

The Role of Fine Art and Hand-drawing in Architectural Studies

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Architecture, comparison, drawing, fine art, freehand drawing, research.

Abstract

The paper proposes to analyse survey data among students about the role of drawing in architectural studies. It compares the results obtained by researchers on the role of fine arts and freehand drawing compared to digital tools in representing drawing. Architecture students have expressed their support for studying freehand drawing and the subsequent use of this competence in their professional careers. The article also presents the views of international students, and the authors compare the experiences and recommendations of Latvian and international students and experts.

Introduction

The conditions the world faces today in the realm of a new global digital drawing, the transformation of architectural drawing from freehand to digital whiteboard tools and the fascination of young people with digital tools threaten to lose the skills provided by fine art classes. In recent years, we have seen that young people's desire to do things faster with digital tools and using different design programs also translates into an urge to rush through their work in fine art classes. As a result, the quality of drawing skills and TEDRA in the final drawing is lost. It can be observed that young people are tense and unconfident. The fine art classes provided a kind of stress therapy and communication through drawing (Figs. 1, 2 and 3) for the architecture students. Freehand drawing in the studio allows a young person to relax his mind from the stress of everyday life and think about nothing or keep attention on the process of drawing. By switching to digital tools, one can see that the pressure is doubled, not reduced – as the drawer has to have perfect drawing skills and to be familiar with digital tools. This radical change in artistic methodology puts students at additional challenges. To identify these challenges, a survey was conducted, and the results are discussed later in this paper.

The object of the research is drawing by hand, its use and significance in architectural studies in Latvia and evaluation of the experience of EU and UK universities. The interaction and possibilities of synthesis with digital tools in the architect's work are often exaggerated. Still, the authors seek to combine hand drawing on paper and digital drawing methods. The cognitive development of hand-drawing and the means of fine art expression allow the architect to gain personal experience during the study process and use it later in professional practice.

The paper aims to obtain and summarise information on the role of freehand drawing in architectural studies. To achieve the goal, the following tasks are defined:

1. To conduct surveys and collect results among Riga Technical University Faculty of Architecture (RTU FA) students, ERASMUS students and lecturers.
2. To analyse the curricula and information available on websites of architectural studies at foreign universities in order to compare what is common and what is different in hand-drawn studies. An analysis was carried out on the presence of hand-drawing or design-drawing in the study programs of 13 universities:
 - The Department of Architecture of Aalto University, Finland;

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- The Aarhus School of Architecture, Denmark;
 - The Faculty of Architecture and Built Environment of TU Delft, Netherlands;
 - The Department of Architecture of UDK Berlin, Germany;
 - The Faculty of Architecture and Design of Berlin International University of Applied Sciences, Germany;
 - Architecture in UAL Central Saint Martins, UK;
 - The Royal Academy of Art, the Hague, Netherlands;
 - The School of Architecture of IE University, Spain;
 - The Faculty of Architecture and Urbanism of Bauhaus University in Weimar, Germany;
 - The Department of Architecture of Universität der Kunst Berlin, Germany;
 - The Amsterdam University of the Arts, Academy of Architecture, Netherlands;
 - The Department of Architecture of University of Cambridge, UK;
 - Architecture and Civil Engineering in ETH Switzerland, Switzerland;
 - The School of Architecture and the Built Environment of KTH Royal Institute of Technology;
 - UCL, London, UK.
- 3) To compare the achievements of drawing study tasks at the Department of Fine Arts (DFA) of the Faculty of Architecture at Riga Technical University with those at the universities listed above in similar fields of study.

The research includes a literature analysis of teaching methods, a survey among students and lecturers, a DFA (RTU) archive drawing collection, and an analysis of the visual-arts heritage in the Department of Fine Arts (DFA) of RTU Faculty of Architecture (FA) Department of Fine Arts (DFA). Students will enrich their visual-aesthetic experience through literary analysis, practical drawing in the study program, and the analysis of world-famous hand drawings of architects and their fine art expression [1].

