

# Investigating Entrepreneurship Among Algerian Youth: Is It A Knowledge-Intensive Factory?

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**Abstract** It is widely recognized that, in the twenty-first century, the entrepreneur should be knowledgeable and skillful in order to contribute to the economic development through the entrepreneurial activity, especially in a knowledge-based economy. In this millennium, worldwide, many young individuals tend to create their own job. It is the case for Algerian youth, too, particularly students and graduates, because they are the ones whom the university prepares for future life and soon will start working. There are many support programs, such as the Agence Nationale de Soutien à l'Emploi de Jeune (Agency for Supporting Youth Employment), that help them to create entrepreneurial projects by giving them financial and technical support in the early stages of enterprise creation. This paper aims to investigate in both theoretical framework and empirical analysis if entrepreneurial projects undertaken by Algerian youth are knowledge-based ones. To this aim, a sample of students and graduates that recently started entrepreneurial projects has been questioned.

**Keywords** Knowledge entrepreneur · Algerian youth · ANSEJ · Twenty-first century skills

## Introduction

Nowadays, knowledge is a crucial factor for several aspects of the economic development (Nicoitra et al. 2012). According to Audretsch and Thurik (2001), we live

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today in an entrepreneurial economic model. For the authors, this model constitutes the economic, social, and political answer for an economy based on *knowledge* and *entrepreneurial capital* which represent the capacity to be engaged for an entrepreneurial activity or generating it. Many young people tend to undertake their own enterprises due to layoffs by large organizations and shrinking of job opportunities for graduates. Consequently, entrepreneurship is a vehicle for economic and social development; it affects our lives through innovation and represents the working future for many people. Entrepreneurship is closely linked to the culture of any society. Therefore, the educational system certainly is concerned; the university as a part of it plays a crucial role in the creation and diffusion of entrepreneurial culture. Most of the governments insist as well on increasing the students' awareness about entrepreneurship in order to stimulate value creation, thus contributing in economic development. For this reason, students should integrate the economic dimension in their professional steps because the world of labor that they will join after their studies evolves (Carayannis and Wang 2012). Hence, exposing them to entrepreneurship can lead them to think about creating a new activity that generates value and jobs. The society nowadays needs individuals with entrepreneurial spirits—individuals having knowledge and specific skills that fit the third millennium requirements.

### The Knowledge Entrepreneur

Ibn Khaldun<sup>1</sup> defined the entrepreneur as a “knowledgeable individual and instrumental in the development of the city-state where enterprise will emerge” (quoted in Karatas 2006). Thus, the entrepreneur is regarded as a person having the knowledge to create an entrepreneurial activity that contributes to the economic and social development. This kind of entrepreneur can be defined “knowledge entrepreneur.”

It follows that experience and education become crucial factors for enhancing and developing individual knowledge which can be efficient and productive if it is used within an institutional framework conducive to the entrepreneurial process, a framework that consists of all cultural variables influencing people's habits and customs. For instance, in developed countries, knowledge and technological learning have become crucial factors of economic, social, and especially *entrepreneurial development*, which empower people and entrepreneurs across the world in taking advantage of opportunities and chances unknown and unexplored until recently (Carayannis et al. 2006).

Ibn Khaldun's explanation which was developed in 1380 was actually based on labor and early capitalist entrepreneurs. They are called as such because the owner of a productive business unit, the early capitalist, was also the entrepreneur who took the risk in the production process for making money: the profit motive. But labor and entrepreneurs can generate development if they work within suitable economic and social environment (Mouhammed 2006). Knowledge entrepreneurship is different from traditional economic entrepreneurship in that it does not aim at the realization of monetary profit but focuses on opportunities with the goal to improve the production

<sup>1</sup> Abderrahmane Ibn Khaldun Al-Hadrami (1332–1406) is an historian and analyst of the Arab social and economic structures that prelude to its contemporary economic and social development.

(research) and throughput of knowledge (as in personal transformation (Harvey and Knight 1996)), rather than to maximize monetary profit. Knowledge entrepreneurship describes the ability to recognize or create an opportunity and take action aimed at realizing the innovative knowledge practice or product (Senges 2005).

