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Distance Sustainable Education. Incentives and Expectations

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Abstract

The present study investigates the motivation for adult participation in distance education on sustainability and specializes in a population group with specific characteristics, that of the Agronomists (Higher Education Graduates). In a global community with shifting conditions, environmental problems and geometrically increasing demands regarding the qualifications of workers and especially the scientists dealing with these problems, this issue is considered of major importance while exploring the incentives that lead to participation – after acquiring the first degree – continuing education and learning, and in particular distance education on sustainable development, is essential. The result so that Agronomists feel a strong need to extend their knowledge mainly through distance education.

Keywords: adult education, distance education, motives, goal, sustainability

Introduction

Distance education has been defined in a number of ways, as several researchers have given their own conceptual version in accordance with their time and along with the achievements of technology. The definitions of Peters (2003), Moore (1993), Holmberg (1977) share two assumptions that characterize distance education and distinguish it at the same time from in person education: (a) teacher-student distance and (b) the structure of the teaching material. Later definitions as those of Garisson & Shale (1987), Barker (1989), as referred to Keegan (2001), highlight the possibilities offered by technology at an interaction and interactivity level (Alivizos et al., 2015). The distance learning programs

have become a tradition for most higher education institutions and disseminated considerably (Roblyer, 2006; Armakolas, Panagiotakopoulos, Karatrantou, 2018).

Distance education institutions, which now operate on all continents, are primarily aimed at adults – regardless of age – and provide education at all levels, from basic adult education and professional training, to undergraduate and postgraduate education (Armakolas, Panagiotakopoulos, Fragkoulis, 2014; Armakolas, Panagiotakopoulos, Magkaki, 2018).

Incentives

An incentive is anything that moves, pushes, or drives an individual into action (Kostaridou-Efklidi, 1997). Incentives can be inherent or acquired, that is, they have a hereditary basis such as instincts or can be acquired through learning processes when the individual interacts with the environment (Kostaridou--Efklidi, 1997). Incentives are divided into external and internal. As external are known those incentives that activate the body due to external effects. Among these incentives are money, privileges, growth, promotion, prestige, social status and more. They are provided to the learner by others.

The second category is internal motivation. Internal motivations refer to the involvement of individuals in activities for personal reasons that is, the feelings of pleasure and satisfaction that derive directly from participation (Deci, Ryan, 1985). When individuals have intrinsic motivation, they engage in activities that interest them, they experience a sense of will and function without the help of external rewards and/or restrictions (Deci, Ryan, 1985). Challenge, curiosity, control and imagination are considered to be (some) sources of internal motivation (Schunk, Pintrich, Meece, 2008).

Education for sustainable development

Education for sustainable development is defined as: "Education that enables one to develop knowledge, values and skills to understand the complexity of the world that he/she lives in and to participate in decisions on important issues of the planet, individually or collectively, locally or broadly for the sake of a sustainable future" (UNESCO, 2012). The changes advocated by the ESD "for the Environment" refer to all areas of human activity and aim at establishing a society of active and interventionist citizens in decision making. The trainees develop, through their personal and active involvement, ecological and political literacy with a view to their full and active awareness as citizens (Sterling, 1996, p. 35).

The evolution of environmental education (EE) to education for sustainable development (ESD) was the step that would contribute to the promotion of an innovative approach of environmental problems and would eventually address their educational processes (UNESCO, 1997). The concept of ESD was intro-

duced by international organizations, (just like that of SD), bringing a new, promising spirit into the field of education. Two paths for the evolution of the ESD are described by Overwien, (2016):

The first path relates to the concept of eco-learning, which emphasized the interconnection of nature with the social environment and was later followed by the more 'biocentric' approach of eco-pedagogy. The second path describes an evolution from environmental education (in the sense of environmental protection) to environmental education designed as preventive environmental planning and subsequently to ESD, which embodied the idea of shaping the future in a self--contained way and overlaps political science. The well-known Environment--Economy-Society triangle depicts ESD (Gomatos et al., 2019). The Huckle & Wals (2015), evaluating the UNESCO Decade on ESD (DESD) characterize the decade as a "more of the same" ("business as usual"), noting that the UNO (United Nation Organization) General Assembly is a union of states, not citizens of the world. It cannot, therefore, represent their common interests (citizens) to SD (sustainable development), because the interests of the more powerful states are closely related to those of global capital.

