

# Sustainability and urban development - Córdoba city (Spain): BE.D Primary. Student's perception

## Sostenibilidad y desarrollo urbano en la ciudad de Córdoba (España): percepción de los estudiantes de Primaria

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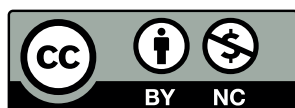
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### Resumen

Uno de los desafíos educativos fundamentales en la formación docente es trabajar los Objetivos de Desarrollo Sostenible establecidos por la Agenda 2030. En este sentido, el objetivo del artículo es analizar la sostenibilidad en la ciudad de Córdoba: por un lado, teniendo en cuenta el desarrollo urbano de las últimas décadas y, por otro lado, la percepción de los estudiantes de Grado de Educación Primaria sobre esta ciudad como una comunidad sostenible. Con el objetivo de fomentar un aprendizaje significativo, se diseñaron unas actividades para trabajar, siguiendo una metodología constructivista, el concepto de sostenibilidad a través del ámbito local. Estas líneas muestran que la experiencia pedagógica llevada a cabo por los estudiantes aún debe ser más significativa en muchos aspectos para que exista un conocimiento efectivo y práctico de la sostenibilidad en la realidad educativa de muchas de las escuelas de la ciudad de Córdoba.

### Palabras Clave:

*Grado de Educación Primaria, Córdoba, Sostenibilidad, medioambiente, Didáctica de las Ciencias Sociales, Educación Primaria.*

**Clasificación JEL:** A22, Q51.

### Abstract

One of the fundamental educational challenges in teacher training is to work the Sustainable Development Goals set by the 2030 Agenda. In this sense, the objective of the article is to analyze sustainability in the city of Córdoba: on one hand, considering the urban development of the last decades and on the other hand, the perception of the Primary Education Bachelor Degree students about this city as a sustainable community. With the aim of fostering meaningful learning, a series of activities were designed to work, through a constructivist methodology, the concept of sustainability through the local sphere. This line shows that the pedagogical experience carried out by the students, must still be deepened in many aspects so that we can talk about there being an effective and practical knowledge of what sustainability means for today in the educational reality of the most schools in the city of Córdoba.

### Keywords:

*Primary Education Bachelor Degree, Córdoba, Sustainability, environment, Social Science Didactics, Primary Education.*

**JEL Classification:** A22, Q51.

## Introduction

One of the most conclusive challenges that the growth and planning of cities is currently facing is a sustainable territorial and urban expansion. It implies to understand that the progress is based on economic, social, environmental and educational conditions. Furthermore, the territory must be legislated by joining different factors as the environment, the people well-being, the social harmony, the energy efficiency, etc... under a global consideration.

For more than a decade, collaboration between the different European and world governments to ensure sustainability of cities has been revolved. The Leipzig Charter on Sustainable European Cities (European Commission, 2007) was approved. This was because of the commitment made by member countries to develop a framework to bring together urban development policies and to start a debate on the integration of approaches to the sustainability of cities addressing the different levels: national, regional and local community states following the philosophy of the Bristol Declaration of December 6th, 2005. In the Leipzig agreements, a series of recommendations and strategies were stipulated, highlighting: To modernize infrastructure networks and improve energy efficiency, to carry out proactive innovation and educational policies, to seek strategies to improve the physical environment, and to promote efficient and affordable urban transport (Levstik, 2013; Fernández Montoya, 2017; Mesa, 2014).

The following year, 2008, under the European presidency of France, the European Framework of Reference for the Sustainable City (RFSC) was promoted; a web initiative created whose decision to implement it out was not binding, to promote sustainability in European cities, logistically and operationally developing the principles set out in the "Leipzig Charter" (European Commission, 2007). The importance of this project lies in the agreement to use common criteria and the same structure to achieve sustainability in the cities of the old continent, being able to adapt to social, political, cultural pluralities within the European landscape. Since 2017, the tool has been enhanced to integrate other frameworks in favour of sustainable urban development. In more general terms, it will monitor the various proposals that contribute to the expansion and inclusion of sustainable cities throughout Europe.