Knowledge entrepreneurship could be analyzed in different sectorial and national systems of innovation because there are many relationships among firms, universities, and other organizations and institutions that gather and share knowledge relevant to innovation (Janssen 2009).

However, the question that could be raised is what kind of knowledge the entrepreneur should have or needs to know. In his book *The Knowledge Entrepreneur*, Coulson (2003) listed 11 things that should be known by this particular entrepreneur: ability to acquire, develop, share, manage, and exploit information, knowledge, understanding and related support tools, the ability to lead and manage knowledge workers, network organizations, and virtual teams. This list gives propositions about the ideal entrepreneurial manager who is aware of the importance of knowledge.

Skrzeszewski (2006) defines the knowledge entrepreneur as, “someone who is skilled at creating and using intellectual assets for the development of new ventures or services that will lead to personal and community wealth creation” (p. 3). Thus, there are specific skills that allow this entrepreneur to succeed in his life and contribute in the development of the society. Skrzyszewski adds, “the knowledge entrepreneur must have sufficient personal knowledge capital to be able to create value and/or wealth through the use of that knowledge capital.” The latter is the result of research especially from education and self-experiences.

## Entrepreneurial Knowledge and Education

From the previous definitions and analyses, we conclude also that the knowledge-based entrepreneurship depends on individuals who have knowledge and specific skills that they use to create valuable products to society. Many researches were done to identify if the entrepreneurial behavior is acquired or innate. The innate one refers to the genetic baggage of the individual, while the acquired one is the result of psychological and environmental factors, i.e., the acquired one is a result of experience, individual learning and thinking skills, emotional skills, and perceptual skills (Jassen 2009, p. 44).

Minniti and Bygrave (2001) confirmed that “entrepreneurship is a learning process,” and that the level of entrepreneurial competences builds up progressively with individual experiences; it is a continuous and accumulative process wherein “what is learnt in a period comes to be added to what was learnt in a previous period.”

Therefore, two types of considered knowledge should be learnt and applied in the case of the creation of an activity: on one hand, a suitable knowledge about a market which requires technical knowledge about the product and specified activity sector and, on the other hand, a general knowledge termed “entrepreneurial knowledge.” Harvey and Evans (1995) proposed the concept “Entrepreneurial Preparation Level” which means that each individual enters the entrepreneurial process with a subjective stock of entrepreneurial knowledge.

Education represents a vital field amongst others such as economy, equity, environment, etc. Then, what is required is that the twenty-first century educational system should be really grounding for future life, and produce individuals that could create their own entrepreneurial projects. The evidence is fragmented, although there are areas of critical mass, notably in student propensity, pedagogy, management development education, and work on the enterprising university (Carayannis et al. 2003). The university is the most important step in preparing students for jobs and real life; it trains them how they use some technologies to solve future problems. Although university courses have their limitations, they have a role in providing a useful insight into the challenges involved in being an entrepreneur and also in encouraging skill development and self-reliance that could be the input for real-life projects.

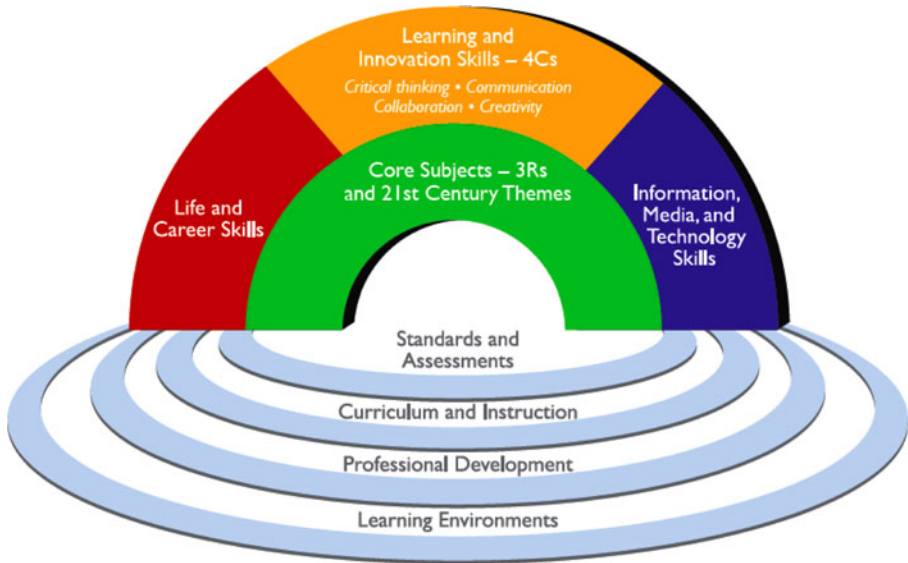
From the early past, the original mission of the university is to empower and train its students to intellectually participate in the society. Its newest and most complex and least-defined and agreed-upon mission includes (or not) over a role as an actor in economic development, politics, and knowledge deliberation with the society as a whole (Senges 2005).

