Education was conducted where the number of students for these stages of education where provided by the Administration Department and was verified that there are 21,699 students for the year 2018.

In order to calculate the sample size the following formula for simple random sampling was used:

Figure 1. 2: Simple Random Sampling Formula

$$n = \frac{z^2 \cdot N \cdot p \cdot q}{N \cdot E^2 + z^2 \cdot p \cdot q}$$

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[50] “Number of Secondary Stage Students in Palestinian According to Region,” 2018, https://www.pcbs.gov.ps/Portals/_Rainbow/Documents/Education2018-13E.html.

Where:

***n*: sample size = 244**

Z: critical value (for 95% confidence) = 1.96

N: population size (21,699)

P: expected incidence = 80%

q: Maximum Population Variability = (1-p)

E: margin of error (5%)

3.2.1 Gender

Table 3-1 below shows that the percentage of females in the sample was about 70%, and for males was about 30%

Table 3. 1: Sample distribution by gender

Gender	Frequency	Percentage (%)
Males	74	29.6%
Females	176	70.4%
Total	**250**	**%100**

3.2.2 Age

Table 3-2 indicates that the majority of study sample was 16 years old with 44%, followed by 17 years old with about 27%, 15 years old with about 19%, and finally 18 years old with 10%.

Table 3. 2: Sample distribution by Age

Age	Frequency	Percentage (%)
15	48	19.2%
16	110	44.0%
17	67	26.8%
18	25	10.0%
Total	**250**	**%100**

3.2.3 School Type

Table 3-3 shows that the majority of study sample students registered in private schools with 62%, while 38 registered in government schools.

Table 3. 3: Sample distribution by school type

School type	Frequency	Percentage (%)
Private	155	62%
Government	95	38%
Total	**250**	**%100**

3.2.4 Grade

Table 3-4 indicates that the majority of study sample was in eleventh grade with 59%, followed by tenth grade with about 32%, and twelfth grade with 10%.

Table 3. 4: Sample distribution by Grade

Grade	Frequency	Percentage (%)
Tenth grade	79	31.6%
Eleventh grade	147	58.8%
Twelfth grade	24	9.6%
Total	**250**	**%100**

3.2.5 Stream

Table 3-5 shows that the majority of study sample was in literary stream with 37%, followed by scientific stream with about 35%, nothing with 17%, vocational stream with 10%, and commercial stream with 0.4%.

Table 3. 5: Sample distribution by stream

Stream	Frequency	Percentage (%)
Nothing	43	17.3%
Scientific	88	35.3%
Literary	92	36.9%
Vocational	26	10.0%
Commercial	1	0.4%
Total	**249**	**%100**

3.2.6 Father Stream

Table 3-6 shows that father academic stream for the study sample was literary stream with 46%, followed by scientific stream with about 33%, nothing with 10%, vocational stream with 5%, hotel stream with 4% and commercial stream with 2%.

Table 3. 6: Sample distribution by father stream

Father Stream	Frequency	Percentage (%)
Nothing	25	10.2%
Scientific	81	32.9%
Literary	112	45.5%
Vocational	13	5.3%
Commercial	6	2.4%
Hotel	9	3.7%
Total	**246**	**%100**

3.2.7 Mother Stream

Table 3-6 shows that mother academic stream for the study sample was literary stream with 53%, followed by scientific stream with about 34%, nothing with 11%, vocational stream with 1%, and commercial stream with 1%.

Table 3. 7: Sample distribution by mother stream

Mother Stream	Frequency	Percentage (%)
Nothing	27	11.2%
Scientific	82	34.0%
Literary	128	53.1%
Vocational	2	0.8%
Commercial	2	0.8%
Total	**241**	**%100**

3.2.8 Future Perception

Table 3-8 shows that 18% of study sample are willing to be doctors in the future, 16% willing to be engineers, 13% willing to establish their own businesses, 9% willing to be lawyers, and 44% want to be other professions or don’t know yet, that is a high number and gives us a signal that 44% of students either have not been interested in becoming of the norm of society breading. It also indicates that these students could be influenced into a profession that creatively inspires them.