Taking into account the teaching-learning process, several general objectives are established when the activity was planned. Firstly, to know the perception of the students of the Primary Education Bachelor Degree (University of Córdoba) about urban life and environmental problems. It was also intended to deep on the teaching methodology used with regard to environmental education and sustainability. Finally, to approach the future teacher's awareness on the different issues and the importance of the environmental education, not only in a global way but also related to the nearest environment.

## Literature review

### *Initiatives regarding sustainability in Spain*

Urban sustainability is a process that is expected to take a long time and that demands a collective awareness and a series of public measures and actions. Specifically, in the case of Spain, in 2007 the government approved an action plan that would seek the opinions of the European Strategy for Sustainable Development (EUSDS), with the objectives we can see in Figure 1. The Spanish Development Strategy Sustainable (EEDS) is focused on 3 areas: environmental, social and global sustainability (Montiel, 2008).

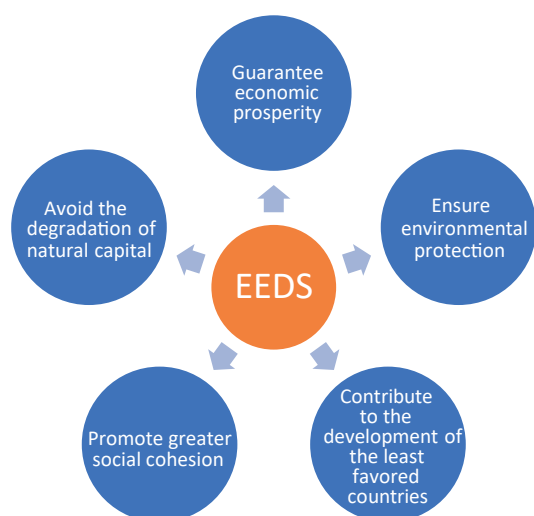


Figure 1. Objectives Spanish Strategy for Sustainable Development.  
Source: EEDS.

In relation to the sustainability of the urban environment, the EEDS develops a series of dimensions to try to reach a factual balance between urban planning and the environment based on a proper planning of urban and rural territorial

development. It emphasizes land use and land occupation, structuring existing and future residential habitats through a city project based on a reformulation of economic, environmental, and social activities, through active citizen participation (Zamora-Polo y Sánchez-Martín, 2019; García González y Pérez Martín, 2016; González Díaz, Oramas Fernández, y Gutiérrez Taboada, 2014).

In reference to measures of an educational nature and awareness (Sterling y Thomas, 2006), the ones that have the greatest impact are those related to education from an early age. Education is a fundamental tool to transmit to citizens the knowledge of the environment and its conservation, in the principles of sustainability and in the preservation of natural resources (Bonil, Junyent, y Pujol, 2010; Santisteban y Pagés, 2011). Therefore, it is considered essential to introduce the concepts of responsible consumption, sustainability, and respect for the environment both at school and at home. In this direction, the recently endorsed Organic Law of Education (BOE Legislación Consolidada, 2013), establishes as a minimum, Primary and Secondary Education awareness in the conservation of resources and natural diversity, and in global and intergenerational solidarity (Zamora-Polo, Sánchez-Martín, Corrales-Serrano, y Espejo-Antúnez, 2019).

### *Sustainability as a goal: the city of Córdoba*

In the local scope, medium-sized cities such as Córdoba plan and agree the

urban structural changes, like rehabilitations and constructions (Torres-Porras y Arrebola, 2018). It has an integrative system that requires constant measures to renew its most essential structures, to achieve an optimal model that addresses the sustainability of political, social and economic needs.

#### *Political and economic situation*

At the local level, in the city of Córdoba, the absence of a position, area or delegation is especially noteworthy as the absence of an institutional reference - such as a municipal political officer or a delegation or exclusive Directorate General for the Environment. There are not enough resources to design environmental policies and to evaluate the environmental impact of the municipal actions. As a result, the environmental policies are insufficient and the results little quantifiable. The commitment decided by this type of public measures, which increase the well-being of the citizens and ensure a coherent ethic towards our environment, needs strict governance which groups together in the same delegation the different areas and municipal companies that participate in the environmental management of the city, which should give transversality, uniformity and coherence, thus establishing an identifiable institutional reference for citizens. This would also lead to being referents at the state level (Reed, Fraser, y Dougill, 2006).