Reference Framework for ESD in Environmental Sciences and Agronomy

Interactions between Agronomy and Sustainable Development are evident through a correlation that proposes a combination of environmental, economic and social factors to ensure and maximize the benefits of Sustainable Development at an individual and social level. After all, the agronomists are active in all aspects of the agri-food sector but also engage in management and environmental issues, support the sustainable development policy and use daily all their scientific manpower for a sustainable environmental future. Sustainability, in its complex, constructed and contextual meaning, has become a highly controversial issue of our time. On the other hand, education is part of both the problem and the solution (Koutsouris, 2009). To meet the challenges posed by the pursuit of sustainability, it is important to reorganize both agronomic education and rural training to provide agronomists with new sets of skills needed to promote and support sustainable rural development (Charatsari, Papadaki-Klavdianou, Koutsouris, Lioutas, 2018).

However, traditional/dominant scientific assumptions and productive approaches of agriculture, which relate to the technical orientation of the curricula, have not allowed this argument to permeate the discussion and practice of institutions (including research and extension) (Koutsouris, 2009). As society and technologies change rapidly and the amount of information continues to grow exponentially (Nagy, Farmer, Bui, Trancik, 2013), it has become increasingly important for people to keep up with these developments throughout their life--time and increasingly important to participate in distance education programs for sustainable development.

In a time-limited environment, distance learning is an appropriate alternative education and should be supported by studies that will address motivation, goal orientation and academic performance to an extent that we can make all the necessary correlations.

Methodology

The scope of this survey, conducted in February–March 2019, was to study the motivation of adults involved in distance education for sustainability, but through the case study of a group of people with specific characteristics, that of the Agronomists.

Based on the above purpose, there is an attempt to answer the following research questions:

Research Question 1. Why does the sample choose to attend a distance education program?

Research Question 2. What are the motives that lead the Agronomists sample to continue their studies in sustainable development?

The sample included Agronomists (Higher Education Graduates) who continue their education after obtaining their degree using distance education in order to expand their knowledge and skills related to Sustainable Development, that is, to become attuned with the requirements of the times, on EDA. The creation of the key points of the questionnaire was based on the above research data. In addition to the construction of the tool we took into account the existing theories of incentives and mainly the Scale Educational Participation EPS of Boshier (1971), which has been used in various research groups of learners (Dia, Smith, Cohen-Callow, Bliss, 2005; Fujita-Starck, 1990) as well as different forms of education (Haefner, 1995; Michie, Glachan, Bray, 2001) but also the incentives. All the above were grouped in the following categories: a) Development of social relations, b) External expectations, c) Social contribution, d) Professional upgrading e) Escape from other situations and f) Interest in knowledge. The questionnaire was initially created using Word Microsoft Office application packet and then was also made available online with the help of the Google Forms application to meet the needs of the sample expected to cover geographically Greece as a whole.

Analysis

Demographics requested gender, age, marital status and place of residence of the participants. We consider these data to be directly related to the motivation of respondents to participate in distance education. The following items are displayed per question category. Regarding the age of the participants, we had Agronomists of all ages, however the majority of the sample falls into two categories, since the 41.2% corresponds to the age group of 26–35 and the 45.9% of

the sample corresponds to the age group of 36–45. Regarding the marital status the 55.3% of the sample corresponds to the Single category, the 40% corresponds to the category Married, the 2.4% of the sample are Divorced and the 14.1% have children.An important aspect of the demographics section is the place of residence of agronomists surveyed. The extent of the sample is really impressive from a geographical point of view as it covers almost all Greece.

Regarding the employment status of the respondents to the question relating to the years of employment and work experience, their responses are reflected in the following chart, with the 36.5% of the sample to have over 11 years of experience, followed by the 23.5% of the sample with 5–10 years of service, the 22.4% of the sample with 2–5 years of service and the17.6% with up to 2 years of experience.