Table 3. 8: Sample distribution by Future Perception

Perception	Frequency	Percentage (%)
Engineer	40	16.3%
Lawyer	22	8.9%
Doctor	44	17.9%
Free Business	31	12.6%
Other	109	44.3%
Total	**246**	

3.3 Research Instrument

To achieve the study objectives, a questionnaire was designed to study the level of acquiring the twenty first century skills between secondary level students, the level of student’s perception on being an entrepreneur, the student’s perception towards practical and vocational education, and the level of flexibility in the education system.

The questionnaire includes five sections:

Section 1: Background information about students like, ages, gender, academic stream, fathers and mothers academic stream, and future intuition.

Section 2: The level of acquiring the twenty first century skills between secondary level students, which include three subsections; problem solving skills, creativity, and computer skills.

Section 3: The level of student's perception on entrepreneurship.

Section 4: The level of student's perception towards practical and vocational education, which include two subsections; perception towards practical education "Apprenticeship" and their perception on vocational education.

Section 5: The level of flexibility in the education system.

The Likert scale of seven answers were used in the questionnaire, where the value of 7 refers to the answer of strongly agree, and the answering of 1 refers to the strongly disagree. For analysis purposes, this study depends on the following correction key:

Table 3. 9: Correction Key for the answers on Likert scale questions

Means interval	Result
6.14 – 7.00	Very high
5.29 – 6.13	High
4.43 – 5.28	High to some extent
3.57 – 4.42	Medium
2.71 – 3.56	Low to some extent
1.86 – 2.70	Low
1.00 – 1.85	Very low

3.4 Validity and Reliability

3.4.1 Validity

Validity means the extent to which the instrument accurately measures what it is supposed to measure. To test the validity, the questionnaire was presented and reviewed by academic professors from the Arab American University – Master's Program and all of them confirm that the instrument is valid.

3.4.1 Reliability

Reliability is the overall consistency of a measure. A measure is said to be highly reliable if it produces similar results under consistent conditions. To test the reliability for measures in this research, we will depend on the Cronbach alpha test for each measure in the questionnaire, and if the test value is greater than 0.6, the measure will be considered statistically reliable.

According to table 3-10 below, we can conclude that all measures in the questionnaire are statistically reliable since the value of Cronbach alpha is greater than 0.6 for all measures.

Table 3. 10: Cronbach alpha test for questionnaire measures

Measure	# of statements	Percentage (%)
problem solving skills	5	0.79
creativity	5	0.71
computer skills	5	0.80
perception towards entrepreneurship	5	0.72
perception towards practical education	5	0.96
willing in vocational education	6	0.92
flexibility in the education system	5	0.74

Chapter IV: Data Analysis

This chapter of the study is the analytical part that includes data analysis for measures and tests the hypothesis of the study.

4.1 The Level of Acquiring the Twenty First Century Skills

Table 4-1 shows that the level of problem solving skills between secondary students is high (5.91), whereas the highest level for this measure is for the statement of "I am capable to find solutions to problems" with score of 6.08, and lowest level is for the statement of "*Ability to apply collective evaluation*" with score of 5.60. On the other hand, the level of creativity between secondary students is high (5.86), whereas the highest level for this measure is for the statement of "*I am able to distinguish myself between other students*" with a score of 6.11 and lowest level is for the statement of "*I am able to use creative instruments to present my thoughts"* with score of 5.52.

Finally, the level of computer skills between secondary students is medium (4.09), whereas the highest level for this measure is for the statement of "*I have skills in using Microsoft Word"* with score of 4.93, and lowest level is for the statement of "*I have skills in using Microsoft power point*" with score of 2.54. The overall level for acquiring the twenty first century skills is high (with score of 5.29) which is due to primarily problem solving and creativity.

Table 4. 1: The level of acquiring the twenty first century skills

Statement	**Mean**	**Standard Deviation**	**Result**
I have the ability to describe problems	5.96	1.04	High
I have the ability to search about the problems and their reasons	6.00	1.07	High
I have the ability to identify resources needed to solve problems	5.90	1.06	High
Ability to apply collective evaluation	5.60	1.14	High
I have the ability to find solutions for problems	6.08	0.87	High
Problem Solving Skills	**5.91**	**0.76**	**High**
I draw lessons and conclusions from previous experiences	6.02	1.16	High
Team player in helping add on to other people's ideas	5.94	0.87	High
I create new ways to help in solving complex problems	5.70	1.12	High
I am able to distinguish myself from other students	6.11	0.98	High
I use creative instruments to present my thoughts	5.52	1.29	High
Creativity	**5.86**	**0.74**	**High**
I have skills in using Microsoft Word	4.93	1.22	High to some extent
I have skills in using Microsoft Excel	3.24	1.52	Low to some extent
I have skills in using Microsoft power point.	2.54	1.29	Low
I have the ability to use the computer to acquire information	4.85	1.10	High to some extent
I have the ability to send e-mail	4.92	1.10	High to some extent
Computer Skills	**4.09**	**0.93**	**Medium**
Acquiring the twenty first century skills	**5.29**	**0.50**	**High**