The expected results are the comparison of educational methods and didactics in architectural studies, evaluation of the role of fine art and hand-drawing in the study process. The identification of the modes of expression of the visual arts and architectural synthesis, the ways of creative images and concepts, and identification of interdisciplinary design methods that would enhance the study of art synthesis in architecture.

The relevance of the topic is significant because the new study tasks are planned for the knowledge, skills and abilities required for the working environment in the context of European directives in architectural education. The authors have conducted detailed research into the architecture degree programmes of leading EU

and UK universities. Teaching and learning strategies in architectural schools vary depending on the institution and the programme. However, drawing is an essential skill in architecture and plays a significant role in the teaching and learning strategies of architectural schools.

There are common teaching and learning strategies related to the role of drawing in architectural studies. Lectures, practical workshops, and presentations are common teaching and learning methods in architectural schools. In that way, professors provide students with the necessary theoretical knowledge about the history of architecture, design principles, and current trends. Drawing is often used in these lectures and presentations to illustrate concepts and ideas (see Fig. 2).

According to McKenzie (1998) [3], when asking students to express their emotions to pictorially represent their impression of the preceding year, students illustrated their experiences in several ways, including self-portraits, cartoons, symbolic images, and diagrammatic representations (flow charts, etc.). The variety of content of the drawings and the validity and comprehensibility of this approach to evaluation are addressed in the scientific paper *"Drawing on Experience: A Holistic Approach to Student Evaluation of Courses"* [4]. It was suggested that drawings by students or staff can be a valuable source of information for course evaluation. Not just in terms of what has happened but how people feel about what has happened. We can empathise and relate to the problems they faced personally. They appear to generate information that is not usually obtained from written comments which could readily be discussed by staff in the process of improving their courses and teaching [20]. The authors found this approach to assessing the course outcomes interesting, as questionnaires are much more popular nowadays. The authors have conducted a literature analysis on similar topics in the Scopus scientific database, reviewing



Fig. 1. Students' workshop – visual art classes. Lecturer E. Elere, RTU, 2022 [authors' photo].



Fig. 2. Students are doing studio work and sketching. Lecturers E. Elere, A. Meldere, and Prof. A. Ulme, RTU, 2022 [authors' photo].

25 sources on the teaching of visual arts in architectural studies, methods of assessment, and the latest didactics, and compared the information obtained with their research in pedagogical work with architecture and design students at the Riga Technical University (RTU). According to U. Bratuskins and S. Treija, the higher education programmes for architects at the RTU Faculty of Architecture have been influenced by European university models. The study programme was inspired by technical higher education programmes in Germany and Switzerland, with a focus on architectural design, drafting, history, as well as the construction industry, building structures, and materials. The Department of Architecture has continuously worked on improving the study system and expanding the range of courses offered [12], [25].

The main strategies for teaching visual art for architectural degree students are similar for European and UK universities. Studio work is an essential part of architectural education, involving hands-on learning and experimentation. Drawing takes a leading role in the studio work process. Students use drawing to express their design ideas and concepts visually. They also use drawing to create sketches, diagrams and plans to communicate their designs to their peers and professors (see Fig. 2).

Critical and analytical review of work is an essential part of studying architecture. The critique provided during the review provides students with feedback on their projects and helps them to improve their work in drawing, painting, printmaking, and design. The feedback to the students after the show is in the form of a discussion. Drawing is often used to explain details. To help students understand and self-critically evaluate their work, students also observe their peers' drawings when placing their work on the showcase wall, and students are similarly invited to give their opinion on their fellow students' showcase performance (see Fig. 3).