In the survey on the employment status and working condition the 45.9% of the sample reported full time employment in the private sector, the 22.4% of the sample declared to be self-employed/freelancers, the 15.3% of the sample is employed in the public sector and the 9.4% of the sample is unemployed, while there are 4.7% of the sample working in the private sector on a part-time basis. The unemployment rate recorded by the sample of our surveyed agronomists appears far less than the general average unemployment of agronomists that reaches the 24.5%.

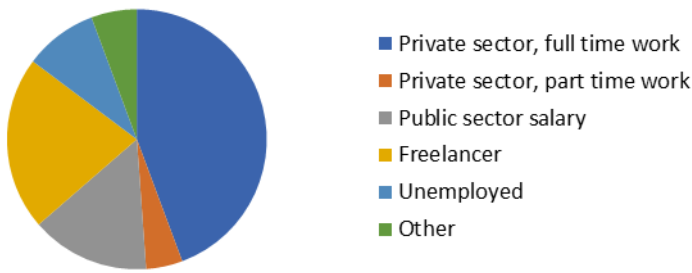

Figure 1. Employment status/Working condition of participating agronomists

Finally the question whether there is a link between the first degree and their current job, the 78.8% of the sample stated that YES it is relevant while the 21.2% stated that there is no relevance between their first degree and the job they are currently covering. In this case too, the percentage employed in a position relevant to the subject of their studies is extremely high.

In reply to whether Agronomists choose to attend a distance education program related to Sustainable Development, as the main reasons that led them to choose to pursue a distance education program related to sustainability, Agronomists respondents indicate the flexibility of the program by a percentage of

72.4%, professional obligations by 70.9%, the less operating expenses by 59.8% while the 52.3% states the lack of time to follow a conventional program. On the contrary, as far as our sample is concerned, there are family obligations that do not appear to influence the choice of educational program as the 29.4% of the sample chooses it as the main reason for attending a distance program. On questions concerning the incentives that drive our sample adults to participate in distance education programs on Sustainable Development, the most popular answers related to sample preferences were I Agree and I Agree Absolutely, as follows:(i). 90.5% "Because I was interested in the topics of this curriculum" (ii) 85.7% "Because I wanted to get a better scientific background" (iii).81.2% "Because I wanted to Learn New Things" (iv).79.8% "Because I wanted to become more effective on issues related to my work" (v). 78.8% "Because I wanted to improve my competitiveness" and (vi).78.6% "Because I wanted to broaden my horizons".

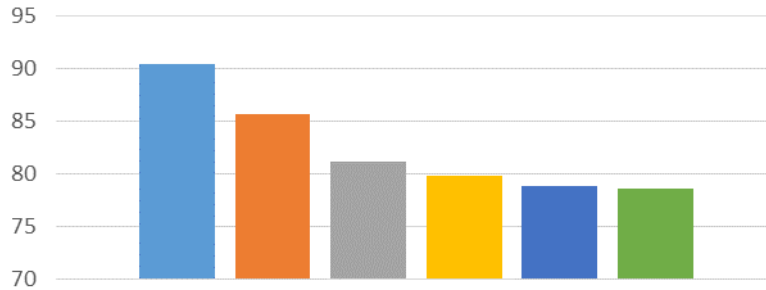

Figure 2. Participation incentives of the interviewed agronomists in Distance Education for adults

In an attempt to classify these motives using the Boshier EPS Educational Scale, we observe that the motivation i, ii, iii & vi belong to the category "Interest in knowledge" and incentives iv & v in the category "Professional Upgrade", which qualify over others and this can be explained perhaps by the fact that most participants are of a productive age and are taking actions that will provide professional development and recognition by strengthening their scientific field. The above findings are in line with the findings of the international literature, since in all surveys "Professional Progress" is one of the highest participation incentives, ranking first and second in the selection (Urbano, Jahns, Urbano, 1988; Gordon, Olson, Hamsher, 1990; Miller, 1992; Haefner, 1995; Nason, 1998; McMilan, Fay, 2003; Raghavan, Kumar, 2007). Also, the survey results are consistent with the objectives set by the European Union concerning Adult Education as a means to "promote excellence in education and skills develop-

ment to ensure future growth based on innovative products, services and business standards in a Europe that is facing aging populations and strong competitive pressures" [EU, (2011/C 372/01)].