The evaluation of the local Agenda 21 is several years late, so its completion

should be among the priorities of the next legislature. The development of similar tools to achieve true sustainability in the face of current energy, environmental and socioeconomic crises should be the central policy of the next municipal corporations (Ayuntamiento de Córdoba, 2017).

The described scenario forces us to break with the prevailing economic system and to begin to build a new model in which equity and austerity in the consumption of energy and materials must prevail. In the construction of this new model, the participation of cities is essential, which must adopt alternative initiatives to the dominant model of energy consumption, toxic substances, transport, production of goods and mainly production, distribution, and consumption of food products. Faced with the “relocation” of the economy that prevents us from knowing who, where and how it produces what we consume, we are committed to “relocation” to allow shorter distances between producer and consumer, strengthen local economic activity and favor greater democratization of the economy through the empowerment of small and medium enterprises (Levstik, 2013; Montiel, 2008).

Tourism, a very important economic activity in the city of Córdoba, must be conceived as an activity that allows the improvement of the quality life of Córdoba citizens. For this, any sector and activity aimed at tourism must implement environmental management systems, such as: the separation and proper processing of waste, the supply of local and nearby products (kilometer 0), the

use of efficient and renewable energy, the reduction of water consumption and noise pollution. Córdoba must position itself as a responsible city, with a clean environment, without conflict or violence, avoiding the massive tourist model that will result in the destruction of the physical environment and local populations (Ayuntamiento de Córdoba, 2017).

The city must adapt all of its structures to a model of low energy and materials consumption and low fossil energy consumption within the framework of the total disappearance of this type of fuel. Consequently, it must reconfigure the urban organization and design the neighborhoods looking for efficiency and self-sufficiency. In this framework, we can only bet on local commerce in a horizon of disappearance of large stores. Local commerce and sale in short circuits are an inseparable equation in the new model that we must build (Torres-Porras y Arrebola, 2018; Sánchez-Hernández y Maldonado-Biegas, 2019).

All these objectives are not feasible within the framework of a mode of production based exclusively on private initiative, in which it is considered that only the search for maximum benefit can justify the start of an economic activity.

#### *Renewable energy sector*

The energy model that a community chooses determines and determines everything: the economy, urban planning, the agri-food system, waste management, air and water quality. Energy is always

present and impregnates the whole system. The energy model of industrialized societies is based on 90% of fossil energies that is responsible for climate change, generates energy dependence, generates inequality by condemning large sections of the population to energy poverty, determines urban mobility, etc.

A model that puts life and care at the center of policies (Mogren y Gericke, 2017), must rely on alternative principles that are defined by two basic criteria: austerity in the consumption of energy and materials and the reduction of greenhouse gas emissions.

Due to the special complexity of the electricity system, local corporations and citizens have a narrow margin of maneuver, but one of the medium-term objectives must be based on achieving a decentralized, democratic and egalitarian system, physically approaching production to consumption and developing initiatives of native production and commercialization (Zhai, Sun, Tsai, Wang, Zhao, y Chen, 2018).

The city model needs to be changed so that it is more human and that implies a change in the forms of mobility that drastically reduces the use of the car. In order to abandon the use of cars it is necessary to facilitate pedestrian traffic, by bicycle and by public transport, for medium and long-distance routes, in addition to an awareness campaign and information on the benefits of the change (European Commission, 2007). As benefits we can consider:

- The reduction of the emission of gases that entails, curbing climate change, breathing cleaner air with clear respiratory and dermatological benefits.
- Gain space for people.
- Noise reduction.
- Healthy exercise for those trips made on foot or by bicycle.

### *Waste treatment*

The amount of garbage we generate today and the wide variety of materials that compose it make waste management one of the main challenges that humanity must face, starting with the local environment. It is an environmental problem of the first order, since it generates serious problems of soil, water and air pollution, aggravated, in addition, by the solution that they are usually given: their shipment to landfills or incineration, highly unsustainable treatments both ecological and economically.

On the one hand, landfills, in addition to unsustainable, pose a danger due to their own characteristics and the consequences - too often ignored - derived from them. To contextualize the seriousness of the matter, it should be remembered that these are enclosures that have been practiced, with little rigorous measures, a large hole in the ground and where the waste is finally buried. After this, there is hardly any more control than the hope that there will be no leaks that contaminate the groundwater, that no spontaneous combustion is generated and that an excessive amount of toxic and greenhouse gases is not released

(Giddens, 2010).

