

Contemporary challenges in freehand drawing education at the faculties of architecture

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ABSTRACT: In this article, the author describes the adopted method of teaching freehand drawing to students of landscape architecture from Cracow University of Technology (CUT), Kraków, Poland, and the International School of Engineering (ISE), China. The method has been adjusted to contemporary challenges - the decreasing requirements for candidates admitted to the studies and the small number of teaching hours of drawing. The aim of the research was to answer the question whether the adopted methodology motivates students to draw outside of the study programme, develops their skills of the critical evaluation of drawings and is useful in presenting their design ideas (integrated design). On the basis of the surveys conducted, it can be concluded that the presentation and discussion of students' works develop their awareness of the critical evaluation of drawings. Similarly, making remarks on perspective sketches of students' own projects is helpful in presenting design ideas. Developing the ability to use a drawing, creating original graphic records presented in public, and integration with design objects, are important in the social communication of design concepts.

INTRODUCTION

The globalisation of education and its accessibility via on-line courses are opening up new possibilities for teaching freehand drawing. They allow for the exchange of experiences between architectural departments [1] without the need for teachers and students' costly travel. Contemporary challenges [2], however, include the diminishing requirements for candidates admitted to architectural faculties and the declining number of hours devoted to freehand drawing classes during studies.

In the years 1999-2018, students of landscape architecture at Cracow University of Technology (CUT), Kraków, Poland, had to pass an entry examination. As of 2019 they are admitted on the basis of the results of the secondary school certificate and portfolio, which consists of ten to fifteen A2 and A3 drawings, presenting an open landscape, urban landscape and flora. This change naturally affects the students' skill level in freehand drawing and presents new challenges in methodology and programme development. Drawing classes in landscape architecture are held once a week (2 x 45 minutes - one teaching hour) in semester 1 (30 hours) and semester 2 (30 hours). After the first year of education there is an open-air drawing and painting class (30 hours). In the second year, during the first semester, there are sculpture classes (30 hours) and in the fourth semester, drawing and painting classes (30 hours) as well. This totals to 150 teaching hours of drawing, painting and sculpture. In comparison, in the preparatory course for university candidates at the Faculty of Architecture of the CUT, 40 meetings take place - each one takes five teaching hours, which is a total of 200 hours.

Students of architecture at the CUT are admitted for study also on the basis of the results of their secondary school certificate, and the results of a practical examination that consists of two works (a drawing from nature and a drawing from the imagination). In the Faculty of Architecture at the CUT, first-year architecture students have 30 hours of freehand drawing in semesters 1, 2, 3 and 4, and additionally 30 hours of sculpture in semester 3. An open-air drawing and painting class is also organised (30 hours) upon completion of the first year of study. This amounts to a total of 180 teaching hours of drawing, painting and sculpture. In recent years (since the beginning of academic year of 2021/2022), the new programme has unfortunately reduced this number of hours. Studies in the field of architecture and landscape architecture at the CUT are two-cycle and total five years in duration - the first cycle consists of seven semesters and the second one of three semesters.

There is no freehand drawing examination and no portfolio is required when recruiting candidates to the Faculty of Landscape Architecture at the International School of Engineering (ISE) operated by Tianjin Chengjian University (TCU), China. This university, however, after admitting candidates, conducts a drawing and painting examination. During this examination, a still life is sketch drawn (in the black and white technique) and a still life is painted (using the gouache technique). At the same time, students are encouraged to improve their drawing skills during study time. In the study programme, freehand drawing classes for the first year of landscape architecture have 32 didactic hours

(45 minutes - one didactic hour) in semester 1, and 32 hours in semester 2. In years 2, 3 and 4, students do not have freehand drawing classes. They improve their drawing skills during design classes. Landscape architecture studies last four years - comprising eight semesters in total. Students of landscape architecture in the Faculty of Architecture in the ISE have 64 teaching hours of drawing and painting in total, while students of landscape architecture at TCU have 112 hours.

During the last two years (2021, 2022), freehand drawing classes in semester 2 for the first year of landscape architecture (ISE) were conducted on-line by the author of this article within the framework of co-operation between universities CUT and TCU [3].

In this article, the author describes the adopted method of teaching freehand drawing to students of landscape architecture from Poland (CUT) and China (ISE). It has been adjusted to contemporary challenges - the decreasing requirements for candidates admitted to the studies and the small number of teaching hours of drawing. The aim of the research was to answer the question whether the adopted methodology motivates students to draw outside of the study programme, develops their skills of the critical evaluation of drawings and is useful in presenting their design ideas (integrated design).