But the most important part of the research was that the incentives that drive the agronomists to pursue studies on Sustainable Development are in agreement with the results of Charatsari's specialized pre-existing research (2018), whose qualitative analysis of the results confirmed the need for continuous agronomic education in Greece. In this way agronomists are driven to search for programs that allow them to cover this gap in their education, and seek a better scientific background through the modern requirements of applying agronomic science and eventually acquire new knowledge.

Conclusions

The scope of this research was to study the motivation of adults involved in distance education for sustainability, but through a case study of a particular population group, that of the Agronomists. The Agronomists have proved to be an interesting case, as they belong to the sector that deals with environmental sustainability and are actively involved in the success of sustainability pillar, once entrusted with the difficult task of crop management so that global pollution by pesticides, adaptation and resistance of pests, loss of soil fertility, soil erosion, loss of biodiversity, desertification and so on, become a distant past at some point.

It becomes explicitly clear that conventional farming is no longer suitable for human consumption and ecosystem conservation. Sustainable agriculture is an alternative to solving basic and applied issues related to food production in an ecological way (Lal, 2008). While conventional agriculture is driven almost exclusively by productivity and profit, sustainable agriculture integrates biological, chemical, physical, ecological, economic and social sciences in a comprehensive way to develop new agricultural practices that are safe and do not degrade our environment (Lichtfouse, Navarrete, Debaeke, 2009). But how ready are the agronomists to cope with modern requirements? The need to implement a sustainable way of cultivating the land is more critical than ever, so scientists feel a strong need to extend their knowledge mainly through distance education.

Regarding the first research question and why the geotechnical sample choose to attend a program of distance education over conventional and based on the prevailing reasons, the 72.4% opted for the flexibility of these programs, the 70.9% for professional obligations, while family obligations did not appear to significantly affect the geotechnical sample. Valassidou's (2005) research revealed that distance education comes as a solution to adult time problems since it seems that in this case it helps adults surpass the obstacles of a different time and place. Distance education contributes to the formulation of an interactive

environment of collaborative learning under pedagogical conditions (Anastasiades, 2008; Armakolas, Alimisis, Panagiotakopoulos, 2013; Panagiotakopoulos, 2014).

Finally, with regards to the second research question and the incentives/motives (for participation) that lead the geotechnical sample to continue their studies and more specifically their studies in distance adult education on sustainable development, the geotechnical preferences of the sample recorded the highest percentages ranging from 90.5% to 78.6% in incentives, i). "Because I was interested in the topics of this curriculum", (ii). "Because I wanted to get a better scientific background", (iii). "Because I Wanted to Learn New Things", (iv). "To become more effective on issues related to my work", (v). "To improve my competitiveness" and (vi). "Because I wanted to broaden my horizons". We note, that all the incentives to participate in distance education programs of the Geotechnical surveyed sample fall into two categories of the scale of the EPS Boshier. In particular, incentives (i), (ii), (iii) and (vi) fall under the category of "interest in knowledge" and incentives (iv) and (v) fall under the category "professional upgrading". Other investigations carried out on the motives for participation resulted in these two prevailing categories of the EPS scale. Academic Institutions can address the lack of organized sustainability-oriented learning opportunities through the design of agronomy programs. Web-based distance learning seminars (webinars), training platforms, presentations and even virtual tours of sustainable farms can contribute to learners gaining knowledge of sustainable agriculture and implementing sustainable management practices in rural and agri-food businesses. There is a proven gap between the skills/competencies of the agronomists and the reality of implementing Sustainable Rural Development (Charatsari et al., 2018). The agronomists who wish to enrich their scientific background with sustainable development issues may resort to distance education to become efficient and competitive in their work and also improve the levels of knowledge on Sustainable Rural Development.

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