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ABOUT DIDACTIC AND RESEARCH CAREER - A STUDY IN TECHNICAL UNIVERSITIES FROM ROMANIA

Bogdan Tiganoaia (a)*, Petruta Mihai (b), Olga Bucovetchi (c), Alexandra Cernian (d)
*Corresponding author

(a) Politehnica University of Bucharest, Romania, bogdantiganoaia@gmail.com
(b) Politehnica University of Bucharest, Romania, mihaipetrta@yahoo.com
(c) Politehnica University of Bucharest, Romania, olgabucovtchi@yahoo.com
(d) Politehnica University of Bucharest, Romania, alexandraa.cernian@aii.pub.ro

Abstract

Developing a career in education or research means working hard to get new exciting results, presenting papers at conferences or trying to publish your work. This study aims at identifying the current state and perspectives through research (based on modern tools and methods) on issues related to graduates (and students) scientific research capacity, as well as the intention of graduates from technical universities from Romania to embrace didactic or research career. Research methodology consisted in a survey based on a questionnaire completed by more than 320 respondents. Graduates (and students) from technical universities in Romania are the target group of the research. The respondents of the questionnaire answered the questions regarding: the intention to continue the studies at the Ph.D. level, the attractiveness of a career in research, the attractiveness of a didactic career, the motivation to choose a didactic career, the motivation to choose a career in research, how many researches were being conducted and how many papers / books chapters were being written and disseminated, the intention to make a research on a specific issue and to publish in the next period a book / paper / chapter in a book, etc. The findings of the study are the core of this article. Finally, based on the analysis of data, some final aspects are highlighted.

Keywords: Didactic and research career, students and graduates, technical universities.

1. Introduction

The ***didactic career*** is not an ordinary one, teachers facilitate student learning through either an informal or formal approach. Among the competences and qualities of a good teacher we can enumerate:

- Professional competences;
- The ability to work with others;
- The ability to work with technology;
- Enthusiasm - is a promoter of a good experience at classes;
- Interaction with students - the ability to create a positive learning environment.

In the research titled "*Teacher Education in Singapore: What motivates students to choose teaching as a career*?" Goh and Atputhasamy from the Nayang Technological University (Singapore) noted three categories of reasons to follow a teaching career (Pânişoară & Pânişoară, 2010):

- extrinsic motivation (including elements such as remuneration of work and other benefits - such as the security offered by such a job);
- intrinsic motivation (the joy to teach and the school environment where the instructive-educational process takes place);
- altruistic aspects (the fact that the teaching profession offers the opportunity to become an decisive element in the lives of the young, in the major decisions that the latter will take).

People who choose *altruistic reasons* in choosing teacher education program absolutely have a deep passion for teaching and see teaching as a socially worthwhile and important job, such as love to work with children, desire to help children succeed, shape future of children, enhance social equity, a desire to contribute to society, a socially worthwhile job, to fulfil a mission, and to answer a calling (Muazza, Rosmiati, & Tiara, 2016). *Extrinsic reasons* are included the benefit and perks offered (Low, Lim, Ch'ng, & Goh, 2011). Meanwhile, Low, Lim, Ch'ng, and Goh (2011) described that *intrinsic reasons* can be understood as job-related factors including the nature and conditions surrounding the job.

Why go into research?

According to Francine Berman (2018) the research helps you to be:

- curious and creative;
- independent in your work;
- persevering in your approach;
- focused and disciplined.

Research means:

- innovation;
- design and development of new products;
- the opportunity to create new technologies.

2. Problem Statement

Understanding student teachers' initial reasons to become a teacher by entering a teacher education program is essential as a foundation to develop teacher education policies (Muazza et al., 2016).The didactic competence does not identify with the pedagogical aptitude, although the latter is implied, as it has a larger

sphere and it includes in its structure, a series of data referring to the specialty training of the teacher, at the values guiding him, at the social relations which integrate them. It is not a simple summation of competences, but a structure which forms an individual style of activity inherent to the educators (Păişi Lăzărescu, Stan, & Tudor, 2013).