Also, the incineration magnifies the problem of waste for several reasons: one of them, by the by-products it generates: slag, ash and a significant number of highly polluting gases, such as dioxins or furans, as well as harmful particles for public health.

In these circumstances, the objective of all public waste management policies should be aimed at achieving the least amount of waste possible, which translates into a very important improvement of selective collection, prioritizing that of organic matter for what a profound transformation of the current collection models will be necessary, installing closed containers, deposit, return and return systems (SDDR); carrying out the establishment and improvement of new collections of other fractions, such as waste electrical and electronic equipment (WEEE), furniture, textiles, used vegetable oils, etc. (Junta de Andalucía, 2016).

A significant decrease in waste involves designing products and managing processes that reduce their volume and toxicity, conserve and recover all by-products - and not end up burning or burying them -. Zero Waste municipalities in Europe are showing that selective collection can reach recycling rates between 80% and 90% (Zamora-Polo y Sánchez-Martín, 2019).

Although municipal competencies in waste management are limited and that a large part of the policies are drawn from

the regional and state administration, so that waste management systems such as the SDDR - deposit, return and return system - cannot be implemented locally. But we understand that the City Councils must play a leading role in claiming, to the competent administrations, the implementation of measures that, such as that of the aforementioned SDDR, allow a decisive advance towards Zero Waste (Sánchez-Hernández y Maldonado-Biegas, 2019).

### *Greenland planning*

The construction of new green areas and care for existing ones ensure spaces for socialization and recreation of citizens. In recent years there has been no growth of new green areas at the pace that the city of Córdoba needs, especially large parks that complete the green ring are required as contemplated in the General Urban Planning Plan (Ayuntamiento de Córdoba, 1997).

The good news has been that in the existing Parks and Gardens, the tendency of recent years to reduce them through excessive paving actions and the growth of buildings inside has been put to a halt. In large part of the public parks excessive water consumption is carried out to irrigate large areas of grassland whose purpose, in many cases, is essentially decorative. The abusive use of machinery such as blowers and the abusive use of pesticides detract from the parks their functionality as spaces for health. In the planning and management of the park's biodiversity is not considered, there are green areas where the existence of other

living beings, apart from domestic animals, is non-existent. The cause is in the absence of native vegetation in much of our parks (Ayuntamiento de Córdoba, 2017).

### *Air pollution*

Air quality is another of the pending subjects in our city. For several years the limits of NO<sub>2</sub>, SO<sub>2</sub>, Ozone and even Cadmium have been exceeded. With the rise in temperatures, caused mainly because of climate change, the negative effects of pollutants are enhanced, therefore, in Andalusia and especially in the Guadalquivir Valley, we must be more demanding with pollution control. Specifically, we live in one of the areas of Spain with the highest rate of contamination by tropospheric ozone. According to the report of Ecologists in Action, based on official data of the Junta de Andalucía, in 2017, in Asomadilla there were more than 25 days of exceeding the limits in which the population must be informed by high exposure to ozone (Zhai et al., 2018).

### *Sustainable actions from the local level*

The threat of climatic anomalies outside of all regularity and control, and especially the high temperatures, which we have been suffering in the city during recent years, not only in summer, but even in spring and autumn, are phenomena that are being repeated mimetically in the planet as a whole, and they are a sample of what the climatic conditions will be, in which humanity must live in a short period of time, so the

public authorities and international institutions must agree on measures that mitigate and prevent the effects of these changes on populations, measures that must be especially aimed at reducing greenhouse gas emissions responsible for global warming of the planet and the climate change in which we are immersed (Casey y Asamoah, 2016).

The data provided by the official entities on the temperatures of our environment shows that this is an issue of the utmost urgency. In recent years there has been an anticipation of the conditions that will soon characterize the summers in the city. This phenomenon is caused by the increase in temperature on a planetary scale of about 1°C since the pre-industrial era, an increase that for the peninsula has been 1.50°C and a little higher in Andalusia. In addition, the rate of increase in temperature will grow in the coming years and may mean by the end of this century an annual average increase in Córdoba of 3.5°C according to United Nations data projected to the autonomous community by the Board of Andalusia, which would mean an increase in the average temperature in summer in our city between 5 and 7°C, if these numerical data are met, and nothing seems to indicate that we can return to the summers of the last century, we turn to own summers of an uninhabitable desert (Junta de Andalucía, 2016).

