

**EDUHEM 2018**  
**VIII International conference on intercultural education and**  
**International conference on transcultural health: THE**  
**VALUE OF EDUCATION AND HEALTH FOR A GLOBAL,**  
**TRANSCULTURAL WORLD**

**UNDERSTANDING THE IMMIGRATION REALITY BASED ON**  
**STATISTICS ¿WHAT SHOULD WE KNOW?**

Lina María Cecilia Gámiz (a)\*, José Hidalgo Navarrete (a)  
\*Corresponding author

(a) SAFA University Centre, Avda. Cristo Rey, 17, Úbeda (Jaén), España.  
\*Email: lceclia@fundacionsafa.es

*Abstract*

In today's world, we recognize the important role universities play in social transformation, integrating teaching, research, and action. If we focus on the teaching aspect, the development of an awareness developed through 'critical consciousness' when faced with problems, becomes especially relevant when working with students who are preparing to be future teachers. Our work is being done as a part of an interdepartmental project related to immigration that is being developed at university centre that trains pre-school and primary school teachers. Beginning in the area of teacher-sensitization, various activities are planned, including some practices that are integrated in the coursework carried out in the program (for those pursuing a pre-school or primary school teaching degree). In this article we analyse the results of an activity carried out as a part of a math class, focusing on the concerns and interests expressed by the students related to the immigration phenomenon, and based on areas chosen to do a statistical study. The analysis demonstrates the issues that are of most interest or concern for students and give insight into ideas and prejudices towards immigrants and the degree of their sensitivity towards the realities of immigration, which in turn help to advance solidarity and intercultural understanding sought by the centre's project.

© 2019 Published by Future Academy [www.FutureAcademy.org.UK](http://www.FutureAcademy.org.UK)

**Keywords:** Immigration, sensitization, statistics, student interests, training of primary education teachers.



## 1. Introduction

Understanding the current reality is the first step in understanding and then responding to it. When referring to the migratory phenomenon, we come to recognize that there is a general lack of understanding that on occasion provokes a distancing between immigrants and the general population.

From the university perspective, we believe the institution could and should contribute towards the building of a more just and sustainable world within the triple mission that defines it: teaching, research, and institutional action. Manzano-Arrondo (2012) highlights this idea and proposes methodology to work towards a transformation within these three areas, “Unidad de Acción Comprometida” (Committed Action Unit), which is adopted by the SAFA University Centre in order to execute a *Research and Education Project for Community Development* project titled "Temporary Immigrants in the Province of Jaén: Opportunity for Awareness and Commitment." This project is funded by the University of Jaen's Vice-Rector of Strategic Planning, Development, Quality and Social Responsibility.

This project has the general aim, from the university perspective, *towards the shaping of a knowledgeable public, both responsible and committed to the transformation of a reality*, based on these three specific objectives: understand the migratory phenomenon and the reality of those seasonal immigrants in the city of Ubeda, raise awareness within the community and with our university students (those pursuing a pre-school or primary school teaching degree) about the condition of those immigrants, and participate in improving those conditions.

To achieve these goals, activities are planned related to staff-awareness, research, and social outreach. As for the teaching component, a series of activities are planned from different sources for the aforementioned group of university students, with the goal of attaining an analysis of the current reality and of raising the student's (who will be future teachers) awareness, regarding the immigrants around them.

Within this context, we have the experience to be analysed, which was given as a part of an assignment titled ‘Teaching Methods for Statistics and Probability in Primary School Education’, which is done in the Primary School Teaching Degree program's fourth year. The project that is proposed to the students consists in a group project related to immigration in which they must formulate questions and choose two variables with which to collect and organize data in order to obtain information, using basic descriptive statistical tools. Three objectives are pursued via this proposed work:

- Give meaning to the statistical learning process by placing it within an area of interest with the objective of obtaining information and learning something new.
- To increase knowledge and sensitivity towards immigration through real-world interaction, starting from the student's own areas of interest.
- Pinpoint the student's pre-conceived ideas, interests, and concerns about immigrants, as a starting point towards the on-going goal of awareness-raising.

In this article we will only go as far as analysing the results of the third objective, explaining what the students want to know about immigrants via the variables they have chosen to carry out their statistical study.