Today, there is an urge for change in the educational system—a shift from its traditional role to the newest one in order to produce successful individuals ready for their future life, i.e., individuals who use the required knowledge and specific skills for the twenty-first century to undertake entrepreneurial projects which make added value. To sum up, the entrepreneurial projects could be knowledge-based when youth, particularly students and graduates, undertake them by using the knowledge and specific skills they acquired from their education. Entrepreneurs are seen as knowledge operators, dedicated to utilization of existing knowledge, the integration of different knowledge assets, and the creation of new knowledge. They may perform this function either by setting up new companies, or by activating social, financial, and expertise networks from within existing companies, universities, or other organizations.

In this century, there are specific skills termed “soft skills” or “21st century skills” that enable individuals to deal with the complex challenges of our age. Partnership 21 Framework (P21) ([www.p21.org](http://www.p21.org)) is an example of a comprehensive definition of what students should know and be able to do to succeed in college, career, and life in the twenty-first century. Partnership 21 focuses on core themes—financial, economic, business, and entrepreneurial literacy—making individuals know how to make appropriate economic choices, understand the role of economy in the society, and use entrepreneurial skills to enhance work place productivity and career options. These skills are divided into three categories: life and career skills, learning and innovation skills, and digital literacy skills (Triling and Fadel 2009, p. 48) as illustrated in Fig. 1.

## Twenty-first Century Knowledge and Skills

Partnership 21 has long advocated that the full range of knowledge and skills articulated in the Partnership 21 Framework should be integrated explicitly into standards, assessments, curriculum, instruction, professional development, and learning environments. Partnership 21 emphasizes life and career skills, learning and innovation skills, and digital literacy skills.



**Fig. 1** Twenty-first century knowledge-and-skills rainbow (Partnership 21)

### Life and Career Skills

It is assumed that education provides students with life skills that they would need in their professional careers. Plato says: “the direction in which education starts a man will determine his future life” (quoted in Zhao 2009, p. 1). The quotation emphasizes the idea of crucial accomplishment between the educational and professional lives of students. According to the P21, life and career skills pay rigorous attention to develop the following skills: *flexibility* and *adaptability*, *initiative* and *self-direction*, *social* and *cross-cultural*, *productivity* and *accountability*, and *leadership* and *responsibility*.

The last skills, leadership and responsibility skills, are considered as the most important ones for the students to be equipped with in the twenty-first century. Contemporary definition of leadership describes it as “a relational process, based on mutual goals, toward some action or change” (Komives et al. 2007, p. 4). Padilla (2007, p. 17) classifies four approaches in leadership. Those approaches describe what and how leaders should be:

- Power-influence approach: it explains leadership effectiveness in terms of the amount of power possessed by a leader and how power is exercised.
- Behavior approach: it emphasizes what leaders actually do on the job.
- Trait approach: the personal attributes of a leader focusing on the aspects of managerial motivation and specific skills aside from personality traits or personal intelligence.
- Situational approach: it emphasizes the importance of situational factors such as the leader authority and direction, the nature of the work performed by the leader’s unit, subordinate’s ability and motivation, the nature of external environment, and the role requirements imposed on a leader by subordinates, peers, superiors, and outsiders.