A recent trend is compiling the studies' results in a single yearbook. The best course projects are selected,



Fig. 3 Showcase performance at the Faculty of Architecture (FA), RTU, 2022 [authors' photo].

digitised, and compiled into a layout, later published on the university's website and often also in a physical book format. This is how the best examples can be observed. The assignments in architecture undergraduate programs are also analysed in other schools of Architecture: The Bartlett School of Architecture, Oxford Brookes University, School of Architecture 2020–2022 End of Year shows, the University of Cambridge Department of Architecture, Polytechnics di Milano Scuola di Architettura e Urbanistica Ingegneria delle Costruzioni, and others.

Professor Ivars Strautmanis, President of Latvian Regional Academy of Architecture (LRAA), speaking about the role of synthesis in contemporary Latvian architecture, acknowledged that the concept of "synthesis" is in line with the concept used in science and should contribute to the creation of a fundamentally higher quality of architecture. A quality that is characterised by the use of high technologies and visible signs of art. Architecture appears here as a carrier of a more significant spiritual potential, a part of a larger cultural sphere [2]. This sense of growing up in architectural studies and art classes is essential to



Fig. 4. Showcase performance at the Faculty of Architecture (FA), RTU, 2022 [authors' photo].

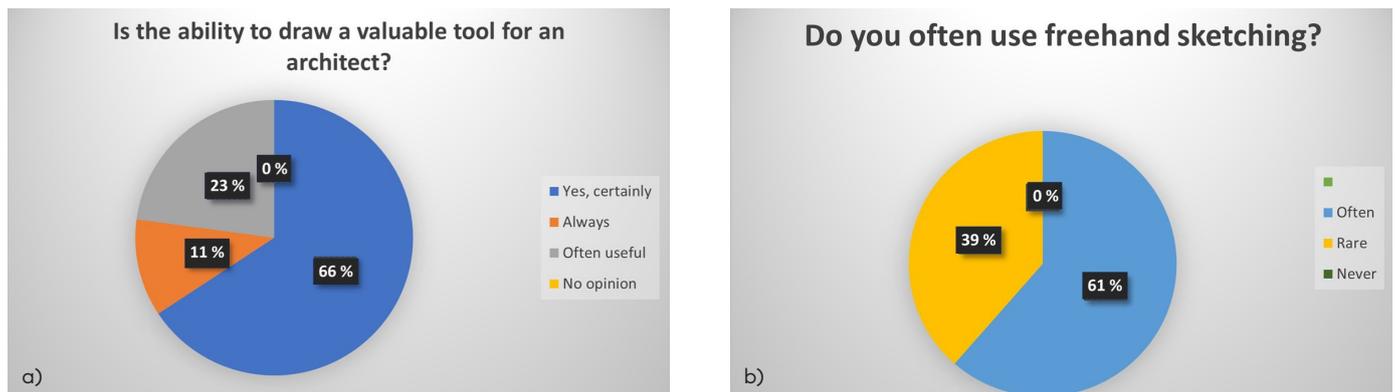


Fig. 5. (a&b) Respondents' answers to questions 1 and 2 of the survey [developed by the authors].

help create the most comfortable area for a human being, physically and mentally. Casey Gwinn and Chan M. Hellman from the University of Oklahoma pointed out that teachers and school staff should find ways every day to encourage and praise their students, try to reinforce their efforts to build character, celebrate efforts to complete tasks and assignments, and cheer efforts to help others [19].

The study on RTU FA includes a survey of three target groups on the role of freehand drawing in architectural education. As well as a comparative analysis of architectural study programmes in leading EU universities on the role of freehand drawing in architectural studies before [6] and after the COVID pandemic. In the Methodology Conference "Adapting Study Content to a Situation of Uncertainty" held on 2 December 2023 in RTU, Riga (Latvia), the main problems and the possibilities to solve them were defined.

I. Analysis of Research Questionnaires

The first survey was conducted among RTU FA students in October 2022, using MS Forms, sending a questionnaire to bachelor students and lecturers registered in the RTU

ORTUS System. 70 responses were received. A total of 10 open-ended and semi-closed questions were asked. The respondents answered all questions, and there were no invalid responses.