Because the positive changes are the sum of cities power, an international effort is necessary to reduce the greenhouse gas emissions. It is evident that important groups of the inhabitants

of Córdoba must change their habits because, and it happens in other developed countries, life routines are linked to a high consumption of products responsible for climate change (United Nations, 2015)

But regardless of the measures that, in solidarity with the rest of the towns and cities, it is necessary to adopt, this city now must start implementing adaptation measures in order to guarantee minimally comfortable living conditions in the coming decades, and thus ensure a livable city for its neighbors, in the torrid summer days ahead. Adaptation measures should seek to generate a microclimate by the city, exponentially increasing wooded areas, increasing green areas, replacing paved surfaces with permeable surfaces (replacing granite and asphalt with earthy areas or grasslands), encouraging the construction and bioclimatic rehabilitation of homes, equipping the streets and squares with climatic criteria (trees, awnings, elements that cast shadows, ...), preparing public facilities that allow housing the vulnerable population during the days with higher temperatures, a place like citizen centers during the heat waves. (Reed et al., 2006).

## Goals

The didactic experience presented here is structured based on a key question: What is the perception of university students about urban sustainability and local environmental problems? To respond to it, the city of Córdoba (Spain) has been taken as a



reference field and as an educational framework the Primary Education Bachelor Degree (University of Córdoba).

This general question has been consigned with several other questions: Does the environmental education that I receive at school allow me to distinguish good from bad for the conservation of the environment? What methodology is best suited to work in class?

Both the general and specific questions condition the wording of the possible assumptions, as well as the consideration of the research objectives. Likewise, we intend to complete this general objective with more specific ones:

- Raise awareness of the importance of sustainability and environmental education at all levels.
- Bring students closer to their nearest environment to promote knowledge of the natural, cultural and social environment through the analysis of sustainable and environmental problems.

From the questions that structure the investigation, we contemplated a series of supposed results. With the aim of fostering meaningful learning, a series of activities were designed to work, through a constructivist methodology, the concept of sustainability through the local sphere. In this constructive learning process, the teacher gives the leading role to the student, who assumes the fundamental role in their own training process. Their

role will be always that of a knowledge guide, seeking constant empathy with the student and creating an environment that promotes collaborative work. The main methodological foundations that we have addressed in the didactic proposal were based on:

- Promoting student's autonomy and initiative.
- Having personal experience with constructivist tasks such as: classification, analysis, inference, deduction, estimation, elaboration, thinking.
- Reflect from a critical perspective the concepts students have before sharing their own understanding among them.
- Encourage inquiry and reflection in the search for answers.

It began by reviewing the decree 97/2015, of March 3, which established the ordination and teaching corresponding to Primary Education in Andalusia with special emphasis on the contents of the area of Social Sciences and the area of nature (Junta de Andalucía, 2015).

### **Methodology**

The experience that we present here was carried out with two groups of about 115 third-year students of the Primary Education Degree of the Teaching of Social Sciences and Didactics of Experimental Sciences, of the Faculty of Education Sciences of the University of Córdoba during the academic courses 2019/2020.

The activity began by organizing

students in groups made up of 4-6 members to analyze the information of the European framework for the sustainable city that they thought was most relevant, as well as the Spanish strategy of urban and local sustainability of 2011, with the theme of the proposed activity and a selection of articles, websites... that will complement the information offered (Figure 2).



Figure 2. Sequence of activities.  
Source: Authors' own creation.

Next, the importance of the main urban, environmental and environmental changes in the city of Córdoba was discussed in the classroom; clarifying that it is an intervention different from those that are usually carried out in the classroom and that entails a previous preparation, both in the development of it and after its realization. Once familiar with the pedagogical meaning that our activity entails, the fundamental axis of the activity, a practical session was held in the classroom of new technologies in

which, our students, had to complete a small diagnostic evaluation questionnaire (elaborated with Google Forms), which would serve as a guide to quickly and easily carry out an initial assessment of the degree of perception and knowledge that students had questions related to knowledge of the concept of sustainability and possible implementation of sustainable policies in the city of Córdoba (Mesa, 2014; Reed et al., 2006; González Díaz et al., 2014).