4.2 The Level of Perception Towards Entrepreneurship

Table 4-2 shows that the level of perception towards entrepreneurship between secondary students is high (5.84), whereas the highest level for this measure is for the statement of "*I will do my best to start and run my own company*" with score of 6.33 (very high), and lowest level is for the statement of "*I have seriously thought about starting a company*" with score of 5.3

Table 4. 2: The level of perception towards entrepreneurship

Statement	**Mean**	**Standard Deviation**	**Result**
I want to be the owner of a small business	5.72	1.57	High
If I have the opportunity and resources, I would like to start a company	5.94	1.13	High
I will do my best to start and run my own company	6.33	0.97	Very High
The career of a business owner is attractive to me	5.90	1.11	High
I have seriously thought about starting a company	5.33	1.67	High
perception towards entrepreneurship	**5.84**	**0.91**	**High**

4.3 The Level of Perception Towards Practical "Apprenticeship" and Vocational Education

Table 4-3 shows the level of perception towards "apprenticeship" practical education between secondary students is high to some extent (4.65), whereas the highest level for this measure is for the statement of "*Practical training enhances self-capacity*" with score of 4.98, and lowest level is for the statement of "*Looking for opportunities for practical training*" with score of 4.24. On the other hand, the level of willingness of vocational education between secondary students is low to some extent (3.51), whereas the highest level for this measure is for the statement of "*I feel that vocational education helps to eliminate unemployment*" with score of 4.67, and lowest level is for the statement of "*vocational education would make me feel that I have the highest social rank between my colleagues*" with score of 2.46 (low). The overall level for perception towards practical and vocational education is medium (with score of 4.03).

Table 4. 3: The level of perception towards practical and vocational education

Statement	**Mean**	**Standard Deviation**	**Result**
I want practical training during my study	4.45	1.90	High to some extent
Looking for opportunities for practical training	4.24	1.91	medium
Practical training enhances self-capacity	4.98	1.67	High to some extent
I believe practical training would help me in choosing my Tawjihi Path	4.66	1.83	High to some extent
I think that practical training enhances my capabilities	4.87	1.69	High to some extent
Perception towards practical education	**4.65**	**1.67**	**High to some extent**
I think that the financial return of vocational education is appropriate	2.84	1.51	Low to some extent
I feel that vocational education helps to eliminate unemployment	4.67	1.61	High to some extent
I think that vocational education encourages creativity	3.36	1.63	Low to some extent
I feel that the Palestinian Education System encourages vocational education	3.94	1.95	medium
Employment opportunities would encourage me to pursue vocational education	3.79	1.82	medium
Vocational education would make me feel that I have the highest social rank of my colleagues	2.46	1.65	Low
Willing in vocational education	**3.51**	**1.44**	**Low to some extent**
perception towards practical and vocational education	**4.03**	**1.42**	**Medium**

4.4 The Level of Flexibility in the Education System

Table 4-4 shows that the level of flexibility in the education system is high to some extent (4.50), whereas the highest level for this measure is for the statement of “It is easy to enroll in Palestinian Universities” with score of 5.23 (high), and lowest level is for the statement of “Vocational Education allows for university enrollment” with score of 2.64.

Table 4. 4: The level of flexibility in the education system

Statement	Mean	Standard Deviation	Result
It is easy to enroll in Palestinian Universities	5.23	1.13	High to some extent
Educational streams (scientific / literary) offer better opportunities than others to join universities	5.10	1.07	High to some extent
Vocational Education allows for university enrollment	2.64	1.34	Low
The educational system allows easy transfer between specializations and majors	4.70	1.26	High to some extent
It is easy to makeup “completion” for Tawjihi exams	4.81	1.29	High to some extent
Flexibility in the education system	**4.50**	**0.85**	**High to some extent**

4.5 Hypothesis Testing

4.5.1 H1: There is a significant relationship between school type and new skills of the 21st century.

To test the hypothesis, we depend on ANOVA test, where the null hypothesis is that there are no relationship between school type and new skills of the 21st century. According to test results below (tables 4-5 and 4-6). We can reject the null hypothesis at 5% level of significance since the p-value of the ANOVA test is less than 5%. Table 4-5 shows that the level new skills of the 21st century for students in government schools is higher than for students in private schools.

