



Key Competencies in Sustainability: Views of Greek Public Servants

Christos Petsimeris¹, Dionysios Koulougliotis²

Ionian University, Greece¹
Ionian University, Greece²

Abstract

Sustainable Development (SD) is one of the most important challenges of our time. The research question examined in this study is related with the skills that a public servant/officer should possess in order to cope with an administration that has as goal and is oriented towards SD. Although in the relevant literature one finds many categories of people/groups whose attitudes, beliefs and knowledge towards SD have been investigated, the relevant issue has rarely been examined among public servants, despite the fact that the employees of the public sector are often called to participate in the implementation of government policies related to SD. The results that will be presented were extracted from context analysis of forty-four (44) interviews with active public servants in Greece of different educational levels and categories. The questions posed were related to their personal views on the competencies/skills required in order to successfully handle professional issues related to SD. For the categorization of the competencies, the theoretical framework presented by Redman & Wiek [Frontiers in Education 6: 785163] was employed. According to this categorization, there exists a set of eight key competencies in sustainability namely a) Systems-Thinking, b) Futures-Thinking, c) Values-Thinking, d) Strategies-Thinking, e) Implementation, f) Inter-personal, g) Intra-personal and h) Integration competencies. Data analysis showed that two key competencies, namely Values-Thinking (24 participants) and Inter-personal (13 participants), are the most prevalent among the interviewees. The intra-personal and implementation competencies are also recognized quite frequently (8 participants each). The Futures, Strategies and Systems Thinking competencies are brought out more rarely (6, 5 and 4 participants respectively) while the Integration competence is mentioned by solely one participant. A small, however non insignificant, number of interviewees (5), did not seem to be in a position to mention any competence. These results may provide the basis for follow up actions and planning of educational interventions for the empowerment of Greek public servants in the field of sustainable development.

Keywords: sustainability, competencies, views, public servants, sustainable development, public sector

1. Introduction

Sustainable Development (SD) is one of the most important challenges of our time and it has become a catalyst for policy makers around the world since the concept was popularized by the World Commission on Environment and Development (WCED) in 1987 [1]. In that conference, the most known definition of SD was formulated as "a development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs". In the years that followed and more particular in 1992 at the Rio Conference, the United Nations adopted Agenda 21, which constitutes a comprehensive plan of action to be undertaken at the global, national, and local levels by organizations of the United Nations System, governments and groups in each area in which people are imprinted in the environment [2].

SD as a concept is intertwined in the consciousness of most people exclusively as Development that is oriented towards the protection of the natural environment. However, as reported in Agenda 21 [2], there exist three dimensions that constitute the concept of SD namely the environmental, the economic and the social. Following Agenda 21, the new integrated 2030 Agenda for SD which was adopted in 2015 [3] refers to the need and commitment of the global community for "achieving sustainable development in its three dimensions in a balanced and integrated manner" and goes a step further by setting out the 17 Sustainable Development Goals (SDGs) [3].

The familiarization of public servants with issues related with SD is of crucial importance as they constitute a group that has the potential to influence decisions and policies. As long as public servants



are familiar with SD and its complex nature, they can take into account the of their decisions on sustainability and promote measures that respect the environment (environmental dimension), contribute to the formulation of policies and programs that promote economic sustainability (economic dimension), and ensure that their relevant policies and initiatives are fair and prioritize the needs of the most vulnerable communities (social dimension).

In order to achieve SD one needs to address major challenges such as climate change, socio-economic inequities and loss of biodiversity, which require transformative change rather than incremental improvements [4]. The characteristics of a person who may act as a transformative change agent towards sustainability should be reflected in the learning objectives of the corresponding educational programs and initiatives. These characteristics have been articulated in a recent systematic review of the literature and were organized in a framework of competencies for advancing sustainability transformations [5]. This framework involves four competence categories/classes: key competencies, disciplinary competencies, general competencies and other professional competencies.