On the other hand, the goal as a researcher is to investigate a problem with the goal of developing a solution that advances the state of knowledge about that problem (Berman, 2018). In order to have success in research you must take care about:

- The way you choose the research problem;
- The way you solve the problem;
- The way you put together the individual research efforts in order to achieve the research objectives;
- The way you communicate/disseminate your results to the academic and research medium.

The paper is a research about the attractiveness of didactic or research career in technical universities from Romania and the graduates (and students) scientific research capacity.

3. Research Questions

The main questions of the research are:

1. Is a didactic or research career attractive for the graduates of a technical university?
2. What is the motivation to choose a didactic or research career?
3. What is the motivation not to choose a didactic or research career?
4. What is the intention of graduates from technical universities to continue the studies at the Ph.D. level?
5. What is the intention of graduates from technical universities to conduct a research in the next period and to disseminate the results by publishing articles / book chapters / books?

4. Purpose of the Study

- This study has the purpose to identify the current state and perspectives through research on issues related to graduates (and students) scientific research capacity.
- The study of the graduates' intention from technical universities from Romania to follow didactic or research career is another objective of this paper.
- The third objective is to outline some conclusions based on the results of the study.

5. Research Methods

Research methodology consisted in a survey based on a questionnaire completed by more than 320 respondents. Graduates (and students) from technical universities in Romania are the target group of the research.

5.1. Variables Measurement

There are two types of variables: nominal scaled and variables regarding the attractiveness of the didactic and research career for the graduates and students from the Romanian technical universities. The structure of the relevant variables of the research, as a summary, is presented in the Table 01.

Table 01. The map of research variables

Research variables		Conceptual description
Nominally Scaled Variables	Demographic Variables	Gender, age, education, professional background etc
Variables regarding the attractiveness of the didactic and research career for the graduates and students from the Romanian technical universities.		The motivation to choose a didactic or research career; the intention to continue the studies at the Ph.D. level; the intention to conduct a research and to disseminate the findings etc.

The research was based on a questionnaire that included both opened and closed questions. Correlative items (questions) were also added in order to help the respondent for clear and precise answers. The qualitative questions were measured using a three-point scale (e.g. YES, NO, PARTLY) (adaption from Naresh & Birks, 2007). The questionnaire, started with questions for respondents′ demographic characteristics and finished with questions about the attractiveness of the didactic and research career for the graduates and students from the Romanian technical universities.
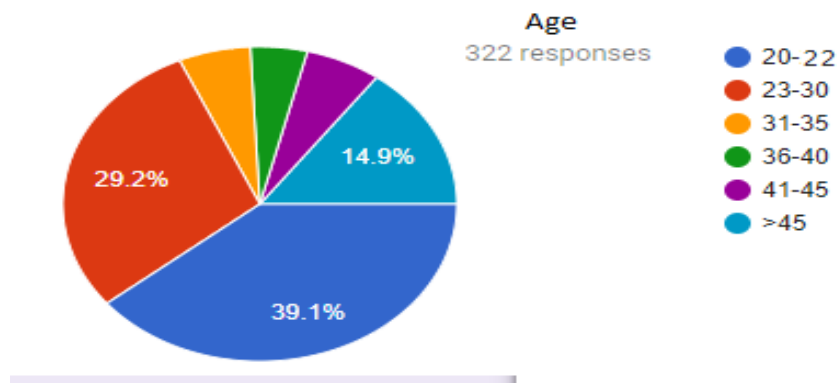
6. Findings