Regarding exercise number 4, the preparation of a small informative dossier was organized, once a bibliographic and informative search was conducted and discussed in class. The students, divided into groups, proceeded to select the information on sustainability in the city of Córdoba without attending to any guidelines by the teaching staff. Thus, the preparation of this pedagogical tool was the result of the interests, tastes, or personal motivations of the students.

Finally, they were asked to fill out a final evaluation questionnaire on the proposed theme, based on 10 questions, with 5 levels, considering that a value of 1 meant little relevant and a value of 5, very relevant; that would allow us, in the first place, to measure their attitudes and to know the degree of conformity of the students. Likewise, it was intended to evaluate the teaching-learning process of the students of the Social Science Teaching course.

The IBM SPSS Statistics V25.0 program has been used to perform statistical analyzes and graphs.

## Results

The identification variables related to gender indicate that the female sex predominates: 55 women (66.3%) and with 28 men (33.7%). With respect to age, most of the students are between 20 and 23 years old (81.3%); being minority the representation of older or younger students, in this age range.

One of the questions asked in the questionnaire is the one concerning the idea that our students have about whether the environmental training received in the grade helps them to discern the positive or negative actions for the conservation of the environment. It was about investigating the level of previous knowledge of the students involved in this activity. Of the 83 responses, it stands out greatly, that 71.1% agree, and strongly agree that the training received is of quality, while 24.1% are unconvinced or convinced of it.

We emphasize that, throughout the four years of the Primary Education Bachelor Degree of the University of Córdoba, there is a specific subject to be discussed on the subject: Environmental Teaching in Primary Education, so, we

consider that the answers are not based on the optional subjects taken by the students.

With the intention of influencing more in the didactic treatment and in the way in which the curricula address the sustainability of the cities, we ask two questions to gauge the perception that preservice teachers have on the issue.

The graph that collects the information derived from the analysis (Figure 3) shows how 67.5% (56 students) agree that the daily life of our actions can influence both positively and negatively the conservation of the environment, 25.3% were favorable that our behavior and way of life have an impact on the sustainability of our local habitat. Only one person (1.2%) said they disagreed with the issue, while 6% of the students surveyed were positioned neutrally.

Likewise, the scores referred to the question, which were raised in relation to whether the protection of the environment goes through the application of the concept of sustainable development, show clearly favorable percentages. In the case, 81.9% of the students said they agree or strongly agree that action can be taken

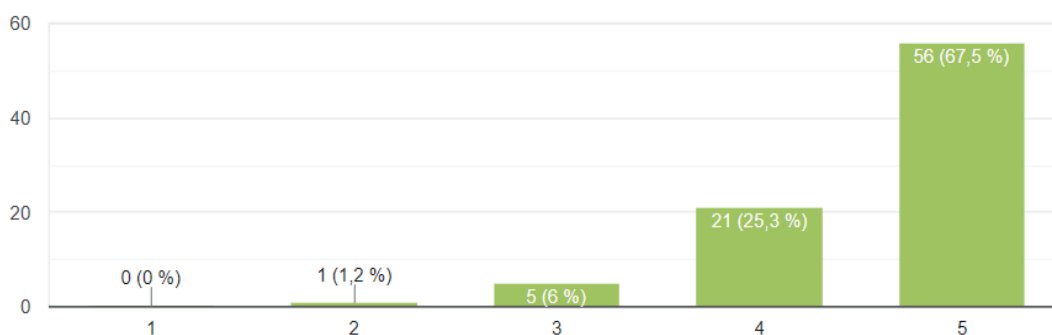


Figure 3. Item "I can influence and contribute to the conservation of the environment with my actions".  
Source: Authors' own creation.

accordingly incorporating sustainability criteria in our decision making (Figure 4). We know the three dimensions of sustainability: environmental protection, social justice and equitable economics in which the methodology used in the activity encourages working content in a transversal way. Therefore, we deduce that, saving big questions, the students detect that it is urgent to make a change of attitude and, most importantly, that to achieve this we must be aware that this need exists.

We must reflect on the consequences they are having and will have our behaviors as individuals in the conservation of the environment. Likewise, these types of activities can function as elements capable of spreading the

understanding of identities, knowledge of techniques and resources, and as a promoter of attitudes, within pedagogical mainstreaming.