## 2. Problem Statement

From the perspective of the university's social responsibility, we wish to raise awareness through 'critical consciousness', and to contribute towards social transformation. The development of critical consciousness in the early learning stages of future teachers becomes especially relevant. Authors such as Zeichner (2010) have made an effort to link teacher training to the struggle for social justice, emphasizing the significance of preparing teachers who are aware of inequalities in the realm of education and social structures, economics, and societal politics.

This proposal aligns with goals set out by the Jesuit universities in a document created by the Department of Social Justice and Ecology (Secretariado para la Justicia Social y la Ecología de la Compañía de Jesús, 2014), in which the universities are encouraged to facilitate encounters with real-world scenarios of exclusion which will change student perceptions. Our project hopes to respond to these proposals by taking advantage of the immigration realities present in Ubeda as 'pedagogy of commitment' that will result in a transformational learning process (Soto & Pedrosa, 2017).

From the perspective of math education, and more specifically, from the statistical lens, various projects are developed touching on different aspects of the current reality which help to give meaning to disciplinary contents and which make them useful. They respond to a *functional style* of teaching of mathematics which considers mathematical knowledge as a shaper of real-world situations, and useful in helping to answer questions and resolve problems in different contexts (Rico & Díez, 2011).

In the case of statistics in particular, and within the university context, we find some examples of project-based learning under different titles (Sánchez-Valverde, 2012; Corberán-Vallet, Santonja, Bermúdez, & Vercher, 2012) and in particular, in the early training of primary school teachers (Anasagasti & Berciano, 2017). Aside from developing statistical meaning based on noteworthy experiences, these authors emphasize how important motivation is for mathematical learning and their proposals allow students to choose their subjects of study within a more general context. For all of these reasons, and based on the necessity to understand the immigration situation in Ubeda which concern the students, an investigation was carried out which will be described consequently.

## 3. Research Questions

In the proposed activity the Primary School Education undergraduate students are asked to look into areas related to immigration, thus contributing to the centre's common project while simultaneously developing skills relevant to the course. The fact that the students are the ones to choose the variables to examine is motivating and promotes autonomous learning, and also allows us to examine the perceptions related to immigration through the chosen areas as a starting point towards intercultural awareness and solidarity. Taking advantage of the possibility of extracting information from the student's chosen areas, we ask ourselves the following questions which guide our research:

- a) What interests and concerns do the student teachers have related to immigration?
- b) What factors might influence the selection of interests?

#### **4. Purpose of the Study**

The main purpose of this study is to analyse the interests and concerns of the student teachers in relation to awareness of migration, as a starting point for raising awareness of the condition of migrants.

The information is obtained through the questions that they formulate and that become solidified as variables to study, making reference to immigrants or to the local population. The work is done in a group setting to encourage reflection and cooperative work. Previously they are introduced to the issue of immigration through a debate, which aims to encourage reflection on the importance of becoming acquainted with a reality that everyone comes in to contact with and to become aware of the immigrant’s realities. In this debate, possible questions are suggested that can deepen the knowledge of that reality through a statistical investigation that they will carry out.

#### **5. Research Methods**

The general methodology of the project is qualitative in nature, foreseeing a 4-year process of research-execution. The project is currently in its second year, thus it is not currently possible to evaluate the overall results.

The finished project aims to contribute to the development of the “Unidad de Acción Comprometida” (Committed Action Unit) in which several departments of the center participate. To evaluate this experience from the perspective of its contribution to the global project, we present a descriptive study that shows the interests of Primary School Teaching Degree program’s 4th-year students, regarding the aspects of migration they want to learn about. For the organization and interpretation of the data, we have chosen categories based on those proposed by the Murdok Guide (<https://guiamurdock.wordpress.com/categorias/>). Afterward, we have regrouped these variables based on the aspects which we believe are describing the student’s main concerns related to the problems of immigration and which demonstrate varying degrees of sensibility towards them. In this way, we present partial results in the areas of teacher-sensibilization, one of the main aims of the general project.

#### **6. Findings**

We analyse the data on the variables chosen by 15 groups of students. We have 29 pieces of data, since each group chose two variables and one was discarded because it was not valid for the study.