Overall, the structure of the sample in terms of gender was balanced (according to Figure 01, 53.4% female and 46.6% men).
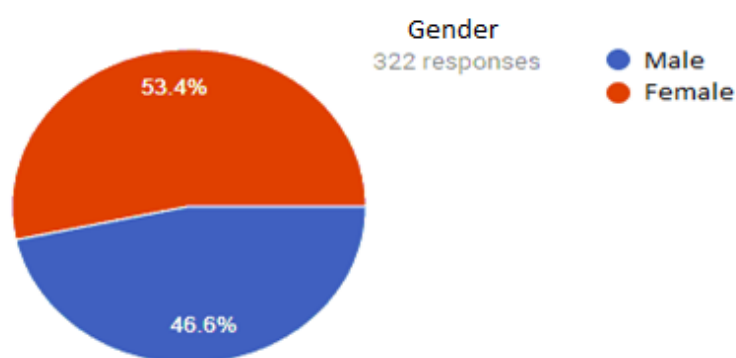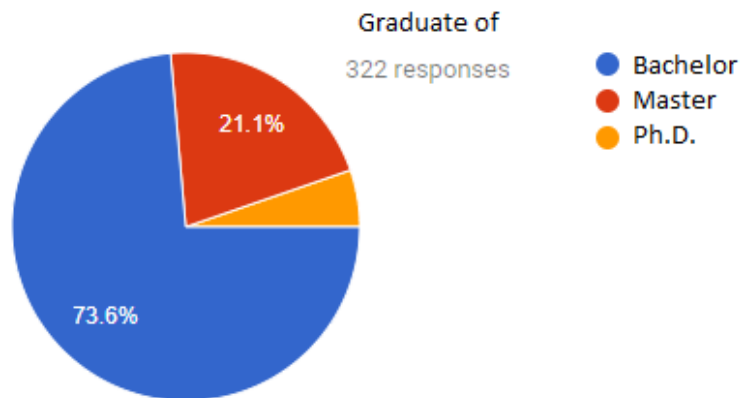

Figure 01. The repartition of the respondents in terms of gender

Respondents' age (see Figure 02) was mostly of 20-22 years (39.1%); 29.2% were of 23-30 years; 14.9% were older than 45 years.
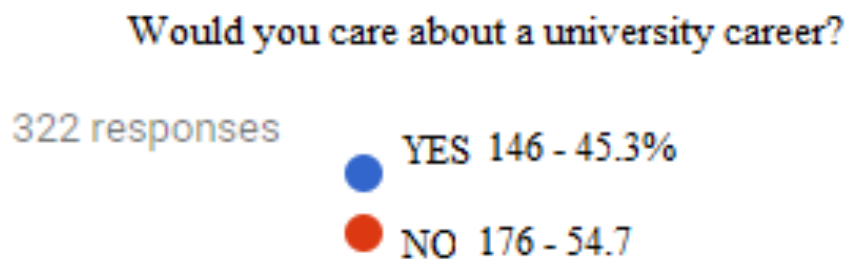
Figure 02. The repartition of the respondents in terms of age

In terms of graduation, 73.6% of the respondents are bachelor graduates and 21.1% are master graduates.
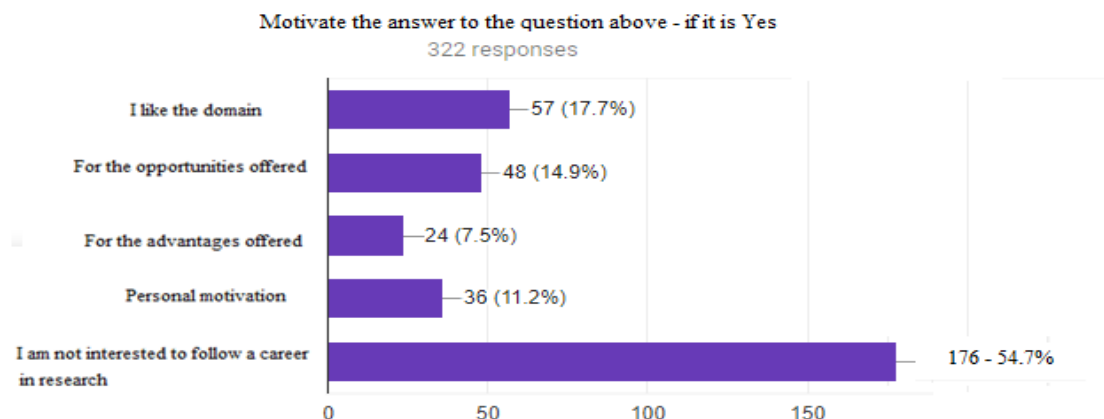