Responsibility is another crucial skill which refers to the way of being connected to the world that is deeply connected to others and the environment (Berman and Phyllis

1993, p. 7). It can mean guiding and leading others and be responsible of them, i.e., having social responsibility, which is a quality of the knowledge entrepreneur. The latter locates undiscovered or underused knowledge assets online, organizes them, and applies them to fulfill a need. The goal is to deliver the greatest possible benefit to society while rewarding all stakeholders and generating enough additional wealth to sustain the process in a continually changing environment. The new knowledge seeks to balance between sustainable growth with social responsibility (Senges 2005).

### Learning and Innovation Skills

They are defined as “the keys to unlocking a lifetime learning and creative work” (Triling and Fadel 2009, p. 49). According to the P21, those skills include *critical thinking* and *problem solving* (expert thinking), *communication* and *collaboration* (complex communicating), and *creativity* and *innovation* (applied imagination and invention). Those skills are increasingly being recognized as those that separate students who are prepared for a more and more complex life and work environments in the twenty-first century and those who are not.

### Digital Literacy Skills

The digital knowledge is considered as literacy like any of the other literacy (reading and writing). Digital literacy skills have been given many terms that could describe the “digital revolution” as assumed by Spilka (2010, p. 7). The terms are classified as computer literacy, cyber literacy, internet literacy, information literacy, technological literacy, electronic literacy, and digital literacy.

According to Hartley (2009, p. 15), this literacy has evolved from “read only” and “read and write” to “digital literacy,” which is due to the growth of human relationships, values, identities, and desires in complex interaction with the forces of political power, economic, and institutional organization, market coordination, and technological invention. Digital literacy skills have been divided by the Partnership 21 into three categories: *information literacy*, *media literacy*, and *information and communication literacy*. The latter increases the students’ motivation and greater involvement in learning; it provides higher-quality outcomes that encourage greater commitment to writing tasks and relevant software that makes the learning of key skills fun (Andrews 2004, p. 8).

Education, in general, and the university, in particular, are central in developing entrepreneurial skills; thus, curricula should focus on reinforcing the required skills for the third millennium that is based on knowledge and soft skills. Since the university has a crucial role in building entrepreneurial knowledge and teaching scientific basics, the Algerian university should be part of what was stated to avert any kind of taking risks that may jeopardize the students’ real lives.

## Entrepreneurship Training and Knowledge Development in Algeria

Entrepreneurship in Algeria came as a solution to unemployment problem and the increasing oil prices, so the Algerian State put a strategy based on tax concessions and economic grants awarded to young entrepreneurs like the financial and technical

support provided by the programs allocated by the government such as Agence Nationale de Soutien à l'Emploi de Jeune (ANSEJ), ANJEM, and CNAC. These programs help youth, in general, and university graduates, in particular, as they are the ones who hold knowledge and specific skills to create projects and are able to innovate. This strategy of entrepreneurship in Algeria basically depends on the integration of entrepreneurial spirit among this target.

The introduction of “entrepreneurship” as part of the curriculum in the formal education system merits consideration as well as emphasis on the required skills that enhance this knowledge. To this end, the University of Mentouri in Constantine, Algeria, made a successful experience. It opened a branch of entrepreneurship (as a career) and created on 2006 *La Maison d'Entrepreneuriat* with the collaboration of ANSEJ and the University of Grenoble in France. It organizes conferences and gives courses on entrepreneurship (a facultative subject) for all the university levels and disciplines.

There is also an initiative, by the Algerian–American Community residing in the USA, to support and guide young Algerian entrepreneurs in their quest to become successful entrepreneurs. The program has three phases that work simultaneously to improve the business and educational environment for young Algerian entrepreneurs. Concerning the development of the economy of know-how, there is a long-term project for 2010–2014 presented by L'Agence Nationale de Développement de l'Investissement (National Agency of Investment Development) for enhancing human development by the encouragement of job creation (about 4 billion USD); it aims to support the professional integration of the universities and professional training of graduates, support the creation of microenterprises, and finance the system relating to the awaiting employment. At the end, encouragement results followed by the implementation of that five-year program and the effects of the economic growth, there will be about three million jobs during the next five years. This program of development is conducted through general education and use of microcomputer within the national educational system and public service in addition to supporting the scientific research.