METHODS

The methods applied in this research are based on the latest scientific research [4] and many years of teaching experience of the article's author. The research also comprised surveys carried out among Polish (CUT) and Chinese (ISE) first-year students of landscape architecture in the second semester of the academic year 2021-2022. The aim of the survey was to answer the question of how long the candidates had been learning drawing before commencing studies and if at all. In addition to the comparative analysis of initial education before the studies, the aim of the research was also to verify whether a similar methodology and curricula for teaching freehand drawing motivate students from Poland and China to draw outside of the study programme, whether they teach them the critical evaluation of drawings, and whether they are helpful in presenting design ideas (integrated design).

The decreasing level of preparation of candidates for studies in freehand drawing and the small number of teaching hours in this subject at architectural faculties are necessitating the modification of teaching methods and adaptation of the curriculum.

Several important aspects helpful in the education of architects have been distinguished within the context of these contemporary challenges, and applied in practice in classes with students from Poland (CUT) and China (ISE):

- motivating students to draw on their own outside of the programme - creating opportunities for obtaining comments on sketches for projects and competitions, etc;
- presentation and discussion of students' works, which develop the ability to critically evaluate drawings, thanks to their informal character and civil manner of communicating comments; providing clear evaluation criteria [5] that allow students to better understand teachers' requirements and expectations during the public evaluation of their works; balancing negative comments by positive ones;
- subjects' integration - discussion of perspective sketches for students' own projects, which is helpful in presenting design ideas and future design practice.

Unfortunately, the class is not enough to guarantee versatile artistic education and hone multiple presentation techniques, which used to be the standard in traditional schools. This is why it is of utmost importance to motivate students to develop their habit to sketch, record their thoughts in a drawing and create their own *memory libraries*. The goal is to make sketching a natural form of expression, a record of thought.

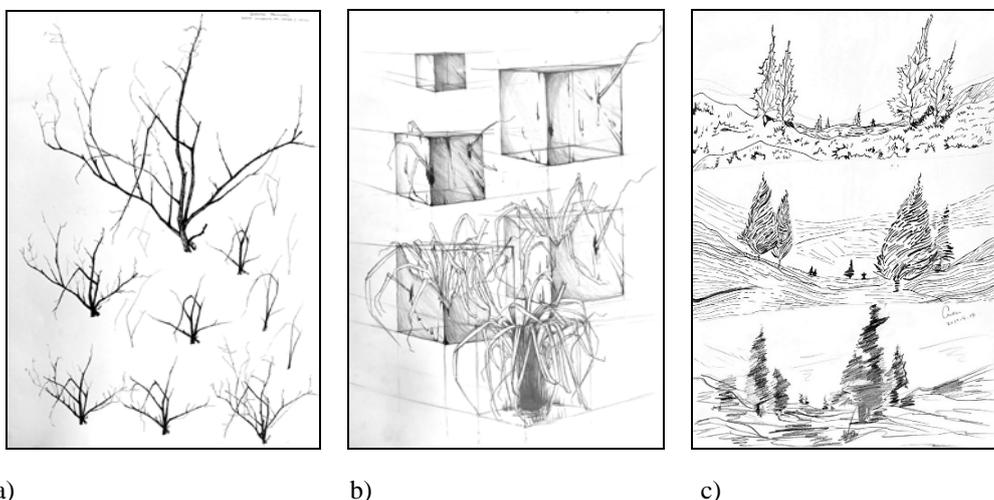


Figure 1: Subject of the drawings: a) tree/shrub synthesis, b) cube transformation into organic form - drawings by Wiktoria Bartosik (CUT student), c) sketches of panorama - drawing by Jiaying Li (ISE student).

Popularising active learning is now becoming a necessity. Students are additionally encouraged to develop their drawing skills for themselves by participating in exhibitions and competitions, etc, apart from their study programme at the faculties of architecture [6]. Introducing interesting topics is also very important, e.g. tree/shrub synthesis, cube transformation into organic form, panorama, horizontal landscape (see Figure 1), sketch for the student's own project, three-dimensional space inspired by abstract painting, sketches of *panorama* based on still life (see Figure 2). Thanks to these topics students will enjoy drawing classes and become more involved. Owing to this, drawing can become an important element of their creative work.