To the first question, "Is the ability to draw a valuable tool for an architect?" 66% of the respondents answered in the affirmative, and 11% felt that they could always use this tool if they had the skills; 23% said it was often useful, but no respondents said they had no opinion on the matter (Fig. 5a).

To the second question, "Do you often use freehand sketching?" 61% said they often do, and 39% observed that they rarely but do use it (see Fig. 5b).

Thinking about the professional activity of an architect, not only the study process, a third question was asked: do you use freehand drawings in your communication with clients or colleagues (see Fig. 6a). 66% answered in the affirmative and 27% said they rarely but do use them.

The next question was about the tools the architects use in their work, during negotiations and when dealing with professionals and clients. Only 28% of the responses to this question related to the use of digital tools, while 72% named various practical fine art tools such as pencils, fine liners, etc. (see Fig. 6 b).

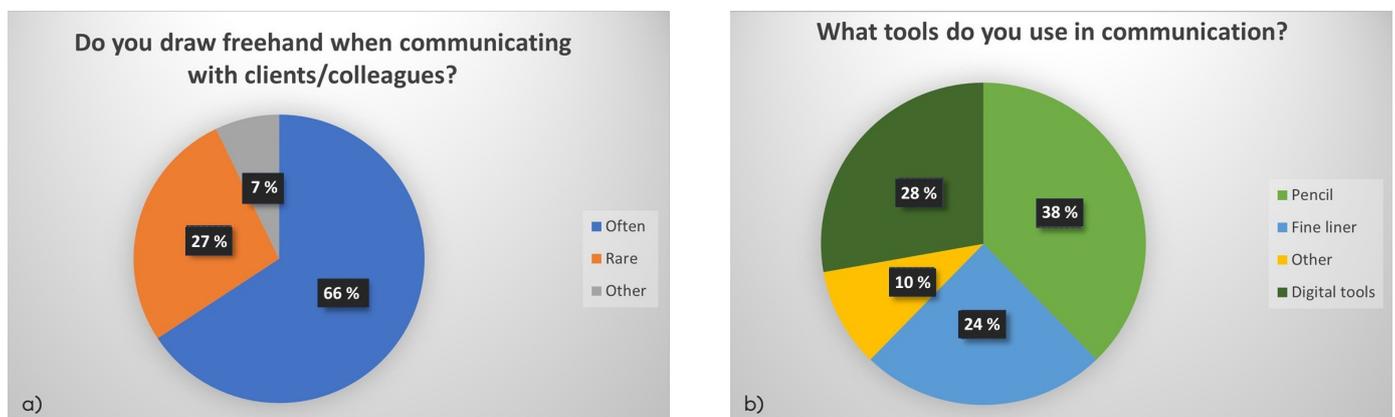


Fig. 6. (a&b) Respondents' answers to questions 3 and 4 [developed by the authors].

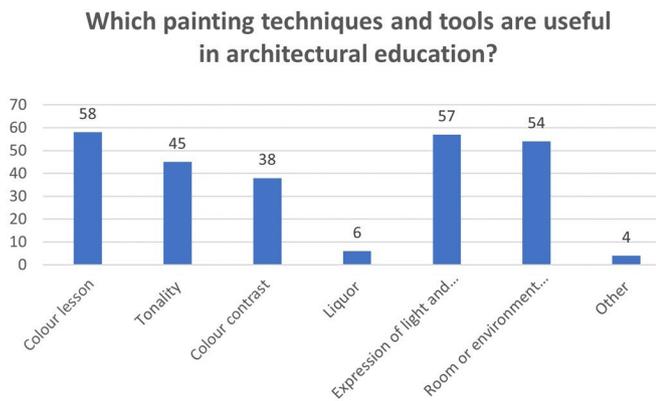


Fig. 7. Respondents' answers to the question on the role of painting in architectural education [developed by the authors].