Table 4. 5: The level of new skills of the 21st century according to school type

School type	Mean	N	Std. Deviation
Government	5.5965	95	.44947
private	5.0968	155	.42179
Total	5.2867	250	.49534

Table 4. 6: ANOVA results for relationship between school type and new skills of the 21st century

			Sum of Squares	df	Mean Square	F	Sig.
ST * School type	Between Groups	(Combined)	14.708	1	14.708	78.635	.000
	Within Groups		46.387	248	0.187		
	Total		61.096	249			

4.5.2 H2: There is a significant relationship between academic streams in secondary education and perception towards entrepreneurship

To test the hypothesis, we depend on ANOVA test, where the null hypothesis is that there is no relationship between academic streams in secondary education and perception towards entrepreneurship. According to test results below (tables 4-7 and 4-8). We can reject the null hypothesis at 5% level of significance since the p-value of the ANOVA test is less than 5%. Table 4-7 shows that the level of perception towards entrepreneurship for vocational students is higher than others.

Table 4. 7: The level of perception towards entrepreneurship according to Academic Stream

Academic Stream	Mean	N	Std. Deviation
Nothing	5.5395	43	1.12083
Scientific	5.6591	88	.81602
Literary	6.0826	92	.79953
vocational	6.2480	25	.80474
Commercial	5.0000	1	.
Total	5.8514	249	.90121

Table 4. 8: ANOVA results for relationship between Academic Streams and perception towards entrepreneurship

			Sum of Squares	df	Mean Square	F	Sig.
E * Academic Stream	Between Groups	(Combined)	17.012	4	4.253	5.627	.000
	Within Groups			184.410	244	.756	
	Total			201.422	248		

4.5.3 H3: There is a significant relationship between academic streams in secondary education and the level of student's perception towards practical and vocational education.

To test the hypothesis, we depend on ANOVA test, where the null hypothesis is that there is no relationship between academic streams in secondary education and perception towards practical and vocational education. According to test results below (tables 4-9 and 4-10). We can reject the null hypothesis at 5% level of significance since the p-value of the ANOVA test is less than 5%. Table 4-9 shows that the level of perception towards practical and vocational education for vocational students is higher than others.

Table 4. 9: The level of perception towards practical and vocational education according to Academic Stream

Academic Stream	Mean	N	Std. Deviation
Nothing	3.7357	43	1.40833
Scientific	3.9153	88	1.57988
Literary	3.8991	91	1.09992
vocational	5.4945	25	1.09597
Commercial	2.3636	1	.
Total	4.0312	248	1.42421

Table 4. 10: ANOVA results for relationship between Academic Stream and perception towards practical and vocational education

		Sum of Squares	df	Mean Square	F	Sig.
Vt * Academic Stream	Between Groups (Combined)	62.840	4	15.710	8.712	.000
	Within Groups		438.168	243	1.803	
	Total		501.007	247		

4.5.4 H4: There is a significant relationship between academic streams in secondary education and the level of flexibility in the education system.

To test the hypothesis, we depend on ANOVA test, where the null hypothesis is that there are no relationship between academic streams in secondary education and flexibility in the education system. According to test results below (tables 4-11 and 4-12). We can reject the null hypothesis at 5% level of significance since the p-value of the ANOVA test is less than 5%. Table 4-11 shows that the level of flexibility in the education system for literary students is higher than others.