Likewise, in response to the question about whether our daily actions do not affect the reduction of the volume of garbage produced in the city, 47 students (56.6%) disagreed with this statement. Today it is completely undeniable that due to the new lifestyle we are developing, we are not clear about the implications of our activities on the environment. Our current style and pace of life, in which huge amounts of disposable products are used, as well as packaging, cause an increase in the amount of waste generated, with the consequent problem for sustainability (Figure 5).

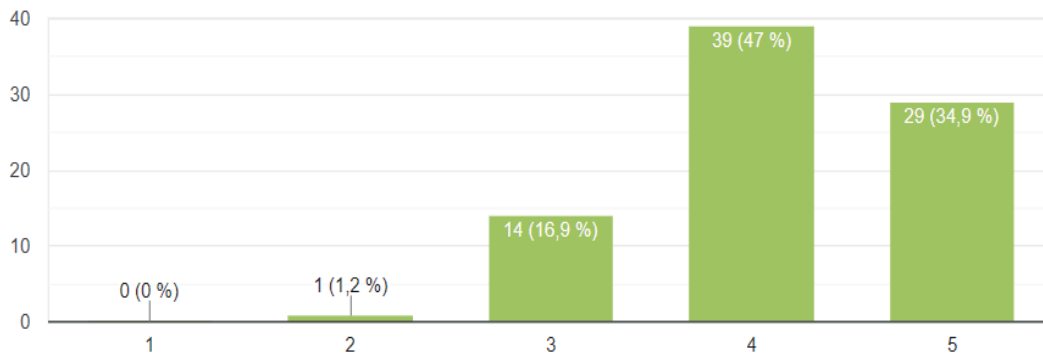


Figure 4. Item “The protection of the environment involves the application of the concept of sustainable development”. Source: Authors' own creation.

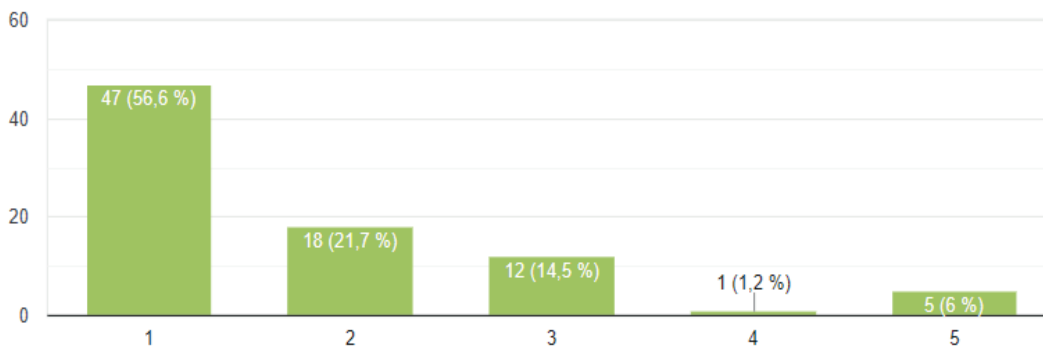


Figure 5. Item “I can't do anything to reduce the amount of garbage that is produced in my city”. Source: Authors' own creation.

Similarly, only 6% of the students surveyed do not consider the importance of acquiring sustainable behavior habits for a real social transformation. While 36.2% are in accordance with the concepts expressed in the Marrakech process, consisting of responding to basic needs, minimizing the use of natural resources and emissions and without compromising the needs of future generations.

In general, preservice teachers are aware about the importance of working on sustainability. However, it seems that they do not fully understand their problems and conflicts, due to the information they have from social networks and media. For this reason, the didactics of the environment, rather than being limited to a specific aspect of teaching, must become a privileged basis for developing a new lifestyle. It must be an educational practice open to social life so the whole society should participate in the complex and supportive task of improving relationships between humanity and its environment (López Serrano y Guerrero Elecalde, 2020).

