

Preferences in Master's in Architecture diploma project subject selection - experience in the education of *Engineer Architect* degree holders

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ABSTRACT: The findings of a study conducted between 2005 and 2020, in which the supervision or co-supervision was examined of more than 100 Master's projects in the Faculty of Architecture at Cracow University of Technology (FA-CUT), Kraków, Poland, is the subject of this article. In the study, diploma candidates were asked the reasons for choosing the subjects and sites for their projects. The results suggest that student preferences were affected by international co-operation in both research and education, thus reflecting greater project internationalisation and diversity. The co-operation with local municipalities and businesses, which organised best student diploma project competitions, also influenced the preferences. Integrating diploma candidates into educational and research programmes is crucial to the educational outcomes at postgraduate level.

INTRODUCTION

Further education of holders of the *Engineer Architect* degree (equivalent to Bachelor of Science in Architecture) is a significant problem due to the future form that surrounding space will take. Polish researchers [1-3] in recent years have contributed to the international discourse on the matter [4][5]. This contribution has come from members of the academic and professional communities, as both in Poland are interlinked at many levels [6]. This draws upon Poland's wealth of teaching experience in engineering and architectural education, which still features many elements of artistic education [7].

Historical, planning and landscape-related modules are also important elements of teaching architecture and urban design in Poland [8-10]. Experience gained abroad from joint educational programmes has had an increasing impact on the teaching of architecture in Poland [11].

In this article, the author has summarised the main findings of a study conducted during the supervision and co-supervision of over 100 Master's diploma projects in the Faculty of Architecture at Cracow University of Technology (FA-CUT), Kraków, Poland. The study, performed between 2005 and 2020, covered a unified Master's curriculum (10 semesters) up to 2011 and a two-tier system composed of a first-tier Bachelor of Science in Architecture course (7 semesters) and a second-tier Master of Science in Architecture course (3 semesters) [12]. After 2011, the FA-CUT began to offer a Master in Architecture English-language course, targeted at both Polish first-tier and foreign university graduates.

Diploma design is a measure of the student's ability to make independent design decisions and the knowledge gained during studies necessary to take up employment and engage in permanent self-education. The FA-CUT has held an accreditation of the Royal Institute of British Architects [13] since 1999, in addition to the necessary EU and national-level notifications and accreditations to confer the degree of MSc Engineer Architect [13].

The reforms carried out during the first decade of the 21st Century, following the Bologna Process and the introduction of a two-tiered system of university education, has had a positive effect on education. The *earlier* Bachelor's diploma of first tier study better prepares students for the more independent work on the final Master's project. In 2020, the Polish higher education sector faces the necessity of adapting curricula to new ministry standards. It is hoped this will contribute to improving the present two-tier system, enabling enhanced opportunities for academic co-operation and exchanges with foreign universities.

MASTER'S STUDIES AND DIPLOMA PROJECTS

Diploma candidates who prepare their Master's project at the FA-CUT Institute of Urban Design under the author's supervision can devise their own project, although it needs to be approved. They may engage with a subject associated

with the supervisor's research focus (often in co-operation with foreign research). They often engage with subjects associated with the Institute's educational co-operation with foreign partnering universities, perhaps as a continuation of subjects from international design workshops [14][15].

Many subjects are the result of co-operation between the Faculty and the Institute with local governments or commercial enterprises. In the case of co-operation with partnering universities, professors from foreign universities often become second supervisors, ancillary supervisors or diploma project consultants. The subject of a diploma project can take the form of a national or international student design competition. At times, as allowed by FA-CUT study regulations, students can work on their diploma projects in pairs, provided they clearly indicate their individual contributions.

The subject matter of diploma projects encompasses urban composition; the design and transformation of urban structures of varying scale; architectural design in the spatial, cultural and functional context of developed space; the human-altered open landscape; and, sometimes, even concerning other planets (the diploma project entitled *Base on Mars* by Inż. arch. Michał Ptak, received second prize in the First Colony on Mars - International Idea Competition hosted during the Kuala Lumpur Architecture Festival KLAF 2019 in Kuala Lumpur, Malaysia [16][17]).

A diploma project has an urban and an architectural section or a planning and urban design section, with the designs adapted to the specificity of the subject. The supervisor is a guide, facilitating choices through substantive discussion and questioning, leading to the joint identification of a way forward. Instead of imposing their own views and solutions, the supervisor tries to inspire. The design section is accompanied by a theoretical essay, in which diploma candidates discuss the design as research. Fragments of these works, either supervised or co-supervised by the author, have been published in internationally recognised Polish scientific journals [18][19].

RESEARCH METHODOLOGY: SURVEY

The Master's diploma is the crowning achievement of university studies. It becomes the most significant element of the portfolio of a graduate to secure their first, and at times even successive, employment after graduating with the degree of MSc Engineer Architect. This factor is significant in the subject selection for the diploma project.

The author has supervised or co-supervised 103 Master's diploma projects on the Architecture and Urban Design course between 2005 and 2020. These included 19 diploma projects prepared in English as a part of the Master's studies in English course. Furthermore, the author has reviewed over 60 Master's diploma projects defended at the FA-CUT between 2014 and 2020. The sample of 108 projects (103 defended projects + 5 currently being worked on) with which the author was associated was sufficient to formulate initial conclusions.