Algeria is open to larger alliances with business schools, universities, public–private collaboration in professional education and training, and mentoring programs for entrepreneurs. Emphasis should be placed on promoting entrepreneurship among young people as well as on building the leadership skills of existing entrepreneurs. Linkages between the academia, industry, and the government are essential in developing modern skills and knowledge and in turn having competitive businesses. Also, a level playing field, access to finance, and knowledge (could be achieved through training, exposure to best practices, institutional development programs) and skills are indispensable pillars for entrepreneurship.

ANSEJ is a twenty-first century project, a program of support offered by the Algerian government for youth, particularly graduates who have the ambition to create a firm. This project is based on financial support with tax benefits in order to value the ideas of creation and the common principles of social beneficence.

However, with these initiatives, Algeria creates only 80 new businesses per year per 100,000 inhabitants vs. 350 for the countries at a similar level of development. This problem is a result of anti-entrepreneurial culture that had survived Algeria's socialist era and still have its impact to the present time. The conditions of start-ups

became more flexible earlier in this decade but had deteriorated and become more bureaucratic due to deliberate government policy in 2009. In addition, there is an especially acute problem for small businesses, such as the difficulty to access a capital because Algeria's banks are exclusively commercial, not oriented to investments, besides other problems like the lack of a strong framework for property, the need of a tax structure that creates jobs.

## Method

In order to investigate if the entrepreneurship among the Algerian youth is knowledge-based, we distributed a questionnaire for both students (on their final step of studies) and new ANSEJ investors (graduates who recently have been entrepreneurs). We constructed the questionnaire on The Partnership 21 Framework as a grounding basis to produce knowledgeable and skilled individuals who face the complex challenges of the twenty-first century. There were 50 participants among 60 who were distributed with the questionnaire. They were from 20 to 30 years old and are from various specialties (economics, management, engineering, languages, etc.) in addition to those who recently started their entrepreneurial projects. The premise behind this questionnaire is to gather data about the realities of possessing the required knowledge and specific skills indicated for the twenty-first century to exploit them in entrepreneurial projects especially with the support and help of ANSEJ.

## Results

The summary of the answers of participants is as follows. The familiarity of the participants with the twenty-first century knowledge and skills to start an entrepreneurial activity is considerably high: 65 % of the respondents are aware about those, while 35 % of them showed the opposite. Implementing twenty-first century skills in the curriculum of the Algerian university contributes in exposing students to the entrepreneurial spirit that benefits their society in the long run.

Respondents believe that collaborative work is of huge importance to share knowledge and learn the required skills. It allows them to develop communicative skills, improve creative and critical thinking, and provide more active learning; 75 % agreed upon this idea, while 25 % have no tendency to collaborative work. Moreover, only 32.5 % think that they were used to collaborative work such as workshops, while 67.5 % are not familiar with this kind of collaboration.

### Life and Career Skills

Measuring students' flexibility, adaptability, initiation, and self-direction, 62.5 % were positively skillful, while 37.5 % are not because they believe they need training.

Coming to assess participants' productivity, 32.5 % seem to be productive individuals because they tend to achieve goals. However, 67.5 % do not seem productive, in their opinion, due to insufficient time, unclear goals, and lack of supervision.



These results demonstrate that the Algerian university is facing the risk of producing nonproductive citizens as a result of nonproductive learners, which needs a special care by stakeholders especially the education.

On the perception of participants' leadership skills, 35 % of them presume that they are leaders because they tend to be leading in group works by their ideas, having the ability to bring discussions and new perspectives, and supporting every group participant to reach the fulfillment of tasks. Only 2.5 % give the impression to be bossy rather than being led by others, whereas 62.5 % prefer to be participants to give opinions in discussions and do not take the lead. So, if we need future leaders that the Algerian society needs, there should be particular learning and training. On assessing responsibility tasks, the majority of students (77.5 %) believe that every member is responsible when doing a task, which signifies their awareness about social responsibility.