Looking at the other answers, 63 % of respondents said that they appreciated the role of fine art study course in architectural studies as valuable and useful for comparing volume, contrast, and light and shadow relationships. Respondents also appreciated the opportunity to draw a quick sketch to present an idea.

21 % of respondents rated digital tools more highly because they can present an idea more quickly and with better quality and visualise it more accurately than freehand sketching. This finding suggests that there is an opportunity to enhance the curriculum with practices provided by digital technologies and to encourage young people to develop their skills in freehand drawing so that digital tools serve more in design tasks and have the confidence to use more accessible tools and their skills in communication. Clients are always impressed by talented draughtsmen who can sketch their ideas quickly and neatly.

10 % of respondents use both visualisation options and 2 % use only digital media to present their ideas.

Next, questions were asked about the different types of fine arts and their use in the architect's professional

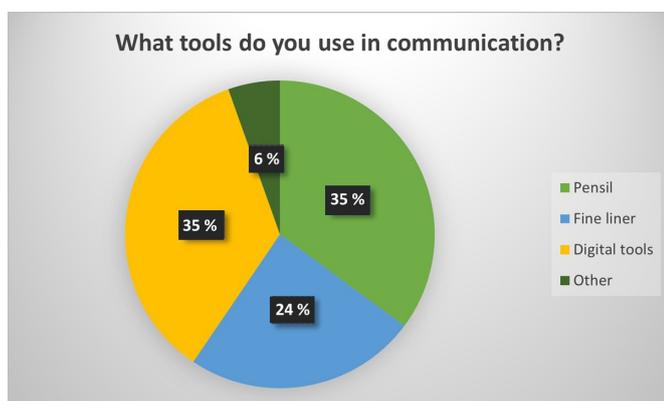


Fig. 9. Answers of Erasmus+ exchange programme international students [developed by the authors].

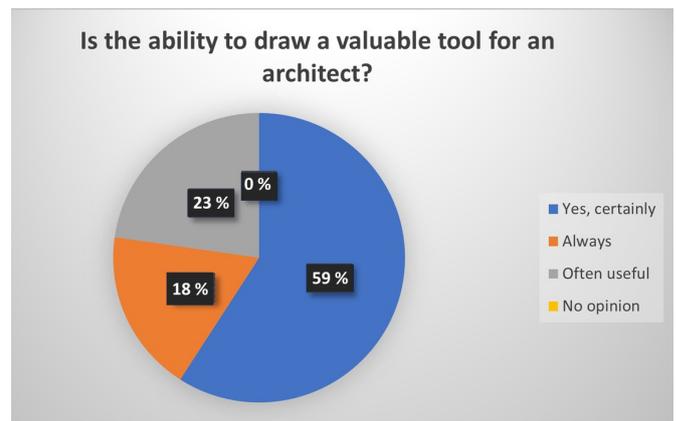


Fig. 8. Answers of Erasmus+ exchange programme international students [developed by the authors].

practice. For example, question 7 asked for respondents' opinions on the painting tools and techniques used by architects (see Fig. 7).

Architecture students mainly use the knowledge they have gained about colours (58 out of 60 points), representation of chiaroscuro (57 out of 60), and the possibilities of visualising the spatial environment in different techniques (54 out of 60 possible points); but the respondents were least interested in layering techniques (6 out of 60) and in other techniques (see Fig. 7).

To the question "How do fine art objects influence the aesthetic quality of your architectural design?" we received answers which can be grouped as follows:

- "The result will be of higher quality, and the idea and vision of the concept, e.g., for a building, will be more understandable and perceptible to oneself and others."
- "They improve the ability to express oneself artistically and clearly, to represent the ideas conceived."