Figure 03. The respondents' graduation

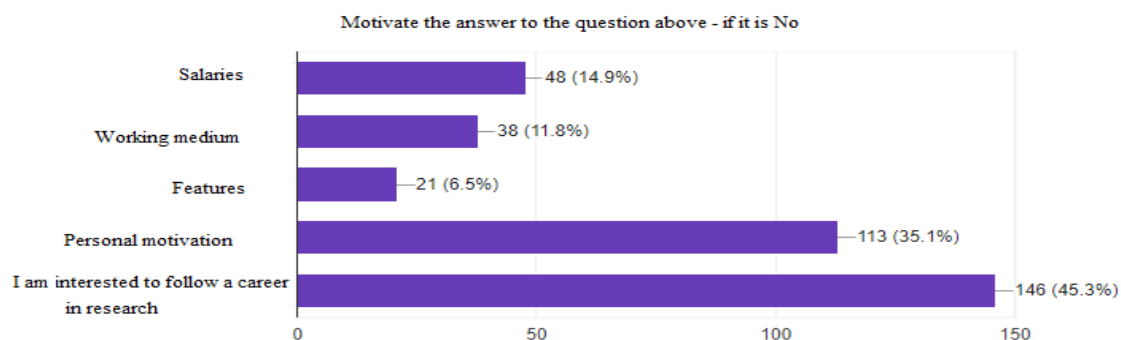In the Figure 04. there is the respondents' intention to follow a university career.

Figure 04. The respondents' intention to follow a university career?

Regarding the motivation to or not to follow a didactic career the findings can be viewed in the Figure 05 and Figure 06.
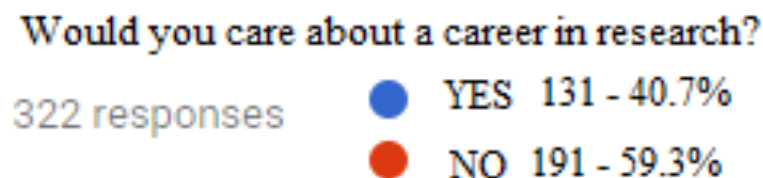
Figure 05. The motivation of the respondents' intention to follow a career in university
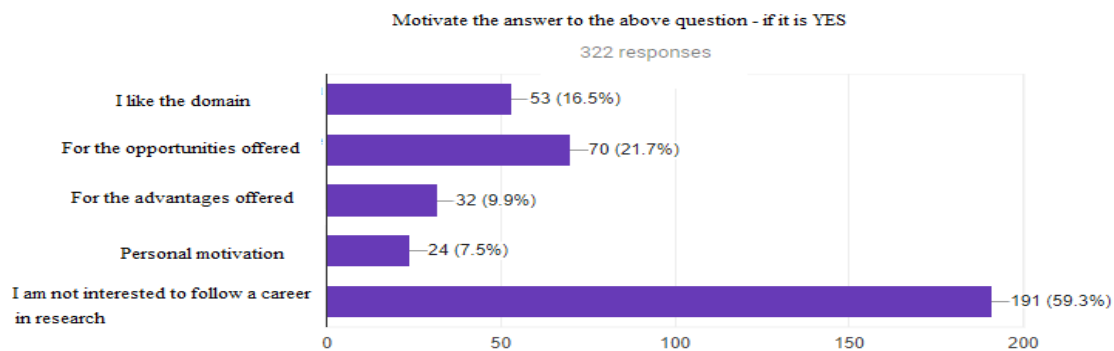
Figure 06. The motivation of the respondents' intention not to follow a career in university

On the other hand, regarding the intention to follow a research career, see Figure 07 for the findings of the study.
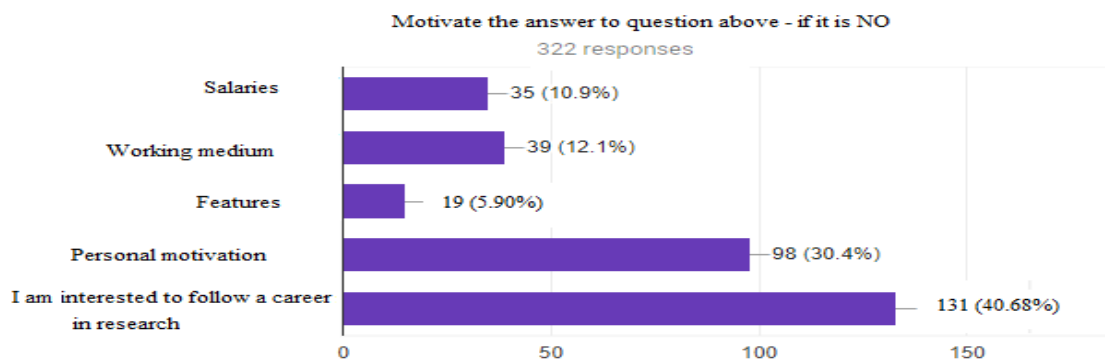
Figure 07. The respondents' intention to follow a career in research