**Table 01.** Variables chosen by the groups for their study

<b>Chosen Variable</b>	<b>Frequency</b>	<b>Origin</b>	<b>Areas</b>
Immigrant adaptation	1	Local	Feeling And Perception (24.1%)
Perception over prioritization of immigrants in the work force	1		
Perception over differences in salary	1		
Business preferences Spanish vs. immigrant	1		
Estimated immigrant salary per day	1		
Estimate of immigrants staying in shelter	1		
Estimation number of foreigners hired per work group	1		

Country of origin	7	Immigrant	Geographic Location (27.6%)
From which continent they originate	1		
Number of siblings	1		Family And Kinship (20.6%)
Number of children	3		
Civil Status	1		
Number of wives	1		Age (13.8%)
Age	4		
Time living in Spain	1		Adaptation Process (13.8%)
Number of years coming to the olive harvest	1		
Place of lodging	1		
Reasons for coming to Spain	1		

### 6.1. Variables chosen by students for their statistical study

In table 01 we see 18 variables that have been studied by the students alongside their frequency of selection. We see a great variety of possible research questions, although there are 7 groups that have coincided in inquiring into the immigrants' country of origin, 3 groups want to know about the number of children, and four have inquired into the age of the individuals.

In the table's third column we can see which group of people each variable is referring to, which in the most part are referring to the immigrants, although there are students who are interested in the perception of the locals relative to the issue of immigration.

In the last column we have grouped the variables by themes, looking to reduce the data and obtain more general categories. Almost a fourth of the variables (24.1%), which are based on the local's opinion surveys, fall under the category of sensation and perception, although within them there are various topics that could be included in other categories.

As for the variables addressing the immigrant group, it is notable that 27.6% address the *geographic location*, specifically from where the immigrants originate. Around 20.6% of the variables chosen are in the category of *family and kinship*, while 13.8% refer to age and the remaining 13.8% to *adaptation processes*, including the variables that in some way have to do with the adaptation of migrants to a foreign country and with the integration into their sought-after workplaces.

### 6.2. Analysis of the student's main interests and concerns

In order to delve into the student's areas of interest regarding migration, it is necessary to hone in on some aspects that may give clues as to what their true motivations are when choosing the topic and what concerns them or what arouses their curiosity. We intend to investigate the possible causes that have determined the choice of the questions to be investigated and we come closer to understanding their perception of the migratory phenomenon and their degree of awareness about it.

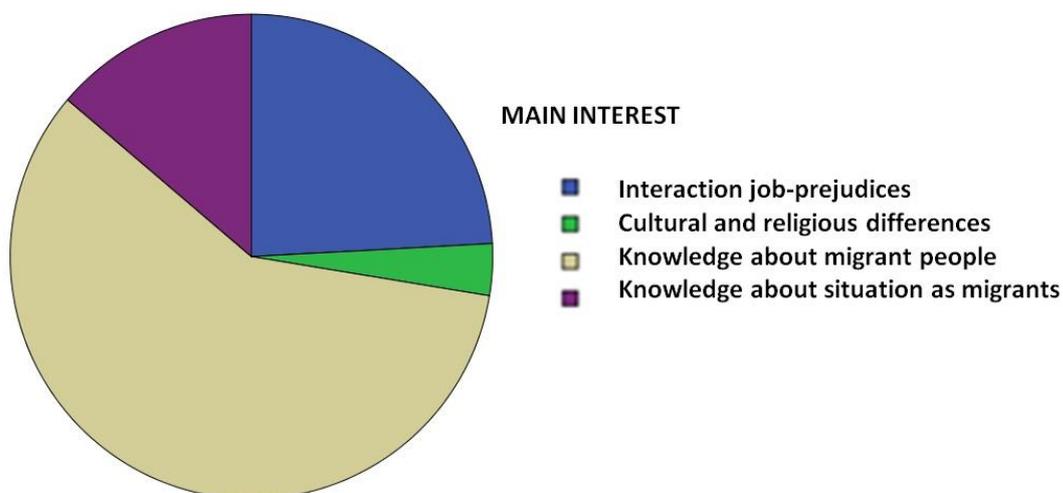
Firstly, it is important to note that within the population (both local and immigrant), the majority of the groups have limited their study to a specific geographical area or to a particular group. The limitation of the study to a specific subgroup already implies a selection of information by the students that might be correlated to their interests and concerns, although its probable that there are other

influencing factors such as geographic proximity (where the students live), or the ease of access to immigrants in certain places in which they tend to congregate, such as temporary shelters.