According to the FA-CUT Institute of Urban Design regulations, the diploma project topic either can be proposed by students, or selected from a pool of subjects proposed by the supervisor. In the second case, it may focus on research or educational programmes with which the supervisor was engaged.

All 108 diploma candidates whose projects the author had supervised were asked to fill out a short survey questionnaire. The students were asked to answer two questions:

1. *What were the reasons for choosing the subject of your diploma?*
2. *Why have you chosen this particular site for your diploma project?*

RESULTS

The questionnaires returned by students were varied in terms of how precisely the respondents formulated their answers and in the details. Students typically answered the questions with several sentences and so processing the findings was laborious. Some of the answers to the first question also applied to the second. However, they can be arranged into a typology in terms of substantive content.

Survey Questions

The following are some of the most commonly given answers to the first question in the survey:

1. *I selected the subject so that it would look good in my portfolio - 96%;*
2. *I wanted to prepare an interesting project, one that I had not previously worked on - 70 %;*
3. *I wanted to do something for my city/region - solve one of its local problems - 49%;*
4. *I wanted to further study the matter of (...), which I had already engaged in previously - 24 %;*
5. *I wanted to prepare a project for an interesting competition - 15%.*

The most common answers to the second question in the survey can be grouped as:

1. *I wanted to do something for my city/region - 50%;*

2. *I wanted to continue working on a site I had worked on during an international exchange/student workshop or teaching programme - 31%;*
3. *Selected a project site in Kraków, where I could inspect the site during the semester (which does not rule out point no. 1) - 24%;*
4. *Other - 14%.*

An analysis of the responses for 108 diploma projects, from which the comparisons in Tables 1 and 2 were produced, illustrate the preferences of the Architecture course diploma candidates during the Master's project subject selection process. The projects were prepared under the supervision of the author at the FA-CUT Institute of Urban Design.

Table 1: Primary reason for choosing diploma project subjects.

No.	Answer group	Number of diploma projects
1	Attractiveness of the diploma in the portfolio	89
2	Interesting subject that was not engaged in previously	65
3	Project of a city/region	45
4	Further exploration of a previously encountered subject	22
5	Competition project	14

Table 2: Reasons for selecting project sites.

No.	Answer group	Number of diploma projects
1	Site in home city/region	53
2	Site associated with an international education/research programme	29
3	Site in Kraków	22 (9 respondents also gave answer 1)
4	Other	13

The tables do not account for project scale (architecture; architecture and urban design; urban design; urban design and planning), as this distinction would needlessly complicate the findings at this stage. It is assumed that this is accounted for indirectly by the number of respondents who gave answer number 2 to question number 1 in Table 1.

DISCUSSION

The study, which was performed over 15 years allowed the author to formulate conclusions concerning the Master's diploma project subjects and the site preferences of architecture students (previously architecture and urban design). To many, this diploma project is the culmination of an academic career [20]. It marks an engineer architect degree holder's progress in a demanding employment market [11][12].

Research Questions

The analysis of the answers to the two research questions featured in the survey are as follows:

Question 1: What were the reasons for choosing the subject of your diploma?

Answers 1 and 2 or similar answers (which were jointly accounted for in the listings above) relate to most of the projects, with the other answers as supplementary. The exception is answer number 4, which is complementary to answer number 2. These two answers did not collectively account for 100% cases, as proven by the study, despite expectations to the contrary. A portion of respondents (49%) felt attached to their home city (region) and wanted to explore local problems (which often turn out to be problems typical of globalisation) in their diploma project and its theoretical section.

Of note is the small percentage of subjects associated with student competitions (predominantly the Schindler Award); it is difficult to find a subject that would meet the requirements of a Master's project and the competition. However, it should be noted that many Master's projects were submitted as entries to Polish and international competitions cyclically organised by the Association of Polish Architects (SARP), the Society of Urban Planners in Poland (TUP), Polish local governments and business or consortiums (e.g. *Wood in Architecture*; or *Concrete Architecture*), as well as international project competitions (e.g. SARP-BDA).

Twenty one of the Master's projects supervised by the author and included in the study received nominations or awards in such competitions. Nevertheless, participation in such competitions was not a factor in subject or site selection, which is why this aspect was ignored in the study.

Question 2: Why have you chosen this particular site for your diploma project?

Diploma project sites located in a familiar spatial context were preferred by diploma candidates; 74% of the respondents referenced their home city/region or Kraków, where the University is located. In nine cases this was the respondent's home city (10% of responses).

International teaching and research was the focus of projects largely outside of Poland. Most diploma candidates who selected such projects noted that this would improve the attractiveness of their portfolio. A dozen projects (14%) used randomly selected sites, with which the students had had no previous contact. These sites included areas in other attractive Polish cities (the Tri-city, Wrocław); areas associated with competitions (Schindler); areas in other European cities or locations, such as the K2 peak in the Karakoram Mountains or Mars (the planet) [16].

CONCLUSIONS

The objective of teaching the art and skill of design is to prepare students, future Masters of Science in Architecture, to make correct design decisions concerning architecture and its associated open space, so as to satisfy the needs of individuals and communities. Architecture is always designed in a specific spatial, social and cultural context.

The study demonstrated that the design teaching methodology, which leaves students a great deal of freedom in subject and site selection, results in favourable outcomes. These can be seen in the quality of diploma projects, many of which received nominations and honours in university, national and international-level competitions.

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