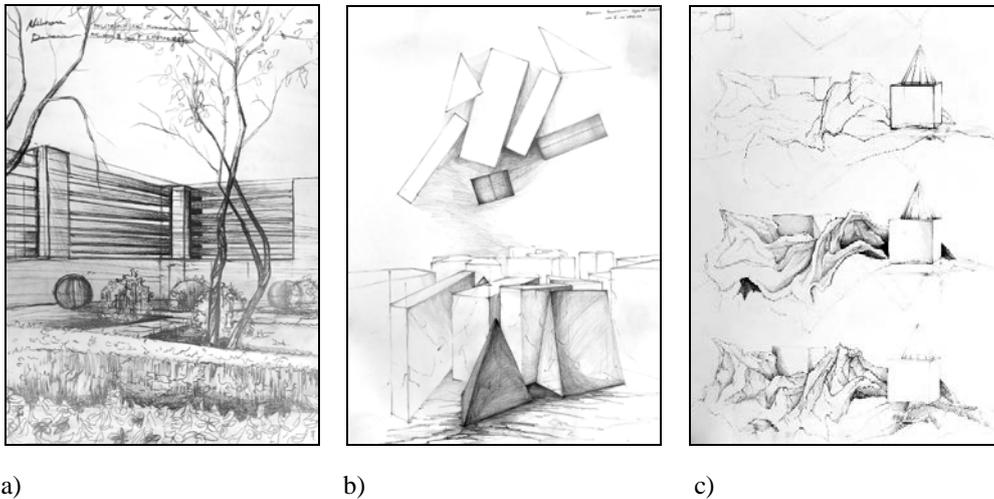


Figure 2: Subject of the drawings: a) sketch for the student's own project, b) three-dimensional space inspired by abstract painting, c) sketches of *panorama* based on still life - drawings by Wiktoria Bartosik (CUT student).

Apart from independent work, it is also crucial that students work in a group with their peers, as such tasks are highly stimulating for their development. One of the ways to motivate students is to show good models and discuss the best drawings from the previous class. The inclusion of weaker students' works in exhibitions boosts their confidence and improves their engagement, which in turn contributes to better outcomes during more difficult tasks. Positive competition gives students a chance to build confidence in their own abilities, while the comparison of their works to the works of their peers makes it easier for them to identify weaker areas that need further development. Finally, it is also necessary that students be familiar with the assessment criteria [7], and to discuss them clearly using specific examples - why a specific work received the top mark, why another drawing is weaker, which aspects are taken into account, etc.

Developing the ability of the critical evaluation of drawings is an important element in the education of architects, which supports self-awareness and independent thinking [8]. Students should learn from one another to analyse and evaluate their colleagues' works, which will make it easier for them to evaluate their own. The process is more effective thanks to their active participation in public discussions of the drawings, moderated by teachers (see Figure 3). This experience is better remembered thanks to active participation in the critical analysis of the works. Passive observation is not always sufficient [9]. Continuous formative feedback in the classroom contributes to greater students' attention and engagement [10].



a)



b)

Figure 3: CUT students' active participation in public discussions of the drawings: a) during exhibition, b) during classes - the subject: collage (photographs by the author, 2022).

An important aspect is also the integration of subjects implemented at architectural faculties [11], which allows for a comprehensive approach integrating interrelated fields of science, technology and art, as well as saving students' time. This approach and effective co-operation between universities can raise higher education quality [12].

Discussing the perspective sketches for students' own projects during freehand drawing classes is putting the previously acquired skills to practical use. It is very difficult for students to confront the complexity of their project, as well as structures and materials used in it. The analysis of frequently repeated mistakes teaches students to draw positive conclusions - not only *I cannot handle this, I will know how avoid to making a mistake like a colleague made*, etc.

Similarities in freehand drawing education (ISE and CUT) during the second semester in the academic year 2021/2022:

- The language of freehand drawing, thanks to its universality, is conducive to communication despite the need to teach in a foreign language (classes for Chinese students are conducted in English);
- A similar number of hours in semester 2: students from Poland have 30 hours, students from China have 32 hours;
- The same criteria for evaluating works of similar topics were adopted and students were informed about them;
- Both Polish and Chinese students made similar mistakes in perspective.

The differences in freehand drawing education (ISE and CUT) during the second semester in the academic year 2021/2022:

- Classes with CUT students were held in person during the second semester, while classes with ISE students were held on-line;
- CUT students were able to become acquainted with the materials presented in the classes and had the opportunity to obtain individual comments; ISE students had access to recordings of all the lessons - the feedback was addressed individually and class materials were made available on-line to all students;
- CUT students could observe and make live comments on exhibitions of works organised in the classroom, owing to which they learn to think critically through active participation; ISE students had virtual exhibitions of Chinese and Polish students' works, which made them less active in the critical evaluation of drawings;
- ISE students observed the on-line comments of the teacher discussing drawings and sketches for their projects (integrated design); CUT students obtained comments during live lessons, and were able to ask questions during individual conversations (one-to-one);
- The more numerous group of students from China (46 people) compared to Poland (26 people) had an impact on the intensity of contact with the teacher; classes with Polish students were conducted by two teachers, while remote classes with Chinese students were conducted by one person, which influenced the number of comments and student activity;
- Several topics had different sources of inspiration - CUT students were inspired by still life/nature in stationary lessons, ISE students often used motifs of inspiration taken from the Internet or their own photographs during on-line classes;
- The different cultural backgrounds and their influence on the way of perceiving and presenting forms are visible in the selection of motifs, e.g. houses with traditional buildings, mountain landscapes diversified in terms of forms.