Table 4. 11: The level of flexibility in the education system according to Academic Stream

Academic Stream	Mean	N	Std. Deviation
Nothing	4.5256	43	.70376
Scientific	4.2818	88	.95346
Literary	4.8090	89	.60896
vocational	4.0160	25	1.02619
Commercial	6.0000	1	.
Total	4.4951	246	.85384

Table 4. 12: ANOVA results for relationship between Academic Stream and flexibility in the education system

		Sum of Squares	df	Mean Square	F	Sig.
ES * Academic Stream	Between Groups (Combined)	20.815	4	5.204	7.947	.000
	Within Groups		157.799	241	.655	
	Total		178.614	245		

4.5.9 H5: There is a relationship between the academic stream of students and the stream of parents and teachers.

To test the hypothesis, we depend on chi square test, where the null hypothesis is that there are no relationship between the academic stream of students and the academic stream of their parents. According to test results below (tables 4-18 and 4-19). We can reject the null hypothesis at 5% level of significance since the p-value of the chi square test is less than 5%. Table 4-18 shows that about 78% of students choose literary stream as their parents (at least one of them), and about 80% choose scientific stream as their parents (at least one of them), in general, about 71% of students choose the stream of their parents (at least one of them).

Table 4. 13: The distribution of students according to their parent's stream

		Academic Stream					
		Nothing	Scientific	Literary	vocational	Commercial	Total
parents	the same stream of at least one of parents		79.5%	78.3%	12.0%	100.0%	58.6%
	Different from parents streams	100.0%	20.5%	21.7%	88.0%		41.4%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4. 14: Chi square test for the relationship between the academic stream of students and the academic stream of their parents

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	114.549	4	.000

To test the hypothesis from the teachers influence, we also depend on chi square test, where the null hypothesis is that there is no relationship between the academic stream of students and the stream perception of their teachers. According to test results below (tables 4-20 and 4-21). We can reject the null hypothesis at 5% level of significance since the p-value of the chi square test is less than 5%. Table 4-20 shows that about 61% of students choose literary stream as perception of their teachers, and about 86% choose scientific stream as perception of their teachers, in general, about 70% of students choose the stream as perception of their teachers.

Table 4. 15: The distribution of students according to teacher influence of stream

		Academic Stream of students					
		Nothing	Scientific	Literary	vocational	Commercial	Total
Father stream	Nothing	26.3%	3.4%	10.9%	24.0%	100.0%	12.3%
	Scientific	47.4%	86.4%	12.0%	4.0%		43.4%
	Literary	23.7%	6.8%	60.9%	24.0%		31.6%
	vocational			14.1%	48.0%		10.2%
	Commercial			2.2%			0.8%
	Hotel	2.6%	3.4%				1.6%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4. 16: Chi square test for the relationship between the academic stream of students and the academic stream perception of their teacher

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	188.679	20	.000

4.5.5 H6: There is positive effect for acquiring twenty first century skills, perception towards entrepreneurship, and flexibility in the education system on the perception towards practical and vocational education.

To test the hypothesis, we depend on multiple regression by using OLS method, whereas the dependent variable is the perception towards practical and vocational education, while the independent variables are:

- Acquiring the twenty first century skills.
- Perception towards entrepreneurship.
- Flexibility in the education system

Table 4-13 below shows that the overall regression results are statistically significant at 5% level of significance since the p-value for the F-test is less than 5%. On the other hand the value of R^2 is about 0.401, which means that the independent variables in the model explain about 40% from the variation of the dependent variable.

According to regression results, there is a significant positive effect for the variables acquiring the twenty first century skills, perception towards entrepreneurship, and flexibility in the education system on the perception towards practical and vocational education, since the p-value of t-test for all of them is less than 5%.

Table 4. 17: Multiple regression results

	B	**Std. Error**	**t**	**Sig.**
(Constant)	-5.085	0.879	-5.787	.000
Acquiring the twenty first century skills	0.487	0.152	3.210	.000
Perception towards entrepreneurship	0.689	0.082	8.423	.000
Flexibility in the education system	0.558	0.083	6.717	.000
R-Square	0.401			
F (3,243)	54.118			
Sig	0.000			

Chapter V: Conclusions and Recommendations

5.1 Conclusions

After examining and analyzing the outcomes of the study, it has shown that secondary schools are integrating 21st Century skills into their education process in relation to problem solving skills and creativity but without enough emphasis on computer skills that in turn as shown previously in table (5-1) has received the least score of the three main key indicators with an overall mean of 4.09 that is classified as medium. Computer skills is a vital skill that helps students alleviate both their effectiveness and efficiency whether in learning abilities and gaining new knowledge or as a competitive advantage in the first years of their professional life and career. Another important indicator to be taken into consideration is their skills in Microsoft power point that scored the least of the bunch under computer skills. Microsoft power point is a leading instrumental tool in conducting presentations that help not only grab the attention of the audience but also assist in giving confidence to the presenter by highlighting what is most important visually.