The second survey was carried out among RTU FA exchange students in October 2022, using the digital tools – MS Forms, by sending a questionnaire in English

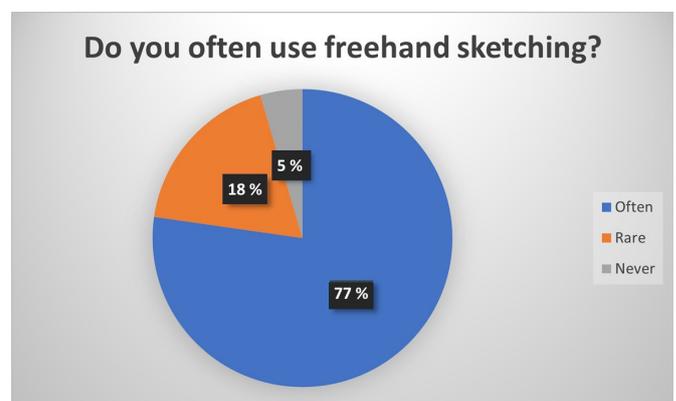


Fig. 10. Respondents' answers about the tools used in the communication process [developed by the authors].

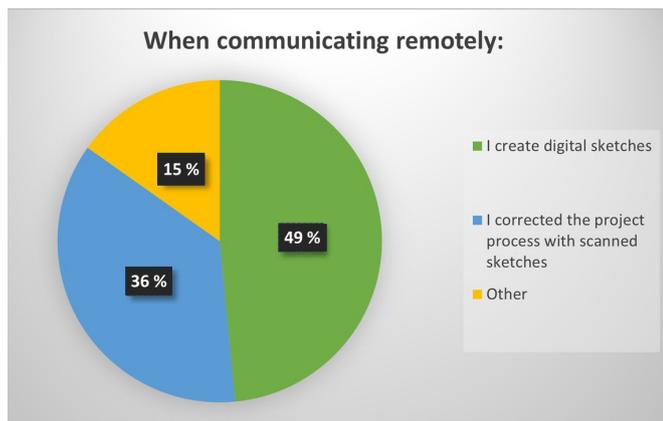


Fig. 11. Respondents' answers about the communication process in Question 5 [developed by the authors].

to international students registered in the ORTUS system. 22 responses were received. It can be considered that the number of respondents was sufficient, and the reliability factor was ensured.

Respondents noted the importance of fine arts in their professional activities. For example, to the first question on the importance of drawing skills, 59 % answered in the affirmative, and a further 23 % noted that they use it frequently (see Fig. 8).

When asked if freehand sketching was often used (Fig. 9), 77 % answered in the affirmative, while 18 % sometimes use it, and only one respondent (5 %) responded that they never sketch. Next, questions were asked about the tools used in the communication process – whether they are traditional, such as pencil or digital tools. Figure 10 shows that the views of ERASMUS+ students differ from those of Latvian students. Although both audiences were architecture students, foreign respondents were more likely to choose digital tools as a communication tool (35 %), although they also prefer pencil (35 %) and rapitograph (24 %).

With the increasing uptake of online communication tools and platforms, students often must present their work and projects digitally (Fig. 11), and 48 % of international students draw digital sketches and proposals for project interpretation, and 55 % of Latvian students say they do the same. Changes in the communication process were introduced by distance education during the COVID-19 pandemic. The survey shows that, unfortunately, 48 % of foreign respondents underestimate the importance of painting in the architectural profession. Although they do not associate painting with the profession, the respondents like to acquire knowledge and skills in colour studies, light perception, and rendering volume and depth using painting techniques. The flatness of the computer screen and working on the computer changes the teaching and learning methodology. The student must be able to visualise a spatial shape on the screen and to analyse it. Drawing on

a screen loses the volume of the subject and the spatiality of the environment. Lecturers need to adapt to the situation and change their teaching methods to allow the student to discover their creative abilities and consolidate their skills. New skills are strengthened through the experience of other researchers [14]–[16], [23], [24].