It is interesting to see what is the motivation to or not to choose a career in research – see Figure 08. and Figure 09. for the results of the study.

Motivate the answer to the above question - if it is YES

322 responses

- I like the domain — 53 (16.5%)
- For the opportunities offered — 70 (21.7%)
- For the advantages offered — 32 (9.9%)
- Personal motivation — 24 (7.5%)
- I am not interested to follow a career in research — 191 (59.3%)

Figure 08. The motivation of the respondents' intention to follow a career in research

Motivate the answer to question above - if it is NO

322 responses

- Salaries — 35 (10.9%)
- Working medium — 39 (12.1%)
- Features — 19 (5.90%)
- Personal motivation — 98 (30.4%)
- I am interested to follow a career in research — 131 (40.68%)

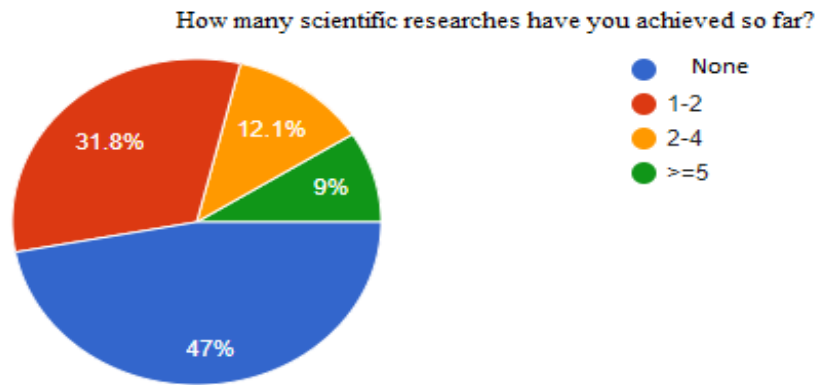**Figure 09.** The motivation of the respondents' intention not to follow a career in research

Regarding the aspects like:

- the articles / book chapters / books written by the respondents;
- the number of scientific researches done by respondents completed with a deliverable;
- the way of articles dissemination and publication by respondents,

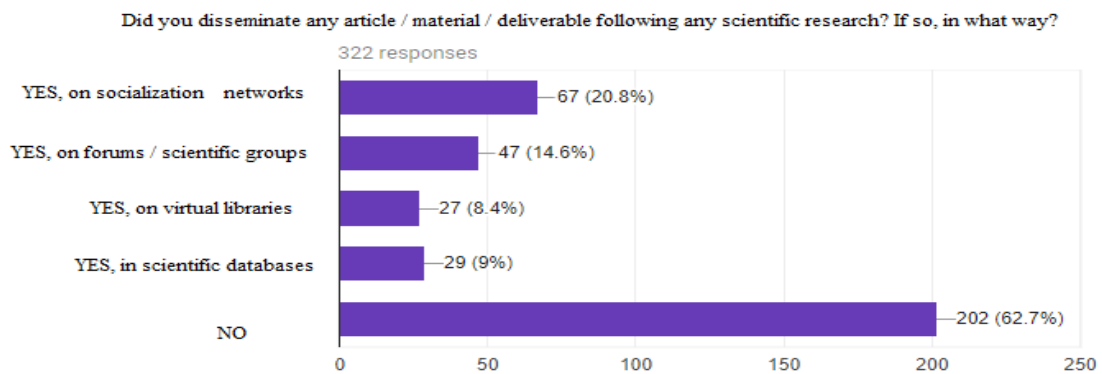the study reveals the findings from the Figures 10-14.