RESULTS

The author analysed the results of an anonymous students' survey carried out in the second semester of 2021/2022 among first-year students of landscape architecture at the CUT and ISE. Of 26 students in the Polish group, as many as 22 responded (84.6 %), whereas in the Chinese group, 20 of 46 students (43.5 %) provided their feedback (additionally, one person from the group sent their survey incomplete). The comparable number of students who took part in the survey - 22 from Poland and 20 from China, the analogous number of teaching hours and the similar topics allow for confronting the material and carrying out a comparative analysis.

In the surveys, students answered four questions concerning their initial education in freehand drawing and the assessment of the effectiveness of the adopted methodology of freehand drawing classes in motivating them to work for themselves outside of the study programme, developing the ability to critically evaluate drawings, and the methodology's usefulness in presenting design ideas (integrated design). Anonymous surveys were conducted voluntarily, the greater number of surveys submitted by Polish students was possible thanks to direct contact during in-person classes. The responses given by students from Poland and China are presented in Table 1 and Table 2.

Table 1: Comparison between ISE and CUT students' answers to survey question number 1.

Survey question 1	6 months or more		1 month - 6 months		I did not learn	
	ISE	CUT	ISE	CUT	ISE	CUT
1. How long did you learn drawing before commencing your studies?	3 15%	10 45.5%	14 70%	4 18.2%	3 15%	8 36.3%

Table 2: Comparison between ISE and CUT students' answers to survey questions numbers 2 to 4.

Survey questions 2-4	Yes		Difficult to say		No	
	ISE	CUT	ISE	CUT	ISE	CUT
2. Do the freehand drawing course teaching methods motivate you to draw on your own outside of the study programme?	19 95%	14 63.6%	1 5%	7 31.8%	0	1 4.6%
3. Have the presentation and comments of the students' drawings helped develop your awareness of the critical evaluation of drawings?	20 100%	22 100%	0	0	0	0
4. Is the discussion about the perspective sketches (and other topics) helpful in presenting design ideas (integrated design)?	20 100%	19 86.4%	0	3 13.6%	0	0
Average percent of total 2-4	98.3%	83.3%	5%	22.7%	0	4.6%

Conclusions drawn from the survey analysis:

- The majority of the Chinese students (70%) studied freehand drawing for 1-6 months before commencing their studies, 15% of them did not study it at all, and only 15% studied it for more than 6 months - unfortunately the small percentage of Chinese students who completed the survey does not allow for a comprehensive analysis - this group had more average-level skilled students in drawing than the CUT;
- Half of the Polish students (45.5%) studied freehand drawing for more than 6 months, 18.2% of them for 1-6 months, and 36.3% of them did not study it at all - this group had more students that were better and more that were weaker in drawing than the ISE;
- Methods of teaching freehand drawing as motivating to draw outside of the study programme were assessed positively by the majority of the Chinese students (95% of the ISE students, 5% declared *difficult to say*), while the Polish students were slightly less motivated (63.6% of the CUT students declared *yes*, 31.8% declared *difficult to say*);
- All students from Poland and China expressed their belief that presenting and discussing students' works develops their awareness of the critical evaluation of drawings (100% of the ISE students, 100% of the CUT students); discussing and critiquing the works in a civilised manner in direct contact with students is better accepted;
- All Chinese (100% the ISE students) and most Polish students (86.4% of the ISE students declared *yes*, 13.6% - *difficult to say*) expressed their belief that discussing perspective sketches (as well as other topics) is helpful in presenting design ideas (integrated design).

CONCLUSIONS

On the basis of the surveys conducted, it can be concluded that the presentation and discussion of students' works develops their awareness of the critical evaluation of drawings. The ability to analyse drawings is an experience that teaches students to formulate independent thoughts and self-evaluate, as well as to confront their own works with observers. Discussing and critiquing the drawings is better absorbed by students when it is carried out in a civilised manner during one-to-one contact sessions. Similarly, making remarks on perspective sketches of students' own projects is helpful in presenting design ideas. Developing the ability to use a drawing, creating original graphic records presented in public and integration with design objects, are important in the social communication of design concepts.

It can be also concluded that it is possible and necessary to motivate students to draw outside of the study programme and to develop a critical evaluation of drawings. This is especially important in the context of decreasing requirements in freehand drawing for candidates admitted to architectural faculties and the small number of teaching hours of this subject. The adopted and improved teaching methods help in overcoming these difficulties. They have been inspired by the latest research and they respond to contemporary challenges. Creativity, flexible thinking and innovation should be requirements set not only for students, but also for teachers, in their approach to the adjusted methods and curricula.

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