Concentrating on the key competences, it is noted that they represent “a recognizable qualifications profile” which is distinct for the field of sustainability research [6]. Key competences are not dependent on the content of the specific sustainability theme. The other three competence categories are complementary to the key competences. In the initial work of Wiek et al. [6] a system literature review resulted to a convergence to a set of five key competencies: systems-thinking, anticipatory, normative, strategic and interpersonal competence. In the most recent systematic review that followed after ten years [5] three additional key competences emerged from the updated analysis of the literature namely intrapersonal, implementation and integration competences. Thus a novel unified framework of eight key competencies in sustainability has been adopted, as follows [5, 6]:

i) Systems-thinking competence: It refers to the ability to apply analytical approaches in order to analyze Complex Systems and Problems related to Sustainability (CSPSs) across all three dimensions of SD and across different time or space scales as well as for analyzing the impacts of sustainability strategies and interventions on these systems and problems.

ii) Anticipatory or Futures-thinking competence: It refers to the ability to anticipate (via the construction and/or conduction of simulations, scenarios, forecasts etc) future states and dynamics of CSPSs as well as the impacts of different strategies and interventions on CSPSs.

iii) Normative or Values-thinking competence: It refers to “the ability to identify, map, specify, negotiate, and apply sustainability values, principles, and goals” in order to assess the sustainability of current/future states of complex states as well as the sustainability of strategies and interventions and in order to construct sustainability visions.

iv) Strategic or Strategies-thinking competence: It refers to “the ability to construct and test viable strategies” for sustainability “interventions, transitions and transformations”.

v) Interpersonal competence: It refers to collaborate in teams and to “involve diverse stakeholders, in meaningful and effective ways, in advancing sustainability transformations”.

vi) Intrapersonal competence: It refers to the ability to exert “resilience-oriented self-care” in order “to avoid personal health challenges and burnout” while “advancing sustainability transformations”.

vii) Implementation competence: It refers to the ability “to put sustainability strategies into action” effectively and efficiently.

viii) Integration competence: It refers to the ability to develop and implement successfully viable, equitable and inclusive collective problem-solving procedures to complex sustainability issues/problems.

Taking into account, the crucial role of the public sector for advancing sustainability [7], the aim of this work has been to explore the views of public servants with regard to which key competencies in sustainability are considered most important to possess, by taking Greece as a case study, via a qualitative research approach.

2. Methodology

The qualitative research approach is considered the most appropriate for a detailed understanding and viewing the subjective side of a participant [8]. Specifically, content analysis of data gathered via the interview method with open-ended questions was chosen since it is considered most appropriate when probing people's perceptions of a topic [9].



The sample consisted of a total of forty-four (44) executives serving in the Greek public administration. A purposeful sampling method was employed in order to select participants that represented the variance of the target group (Greek public servants) with regard to gender, age, work experience, position ranking and academic/educational background. A semi-structured interview questionnaire was designed to conduct the interviews.

The interview questionnaire was divided into three parts (Part A, B and C). Part A included demographic information. Part B included six (6) questions aiming to explore the participants' perceptions with regard to the concept of SD and their views on the skills and abilities required in order to cope with an administration that is oriented towards SD. Part C included five (5) questions regarding the policies and education/training initiatives concerning the promotion of SD.

The content of all interviews was analysed via the constant comparative method [10, 11] in order to determine which key competence(s) in sustainability [5] are considered important by the participants.

3. Results and Discussion

Content analysis of the interviews of all 44 participants showed that all eight key competences in sustainability were recognized, however with variable frequency, as shown in the following table (Table 1) which summarizes the results:

Table 1: List of key competencies in sustainability recognized by interviewees

No	Key competence	Frequency (No of interviewees)
1	Systems-thinking	4
2	Anticipatory (Futures-thinking)	6
3	Normative (Values-thinking)	24
4	Strategic (Strategies thinking)	5
5	Interpersonal	13
6	Intrapersonal	8
7	Implementation	8
8	Integration	1

The competencies listed in Table 1 were recognized by a total of 39 participants. No key competence in sustainability could be identified from the interviews given by 5 participants.