As mentioned in our literature review entrepreneurship assists in job opportunities and develops new skills related to creativity regardless of a country's economic situation. In our outcomes we can confidently show that our children have a high tendency to become entrepreneurs with a score of 5.84. If given the opportunity to grasp the different techniques involved in creatively thinking of new ideas for business and starting up a small business, their tendency to switch from more common specializations such as scientific and literary streams to more undesirable ones such as technology, business and vocational education.

In our study we deliberately studied two variables under one focus apprenticeship and vocational education. The data clearly shows student preference to receive practical training but do not have any intentions to continue in vocational education. Since the two are very closely related we can conclude that apprenticeship from very young ages such as 9th and 10th grade would vastly impact on student behavior and decision toward vocational education. In addition our analysis basically defined six key indicators that would explain the overall perception of students towards vocational education that emphasizes their behavior and actions to not take part in this type of educational stream. All the indicators scored low with a mean of only 3.51 translated as “low to some extent”. But what was most alarming was the very low score from the question “Vocational education would make me feel that I have the highest social rank” with a score of only 2.46, it is clear to say that, students have a very negative perception on vocational education in society and is seen to be degrading to some extent.

Flexibility in the educational system is a significant indicator for directional education. As mentioned in our literature review earlier, the Finnish educational system allows for a student to interchangeably pursue their desired path from vocational educational to academic. As found in our data analysis section, there is a significant relationship between choosing academic streams and the level of flexibility. As the data has indicated that the score for scientific and literary streams offering better opportunities to enroll in universities is high (5.1) while vocational education is obviously low (2.64).

Finally, we can also conclude from the data analyzed that students are largely affected from the people closest to them. Parents and teachers alike are crucial influencers to the decision that young students take when choosing to specialize in a certain educational stream. With about 70% of students considerably following the path they are most certainly predisposed, it is with great cautiousness that adults influence their children to pursue what they are mostly attracted to and what the country is in most definite need of.

5.2 Recommendations

This part of the thesis will take into consideration both the literature review and the data analysis sections to formulate the top five priority recommendations in order to stimulate directional education in Palestine.

1. Create a more flexible educational system for youth to have easier access into academic education. Allowing the transfer from vocational education into academic education would broaden the desire for students to enroll into vocational education knowing that they have the opportunity to later continue their education into an academic stream. Flexibility in the education system does not only end with transfer between streams, it is also highly recommended that the Ministry of Education also organize a more flexible enrollment prerequisites for various majors in local universities, that would also drive students to specialize in streams other than literary and scientific paths.
2. Activate apprenticeship in various fields. As John Barrow once said “If you never try, you will never know what you are capable of”. If students are given the opportunity to work, train and involve themselves in various fields during younger stages in their life they might be more decisive and driven to learn and major themselves in an educational stream that they are convinced of rather than influenced by. This would direct students into other fields of Injaz, such as, technology, hotel management, business and/or vocational education.
3. One of the main aspects that drive people towards education is making a better life for themselves. Education is an important means of acquiring a well respectable job that would in turn reflect on a better well-being of a person. Education and the labor market are highly dependable on one another, for this reason it would be practical for the Ministry of Education who is responsible to plan and control the quality and needs

of education according to labor market needs to combine its efforts with the Ministry of Labor under one umbrella to achieve better robust results. Doing so would create better strategic plans and produce quality decisions regarding directional education.

4. Integrate skills related to present day and future necessities of the labor market into the education system. The more skills acquired in research, technology, creativity, entrepreneurship and decision making the better our children can make decisions that they feel have been made by them. Independency is a trait that we lack as a norm it is fair to say that most of our youth follow in the footsteps of our four fathers rather than creating our own path to walk. Which leads us to our fifth and final recommendation.
5. Influence our influencers. Directional education ultimately relies on perception and a way of thinking of a certain matter that assists in our decision making process. As our research has stated parents and teachers contribute highly to the educational stream that a child chooses for him or herself. For this reason it is recommended that both the Ministries of Education and Labor highlight educational streams that they find are most desired in and out of the country. This could be done through promotional campaigns to target parents and children alike, in addition to, workshop sessions with teachers who influence children in the classroom as well.