II. Discussion and Results

Students want to quickly learn the latest software and become proficient not only in design but also in the visual arts. Although everyone believes that young people are very digitally perceptive nowadays, it can be observed that the most significant disadvantage – not knowing in practice which tools are designed for which media – makes it impossible to get the job done as quickly as one could with a hand-drawing or sketch. Young people are often embarrassed when asked to draw something more by hand because they feel that without a computer, it is no longer possible for them to reveal their ideas on paper.

Experienced architects attach great importance to the language of ideas and an individual approach to the visual message. In the visual arts, there is a culture of associative thinking, whereby the artist can visualise their ideas, including texture and materiality, proportionality of volumes, etc., by visualising on a surface with a pencil or in an electronic medium. Contemporary artists constantly experiment with different materials to achieve new effects in their paintings, make their creations different from others, and be recognised in this world for their creative handwriting. For example, Latvian and international artists such as Kristaps Ģelzis, Kristaps Zariņš, Andrejs Amelkovičs, Matt Rota, Danny O'Connor (better known as Danny Boy or Danny Boy O'Connor), Nick Henry, Anselm Kiefer [13], and Gerard Brock [7] experiment with different artistic methods, materials, combining different techniques and technologies. The aim is to introduce architecture students to the techniques of combined drawing and painting and to stimulate their imagination to use these skills in their creative professional practice.

Students want to learn professional techniques in the practical disciplines of fine art and painting. They want to exercise dexterity, lightness of hand and directness of ideas in drawing to give a clear quality to the message of an idea. During the practical sessions, authors observed changes in the quality of drawing of new and prospective students. Compared to the analysis of RTU FA Department of Fine Arts analogues from previous years' experience, authors observed a sharp decline in the high-quality demands of architectural studies. The drop-in requirements occurred during the period of remote practical classes. The task was to create a new "language" of the architect in a set of cognitive, experiential practice and questionnaire

experiments and planned to make deliberate test-mode practical tasks to get to know the difference before and after remote learning, create a possible new set of didactic materials after the effect of the COVID pandemic on the students' learning system. Today, it is necessary to change the offer without abandoning the classical but finding new didactic ways to identify and apply them. They must be a quality expression of the young architect's individuality based on the sum of the heritage of the specific artistic language of Latvia [12].

These statistics make the authors understand how they could help students through the fine arts classes. Looking at architecture degree programmes 20–30 years earlier [6], [12], it was observed that young people in European universities had more opportunities to express themselves in the fine arts during their studies, and now the authors are starting to discuss whether students could be given the opportunity to unwind from the stressful studies in art therapy. Many of the researchers mentioned in this article believe that art therapy has an important place in reducing stress levels in young people.

Conclusions

Based on the study, several conclusions can be drawn:

1. The collection of highly appreciated samples made by RTU FA Department of Fine Arts students and lecturers during the methodology training is a good basis for preserving the historical heritage in an electronic database, which would serve as a primary source of research for comparison with other analogues in Latvia and abroad.
2. The majority (65 %) of the respondents in the survey conducted between 10th of May and 10th of December 2022 indicated that hand drawing is of great importance in the daily study and working process of an architect.

3. Students have high hopes and expectations from digital technologies, which are planned to be tested in future experiments.
4. An experiment is planned to compare the practice of digital drawing with hand-drawing techniques.
5. With the development of the digital environment, combined media have become the most widespread in the arts in the 21st century. Colour and light installations, various synthetic materials and new technologies give artists the creative freedom to visualise an idea. Mixed media painting involves painting images using several different media. Sometimes, this enables effects to be created on the canvas that is not possible using only one medium, and sometimes, it is only the use of such a mixed medium that allows the desired artwork to be created while preserving the idea of the mixed media and the concept of the painting.
6. In continuation of the identification of the original Cultural Heritage of Architectural Studies of the Foreign Universities and RTU FA Department of Fine Arts, it is planned to create a digital database that would be accessible to students and facilitate their perception process, encouraging them to draw ideas for the creation of new combined works of art and visualisations.

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