On testing social and cross-cultural skills, respondents appear socially and cross-culturally skillful: 92.5 % have the tendency to explore different cultures and religions because they believe that this will enrich their knowledge.

### Innovation and Learning Skills

Concerning creativity and innovation skills, 45.5 % of respondents think that they are able to solve problems in an innovative way, while 52.5 % do not think so. About 75 % of participants believe that they have critical thinking abilities because when participating in teamwork, they noticed themselves responding differently to the problems encountered using analytical, logical, and deep thinking.

### Digital Literacy

Most of the respondents are effectively able to use technology. They mainly use the Internet to conduct scientific research or socialize with people through some social networks like Facebook, Twitter, and Skype; 75 % manipulates technologies, while 25 % do not. About 45 % of the students believe that the university provides the necessary means of technology like net connection, computer rooms, data shows, and overhead projectors, while 55 % assume the nonuse of such technologies, nonetheless their importance in this century.

At the end, we arrived to the result that 92.5 % of the students think that the education they get does not match the required skills of the twenty-first century because of the unsuitable conditions such as the lack of technology-based learning and teaching, and lack of authentic materials. This is surprising in light of the budget allocated to higher education by the Algerian government for conducting and innovating education facilities, declared in the official journal in 2012 to be about 3 billion USD. Students' preparedness for professional life was proportionally high; 72.5 % of respondents think that they are successful and ready to hold responsibilities of field work, and educationally they are well equipped, in opposition to 27.5 % of respondents who think the opposite.

To come to an end and judge if youth entrepreneurship among Algerian students and graduates is knowledge-based when they create their own entrepreneurial projects, we can assume that it is not intensive because there are some weaknesses in the

required skills, like productivity, creativity, information and communications technology (ICT), problem solving, and digital literacy. In addition, we highlight, too, the weaknesses in life and career skills, from ANSEJ investors' views, which are lacking in their education.

Most of the participants agree that their education did not prepare them to active professional life because teaching and learning are still in traditional ways; they believe that life skills (twenty-first century skills) guarantee the success of any project, and the education they had at university provided them only with 30 % of life skills. The remaining percentage of knowledge comes from individual experiences, especially technology knowledge, which they consider very important for their projects.

There are some methods and solutions that could be beneficial to learn life skills, such as teamwork or workshops, training, and opening to businesses or the environment in general. Most of the required skills in the twenty-first century which represent the starting point for future entrepreneurial projects already could be applied in the Algerian university but there are lacks in organizational and technological means.

## Conclusions

This study investigated if entrepreneurship among Algerian youth is based on knowledge, especially of graduates and students who seem to have the knowledge and skills that prepare them for life in the future and lead to create entrepreneurial projects. To this aim, we investigated implicitly if the university plays its role to guarantee their readiness for professional life through providing them with the knowledge and skills to create entrepreneurial projects based on knowledge which produces added value in the long run.

Although the efforts of the Algerian government in enhancing the economy of know-how through the programs of support for youth employment, such as ANSEJ, which encourages the creation of entrepreneurial activities, those projects are not really a knowledge-intensive factory, because the university does not play its role to implement the entrepreneurial spirit and provide students with the knowledge and skills needed in this century. For this reason, there is an insisting appeal to introduce "entrepreneurship" as a part of a curriculum in the Algerian educational system by implementing twenty-first century skills: life and career skills, innovation and learning skills, and digital literacy skills. This merits a high consideration to develop modern skills and knowledge by stakeholders, government, ministry of education, students, and teachers.

This requires rethinking the Algerian educational system, too, because it is primordial in preparing individuals to be citizens who contribute for the society's development. There should be an in-depth research in many aspects to enhance this system that would enable young people to deal with complex challenges, and to implement the knowledge and skills proposed by The Partnership 21 Framework, which seem to be a good solution for their success in studies, career, and life. There could be some other solutions such as partnership in education, ICT-based learning, networks, technopoles, and spin-offs that create, use, and produce knowledge, which is a crucial source for the development of any society.

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