Some characteristic quotes from the interviews, together with their assignment to specific key competences are provided below.

- *"Sustainable development is related with many fields. Interdisciplinary education should be promoted, so that public servants be able to understand how different issues are interconnected"* (Systems-thinking competence - Interviewee no 21)
- *"(The public servant should possess) ... sense of social responsibility, respect and love for the environment and the other human beings (Normative competence), vision for what might happen in the future (Anticipatory competence - Interviewee no 24)*
- *"Larger emphasis (should be given) to the design, larger priority to the inclusion of the scientific community to the design of policies, larger emphasis in citizen participation in processes of spatial planning policies (Strategic competence, Interpersonal competence- Interviewee no 39)*
- *"(Public servants should) be able to apply the principles of sustainable development in their everyday professional life (Integration competence- Interviewee no 21)*
- *"(Public servants should) get acquainted with the concepts in order to reach a position in which they will be able to apply them" (Implementation, Interviewee no 31)*
- *"(Public servants should have) psychological resilience..." (Intrapersonal, Interviewee no 2)*

As shown in Table 1, the normative (values-thinking) competence was the one that was mentioned more often (ca. 55%) by the interviewees. The high frequency of this competence could be due to the fact that it is related with ethical concepts such as the need for intra- and intergenerational equity as well as the balance between socio-economic and environmental activities. It is therefore a competence which refers closely to the classical definition of SD which is widely known between the participants.



The second most frequently mentioned (by ca. 1 out of 3 participants) key competence is the interpersonal competence. This competence is connected with the need for collaboration between different parties/stakeholders in order to cope with the challenges posed by sustainability. This seems to be a familiar notion among the participants. In addition, as noted in Wiek et al. [6], the “interpersonal competence is closely linked to all other competences, as (they) all rely on collaborative approaches”. It is thus may be considered a competence “umbrella” and as that is rather not surprising that it tends to be recognized rather often by the participants.

The remaining six key competences are less prevalent among the participants, with the systems-thinking and the integration competencies being the least frequently mentioned. The need for systems-thinking in order to approach complex systems and issues as the ones referring to sustainable development is largely recognized by the academic community involved in education for sustainable development [12]. With regard to the integration competence, it refers to the ability to combine the individual competencies “in a meaningful and effective way” [5] in order to face the challenges posed by sustainability. Both the systems-thinking and the integration key competencies are related with the holistic and at the same time complex nature of the concept of sustainable development, which is difficult to grasp and therefore it is not surprising that their awareness is low. The following table (Table 2) provides information regarding the distribution of the quantity of key competencies recognized.

Table 2: Distribution of the quantity of key competencies recognized by the interviewees

Quantity of recognized key competencies	Frequency (No of interviewees)
0	5
1	17
2	19
3	2
4	-
5	-
6	-
7	-
8	1

As shown in Table 2, the large majority of the interviewees (41 out 44, ca. 93%) recognized a maximum of only two key competencies as important for handling issues related to sustainable development. This provides evidence for an overall low level of awareness regarding key competences in sustainability. The one single interviewee that was shown to be in a position to make mention of all eight key competencies is an interesting exception. This exception implies that in the whole target population one would expect to find such subjects who, if given the means and the opportunity, could provide the basis for infusing key competencies in sustainability in their work community.

4. Conclusions

All eight key competences in sustainability were recognized by the group of the interviewed Greek public servants, with the normative (values-thinking) and interpersonal competencies being the most prevalent. The least mentioned competencies were the systems thinking, the strategies-thinking and the integration competence.

Among the interviewees who recognized at least one competence (39), the large majority (36) mentioned a maximum of only two competencies. This provides evidence for an overall low level of awareness of the competencies required in order to deal with issues related to sustainability transitions. These results bring out the need for educational interventions specifically designed for the empowerment of Greek public servants in the field of sustainable development via increased awareness and development of all eight relevant key competencies.



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