For this reason, the different fields of education cannot remain indifferent to this environmental challenge. On the one hand, the university has to be the main actor for the achievement of the SDGs, something that does not always happen (Sánchez-Carracedo, Ruiz-Morales, Valderrama-Hernández, Muñoz-Rodríguez, y Gomera, 2019), because in addition to preparing students professionals with extensive knowledge of their discipline and profession, is in charge of forming a

citizen with the ability to act in a globalized, changing society and directed towards sustainable development (Zamora-Polo y Sánchez-Martín, 2019; Corrales, Sánchez-Martín, Moreno, y Zamora Polo, 2020).

## Conclusions

As we mentioned earlier, knowing the degree of perception and knowledge of our students is a resource that greatly improves the teaching process of Social Sciences in primary education due to the many benefits it offers. On the other hand, the questionnaire is a pedagogical tool that attracts attention and stimulates the understanding and reflection of the concepts investigated, through a high motivation that encourages their creativity and critical and social thinking.

Based on the results collected, we can asseverate that the students of the Social Sciences Teaching course of the Primary Degree of the University of Córdoba have positively accepted the teaching practice carried out to know the degree of perception that future teachers had about the sustainability of their city. Through it, they have convinced themselves that the problems that affect sustainability are not an exclusive part of large companies, or politicians or governments on duty, but, in one way or another, we all contribute to our commitment.

Likewise, in their professional aspect, preservice teachers have understood that this type of educational activities are a valuable teaching resource that they can use in the future, when they work as

teachers. Even some students had previously received training on the subject addressed and had not reached these conclusions.

In this sense, they also understand, as they express it in the questionnaire, that to carry out any activity that is based on the sustainability of cities, the environment, pollution, etc. That the teacher prepares and elaborates a priori, and with the students, a work of preparation, motivation and information search, which helps to extract the maximum benefit from the didactic experience.

Beyond the study and teaching of sustainability in the academic field, of great value for the Teaching subject of Social Sciences, students have learned about the current reality of the city of Córdoba through the activity they have been raised, and especially during the performance of the different exercises. According to their answers, they have achieved it in an entertaining and different way, being possible thanks to the thematic characteristics addressed.

This article shows that the pedagogical experience carried out by the students, must still deepen in many aspects so that we can talk about there being an effective and practical knowledge of what sustainability means, today in the educational reality of the most schools in the city of Córdoba. Checking that the main arguments put forward in these lines have been the lack of specific training in sustainability throughout the degree, a low motivation when undertaking the study of disciplines

that do not harbor the specific weight within the curricula and ignorance of the institutional and legislative framework not only at European or national level but also at the local level. However, it is an exciting element that future teachers motivate the methodologies and objectives presented within the environmental framework of the city of the mosque.

It is necessary to intervene to effect the change of this situation, since there are many and varied pedagogical options for any educational center to normalize the perception of local sustainability, as a feasible option for teaching-learning. This change can be empowered from the university, in the degrees of Education, as shown in this work. Encouraging the knowledge of the methodologies necessary to organize ecological and sustainable knowledge, prompting the motivation of university students in education degrees to participate in the methodology and planning of this resource. Thus, we believe that our students become familiar, and can put into practice in the future when they practice professionally in their educational centers educational practices that prioritize the knowledge of our city from the parameters set in the 2030 Agenda and the various sustainable development goals, to make it happen, to be an educational reality in schools.

One of the main limitations of our pedagogical experience is related to the students' academic training. On the Faculty of Educational Sciences of the University of Córdoba (Spain), only one

subject, in the fourth year, is dedicated to the didactics of the environment in Primary Education. Other restriction is the total size of the sample, that has been circumscribed to the students of the aforementioned subject.

Likewise, the lack of knowledge has caused some confused ideas about the concept of sustainability, especially when we focused on the importance of Social Sciences for understanding the environment and its problems. In this sense, we would also have to reflect as university teachers in the way we are approaching our students and to assure that the content developed on the lessons is learned in a meaningful way.

In that sense, it is necessary to develop innovative teaching techniques on university degrees because it would favor the introduction of active learning methodologies related to environmental contents in the compulsory educational stages, establishing the environmental education among future teachers: preparation of teaching materials and resources, both theoretical and practical. These future experiences would be strengthened within the framework of teaching innovation projects.

Finally, to indicate that we believed a fundamental objective when considering an exercise of these characteristics, to instill the teachers of our closest future, who ultimately must understand that the sustainability of cities is a fundamental part of both the achievement of significant learning as for your personal and didactic training.

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