Have you written any scientific article / book chapter / book?

322 responses

- YES
- NO

71.4%

28.6%
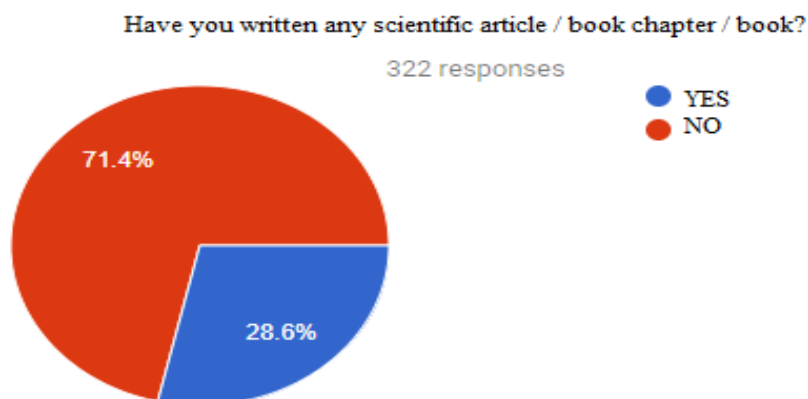
Figure 10. Articles / book chapters / books written by the respondents

How many scientific researches have you achieved so far?

Figure 11. The number of scientific researches achieved by the respondents
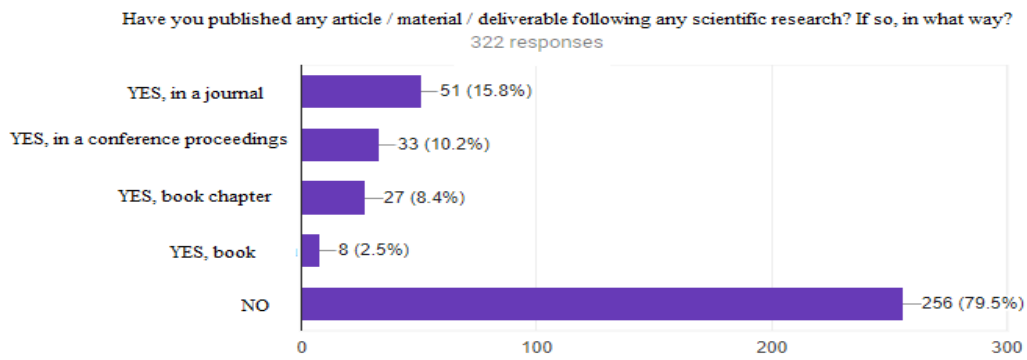
Have the research been completed with a deliverable / research report?
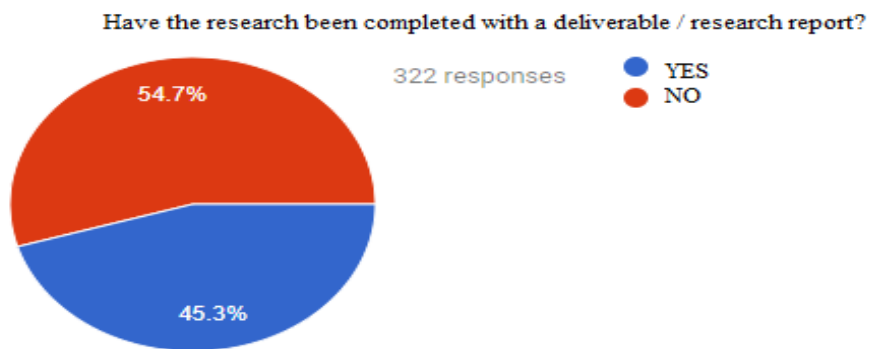
Figure 12. The number of scientific researches done by respondents completed with a research report