5.3 Recommendations for Future Researcher:

The researcher recommends further case studies on:

- Build on to the findings of this research, expanding the conceptual framework key indicators of educational diversification
- Pursue on a study to assess employability skills being taught versus the skills needed in the Palestinian Labor Market

- Further increase the size of the sample to cover more governances for comparison and precision
- Study on the policies and procedures that the Ministry of Education uses to control quality outcomes of schools in Palestine.

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Appendix 1: Questionnaire

Section 1: Personal Variables

Code	Question
Age	Age……
Gender	☐Female ☐Male
School Type	☐Government ☐Private ☐Unrwa
Grade	☐9th Grade ☐10th Grade ☐11th Grade ☐12th Grade
Stream	☐Non ☐Scientific ☐Literary ☐Vocational ☐Busa ☐Hotel
Father Stream	☐Non ☐Scientific ☐Literary ☐Vocational ☐Busa ☐Hotel
Mother Stream	☐Non ☐Scientific ☐Literary ☐Vocational ☐Busa ☐Hotel
Future Intuition	☐Eng ☐Lawyer ☐Doctor ☐Business ☐Other…..
Teacher Intuition	☐Non ☐Scientific ☐Literary ☐Vocational ☐Busa ☐Hotel

Section 2: Level of 21st century skills acquisition

Part 1: Problem Solving Skills

Code	Question	Strongly Agree	Agree	Agree to some extent	Neutral	Disagree to some extent	Disagree	Strongly Disagree
SCP1	I am able to describe a problem							
SCP2	I am capable of researching reasons of a problem							
SCP3	I am able to identify the resources needed to solve problems							
SCP4	I am able to conduct group evaluation							
SCP5	I am able to find solutions to problems							

Part 2: Creativity

Code	Question	Strongly Agree	Agree	Agree to some extent	Neutral	Disagree to some extent	Disagree	Strongly Disagree
SRA1	I draw lessons and conclusions from previous experiences							
SRA2	I help others with completing their ideas							
SRA3	I am creative when thinking of solutions for problems							
SRA4	I am able to distinguish myself from other students							
SRA5	I am creative when using tools and instruments to present my ideas							

Part 3: Computer Skills

Code	Question	Strongly Agree	Agree	Agree to some extent	Neutral	Disagree to some extent	Disagree	Strongly Disagree
SCS1	I am capable of using Microsoft Word							
SCS2	I am capable of using Microsoft Excel							
SCS3	I am capable of using Microsoft Power Point							
SCS4	I am capable of using the computer to find information							
SCS5	I am capable of sending an email							

Section 3: Level of direction towards entrepreneurship

Code	Question	Strongly Agree	Agree	Agree to some extent	Neutral	Disagree to some extent	Disagree	Strongly Disagree
EEI1	I want to own a small business							
EEI2	If I had the opportunity and resources, I would start up my own business							
EEI3	I will put all my energy and effort to start up my own business							
EEI4	I believe Businessmen/women is an attractive career							
EEI5	I have thought very seriously to start up my own business							

Section 4: Apprenticeship (Practical) and Vocational Education

Part 1: Direction towards Apprenticeship (Practical) Education

Code	Question	Strongly Agree	Agree	Agree to some extent	Neutral	Disagree to some extent	Disagree	Strongly Disagree
APS1	I am interested in having practical education during my school years							
APS2	I look for opportunities in Practical Education							
APS3	Practical Education provides for personal capacity building							
APS4	I believe Practical Education would help me in selecting my educational stream							
APS5	I believe Practical Education enhances my abilities							

Part 2: Direction towards Vocational Education

Code	Question	Strongly Agree	Agree	Agree to some extent	Neutral	Disagree to some extent	Disagree	Strongly Disagree
AVE1	I believe there are good compensation fees for people with vocational education							
AVE2	I believe vocational education helps eliminate unemployment							
AVE3	I believe that vocational education promotes creativity							
AVE4	I believe the Palestinian Educational Curriculum motivates me to study vocational education							
AVE5	I believe vocational education would advance my social status between others							

Section 5: Flexibility in the Educational System

Code	Question	Strongly Agree	Agree	Agree to some extent	Neutral	Disagree to some extent	Disagree	Strongly Disagree
FES1	It is easy to enroll in Palestinian Universities							
FES2	(Scientific/Literary) Streams give me better opportunities to enroll in Palestinian Universities							
FES3	Vocational Education would allow me to enroll in Universities							
FES4	The Educational System allows me to easily switch between streams							