The decision about which population to study, whether local or immigrant, can also be indicative of the student's interest, although conversations with students reveal that there might be other motives which affect this decision: accessibility to respondents, prejudices when faced with speaking with immigrants or even the lack of time for the completion of the task. If all the chosen variables are capable of giving relevant information, it is striking that that in the groups that have interviewed the immigrants directly, there has been a notable increase in awareness as a consequence of direct contact with these people.

As for the variables chosen by the groups, a deeper look allows us to reorganize them into four new categories that relate to the student's concerns, to their main interest underpinning their investigation, as shown in figure 01.

In the groups that interview the local population (whose variables we have included in the area of sensation and perception), the proposed questions are related to work, salaries, or prejudices towards the immigrants. Behind these questions, we perceive there is a concern about the interaction with these people, in how their presence affects us in our environment.



**Figure 01.** Student's main interests and concerns

However, within the groups that have directed their investigation towards the immigrant population, there is a predominant interest in *getting to know the migrant individuals* via different objective criteria such as their place of origin (country or continent) or personal information (age, marital status, number of children or siblings). We consider 'number of wives' to be a separate variable, since it alludes to a curiosity of a more sensitive nature, which indicates a concern towards *differences in culture or religion*. Lastly, the groups that analyse the aspects of the respondent's adaptation display a preoccupation with *learning about the migrant's situation*, which might be responding to a simple curiosity but also denotes certain empathy towards these people due to the circumstances that affect their lives.

## 7. Conclusion

This study has allowed us to approach the student teachers' perception about migration, revealing certain naivetés, prejudices, and superficial interests in some of them, but also signs of awareness and interest in learning about and understanding the reality of immigrants. We believe that the information provided in this study can help bring to focus future work related to the immigration project on immigration that will positively impact the students' awareness of interculturality and empathy with migrants. This experience in statistical learning within a project to raise awareness about immigration is an opportunity to encourage our students to be in contact with a reality present in their environment, since they have to collect data to carry out their research, but also a source of information for teachers about the concerns that are meaningful to students. On the other hand, students learn about statistics in a straightforward way that helps to develop mathematical and didactic skills.

In short, these type of exercises carried out within different subject areas demonstrates the possibility and convenience of working interdepartmentally with a common goal focused on the construction of a better society, especially when it comes to training future teachers. The activities carried out in the field of teaching help students to raise their awareness and develop personal values that they will pass onto the children they educate. We believe that this is a good way for the university to contribute to the transformation of a social reality.

## Acknowledgments

We wish to thank the anthropologist D. Damián Ríos, for his participation in motivating and guiding the students and for the suggestions given in relation to this project.

## References

- Anasagasti, J., & Berciano, A. (2017). Estadística y ABP. Una experiencia con futuro profesorado de primaria. *Uno. Revista de Didáctica de las Matemáticas*, 78, 18-23.
- Corberán-Vallet, A., Santonja, F.J., Bermúdez, J.D., & Vercher, E. (2012). El aprendizaje de la Estadística basado en proyectos de investigación. *Épsilon. Revista de Educación Matemática*, 29 (2), 63-67.
- Manzano-Arrondo, V. (2012). *La Universidad Comprometida*. Vitoria, España: Hegoa
- Rico, L., & Díez, A. (2011). Las matemáticas y el maestro de primaria. In I. Segovia, & L. Rico (Eds.), *Matemáticas para maestros de educación primaria* (pp. 19-45). Madrid, España: Pirámide.
- Sánchez-Valverde, B. (2012). Aprendizaje de estadística basado en proyectos. Dos casos prácticos. *Uno. Revista de Didáctica de las Matemáticas*, 59, 40-45.
- Secretariado para la Justicia Social y la Ecología de la Compañía de Jesús (2014), La promoción de la justicia en las universidades de la Compañía de Jesús. *Promotio Iustitiae*, 116, 3-55.
- Soto, J.L., & Pedrosa, B. (2017). Una oportunidad para la pedagogía del compromiso. Inmigración en Úbeda. *International Journal for global and development education research*, 11, 125-140.
- Zeichner, K.M. (2010). *La formación del profesorado y la lucha por la justicia social*. Madrid, España: Morata.