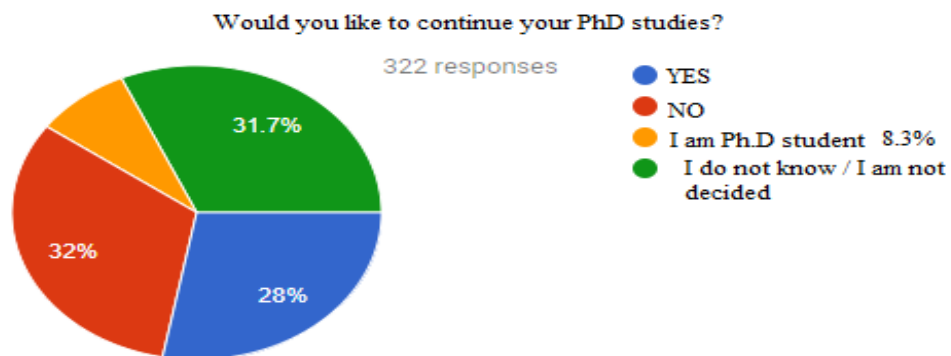Did you disseminate any article / material / deliverable following any scientific research? If so, in what way?

Figure 13. The way of articles dissemination by respondents

Have you published any article / material / deliverable following any scientific research? If so, in what way?

322 responses

- YES, in a journal — 51 (15.8%)
- YES, in a conference proceedings — 33 (10.2%)
- YES, book chapter — 27 (8.4%)
- YES, book — 8 (2.5%)
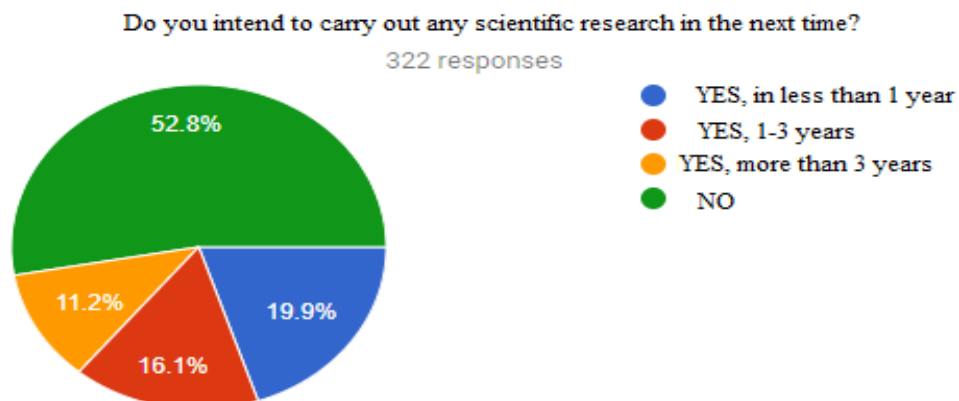- NO — 256 (79.5%)

(0, 100, 200, 300)

Figure 14. The way of articles publication by respondents

The final questions of the research refer to the intention of the respondents to continue studies at Ph.D. level and to conduct a research and to publish the results in the next period – see Figures 15,16 and 17 for the results.

Would you like to continue your PhD studies?

322 responses

- YES
- NO
- I am Ph.D student 8.3%
- I do not know / I am not decided

31.7% / 32% / 28%

Figure 15. The intention of the respondents to continue their studies at Ph.D.

Do you intend to carry out any scientific research in the next time?

322 responses

- YES, in less than 1 year
- YES, 1-3 years
- YES, more than 3 years
- NO

52.8% / 11.2% / 19.9% / 16.1%

Figure 16. The respondents' intention to conduct a research in the next period

Figure 17. The respondents' intention to publish any article / chapter book / book in the next time

7. Conclusion

A career in research implies working hard to get contributions in science, presenting papers at conferences and publishing the work.

A career in education, as a teacher, means to educate, inspire and change the others. You also have to learn from this experience.

In this paper we found interesting results regarding: the attractiveness of a career in research or education, the motivation to choose a didactic or research career etc. Among the motivation to choose a career in research or in education we can enumerate: the opportunities and the advantages offered and also personal motivation. Among the motivation not to choose a career in research or in education the data analysis reveals: salaries and working medium. Other research findings refer to how many researches were being conducted and how many papers / books chapters were being written and disseminated by respondents, the intention to continue the studies at the Ph.D. level etc.

As future work we can do a research with a larger target group (1000 persons for example).

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