الملخص

الغرض من هذه الدراسة هو اكتشاف المشكلة الأساسية التي يواجهها النظام التعليمي في فلسطين، وذلك بطريقة التوزيع غير المتكافئ للمسار التعليمي فيما يتعلق بالتعليم الثانوي. حيث أن حقيقة توفر فرص عمل أصبحت شحيحة، وتتطلب العديد من المهارات والكفاءات التي تعتبر أساسية لأي وظيفة؛ لقد ألقى الباحث الضوء على أهم العوامل التي من شأنها أن تساعد في توجيه التعليم نحو الإحتياجات والمهارات وليس الرغبات. في هذه الدراسة، قام الباحث بدراسة ريادة الأعمال، والتعليم المهني و الصناعي، والمرونة في التعليم، بالإضافة إلى مقارنة المواقف بالتصورات ووجهات النظر في هذه المتغيرات المستقلة من أجل التأثير على صنع القرار.

تعتمد الدراسة بشكل أساسي على المنهج الوصفي التحليلي للإجابة على أسئلة البحث واختبار سلسلة من الفرضيات. يتضمن هذا النهج المتغيرات الوصفية (الترددات والوسائل)، واختبار الفرضيات باستخدام اختبار ANOVA، والإنحدار المتعدد واختبار مربع Chi. تشمل العينة والمجموعة السكانية المستخدمة في هذه الدراسة الطلاب في التعليم الثانوي في مدينة رام الله. بالإضافة إلى عينة بحجم 250 طالبًا بين الصف العاشر والثاني عشر.

نتجت عن هذه الدراسة خمس توصيات: أولاً، إنشاء نظام تعليمي أكثر مرونة للشباب للوصول بشكل أسهل وأبسط إلى التعليم الأكاديمي. تسهيل الإنتقال من التعليم المهني إلى التعليم الأكاديمي، الذي من شأنه أن يزيد الرغبة لدى الطلاب للإقبال على التعليم المهني والإلتحاق به، مع العلم بأنه ما زال لديهم الفرصة لإكمال تعليمهم لاحقاً في المسار الأكاديمي. ثانيًا، تفعيل التعليم الصناعي في مختلف المجالات. وذلك من خلال توفير الفرص المناسبة للطلاب للمشاركة في العمل والتدريب، والإنخراط في مختلف المجالات خلال المراحل الأولى من حياتهم، مما يعزز من رغبتهم وحماسهم للإلتحاق بالتعليم الأكاديمي وزيادة قدرتهم على اختيارالتخصص الذي يناسبهم بدلاً من أن يتأثروا به من قبل أحد أفراد العائلة أو غيرهم. ثالثا، يعتمد التعليم العالي وسوق العمل بشكل كبير على بعضهما البعض، ولهذا السبب، سيكون على وزارة التربية والتعليم العالي التي بدورها مسؤولة عن التخطيط ومراقبة جودة التعليم واحتياجاته وفقًا لاحتياجات سوق العمل، دمج جهودها مع وزارة العمل تحت مظلة واحدة لتحقيق نتائج أفضل. رابعاً، دمج المهارات المتعلقة بالإحتياجات الحالية والمستقبلية لسوق العمل في نظام التعليم. كلما ازدادت وتطورت المهارات المكتسبة في البحث والتكنولوجيا والإبداع وريادة الأعمال وصنع القرار، كلما كان أطفالنا يتمتعون بكفاءة عالية ومقدرة كبيرة على اتخاذ قرارات بأنفسهم وتحديد أهدافهم. وأخيرًا، التأثير على المؤثرين. حيث

يعتمد التعليم الموجّه على المعرفة وطريقة التفكير في مسألة معينة التي بدورها تساعد في صنع القرار. كما ذكر في البحث، أن الآباء والمعلمين يساهمون بشكل كبير في تحديد المسار التعليمي الذي يختاره الطالب لنفسه. لهذا السبب، يوصي الباحث بأن تقوم وزارتي التعليم العالي والعمل على تسليط الضوء على جميع أنواع ومسارات التعليم التي يجدونها أكثر رغبة وطلباً في سوق العمل داخل وخارج الدولة، حيث يمكن تنفيذ ذلك، من خلال القيام بحملات ترويجية تستهدف الآباء والطلاب على حد سواء.