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Design Thinking for Architects: A Critique of International Education Models

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Abstract. The appropriateness of teaching design thinking to architecture students in Georgia is discussed. Design thinking is a user-centered method that was developed about 60 years ago and is widely used in almost all areas of design, including architecture. Leading architectural firms embrace design thinking. This method also has many opponents, who complain about the lack of creativity, its collective work, and more. In contrast, advocates of design thinking argue that design thinking approaches do not necessarily limit creativity, and that contemporary architecture has become so complex that specialists of only one field cannot account for everything. It is interesting that the main opposition to this methodology was met in the country where it was born – the USA. As for Georgia, the survey of students conducted by the authors of the article at the International Design School of the Georgian Technical University found that the majority of them have a positive

attitude and intend to use design thinking in their future activities.

Keywords: architectural education; design; design thinking; design education; education methods..

Introduction

Few years ago, one of the authors of this article published his opinion on the importance of international educational models for teaching design in the Georgian universities (Shavishvili, 2017), in which the whole emphasis was made on the role of concept of “design thinking” so popular in the US and Western European universities and by then taking over the rest of the educational world by storm. It is now the time to further explore the subject and question the validity of this concept for teaching architectural students.

Main Part

One of the first mentions of the term “design thinking” was well over 60 years ago by John E. Arnold, a mechanical engineering professor of Stanford University, and it certainly was not intended for the use in architectural design practice as it aimed to describe the method to propose an entirely new way consumers interact with an industrial product to contribute in its development, help to decrease production costs and increase sales (Hunt, 1955). In 1965 academic attempts to understand design characteristics, influences, processes, and methodologies led to L. Bruce Archer, another mechanical engineering professor, this time from Royal College of Art to state: “Ways have had to be found to incorporate knowledge of ergonomics, cybernetics, marketing and management science into design thinking” (Archer, 1965). In 1980 a practicing British architect, Professor Brian Lawson, addressed design thinking in architecture in his book *How Designers Think* claiming that “design thinking is a skill” helping architects “to shift attention from one part of the problem to another” (Lawson, 2005). In the last 30 years, design thinking methods have been widely used in industrial product design, as well as in almost every other field of design activities, most notably in visual communications for “user experience” (UX) design strategies, using creativity as a means of addressing an accelerating need for innovation – but not as actively in architectural design. That is why we consider it is important to see how design thinking is used in architectural education and what are its future prospects.

It is widely accepted now that design thinking is a human-centered problem-solving approach which utilizes the way consumers interact with a product forming a basis for designers to further develop it, instead of only relying on theoretical research, assumptions, and hypotheses. Such a perception may signify that design thinking is applicable to mainly the design of industrial products and visual communications (asserting that websites, mobile apps, and software in general are as much consumer products these days as tangible things are) but, in fact, it also had

widely been applied to business models. Where do architects stand in the design thinking process?

In reputable architectural schools worldwide, undergraduate studies frequently start with mathematics and physics, as well as liberal subjects such as arts, philosophy and culture – all these to help freshmen to advance their thinking abilities. Already on this early stage emphasis on creativity, experimentation and critical analysis is made prompting the students to look well beyond just functional or technological aspects of built environment and encouraging them to see the context, history, environment, society and all other factors that will impact their future design decisions. Some observers even go as far as to suggest that on early stages of architectural studies students are inspired “to think the same way graphic, product, and interface designers do, they just implement on different mediums” (Stouhi, 2022). And since design thinking in businesses, products, and services today is driven by the need to innovate and promotes a design office environment that fosters creativity, many leading architectural firms have been actually forced to start actively using UX design, design consultants, product and business innovation specialists, and research and development (R&D) instruments – in short, all what signifies design thinking. Design thinking strategies are evident in the methods used by some of the world’s most innovative architectural design firms such as Studio Gang, Diller Scofidio + Renfro, or Gensler – the latter, for instance, employs a typically design thinking tool such as data-driven solutions for interiors, buildings, and most importantly – entire neighborhoods. Architectural practice complexity grows, and “architects find it challenging to explain their intuitive design processes to clients” (Stouhi, 2022).

But does this growing trend of using design thinking tools in architectural practice actually signal the end for the intuitive design processes, and will this further impact schools of architecture turning them into another polygon for design thinking education? There is no evidence of that since there is a strong resistance to the design thinking for architects which actually prompted the authors of this article to offer a critique of

those international education models that are based on design thinking methods of studies so actively promoted by their advocates. “Prescribed design processes are for bad designers”, claims Lucas Verweij, Head of Program Fine Art & Design in Education at ArtEZ University of the Arts in Holland, and “we must dispel the myth that design is a predictable and sequential process... because creativity can't be duplicated in laboratory conditions” (Verweij, 2015). He argues that design processes are substantially more chaotic than is taught, since for a good designer creativity – which is as irrational as love, and is maladjusted, anarchist dark horse – plays a role throughout the whole process, from mission statement to presentation, and design processes are never the same twice as the creativity is not quantifiable and predictable. British interior designer and writer Anthony Sully went further, claiming about design thinking, as quoted by Verweij: “It's a fraud... It has been invented as a ball of smoke for theoreticians to play with. It requires no training and allows it to have a credence which it doesn't deserve” – the position which received supportive comments like this one in social networks: “Yes, design thinking is manipulative thinking” (Verweij, 2015).

Some arguments against design thinking in architectural education focus on the fact that the outcome of design thinking is never a physical product – it actually is a mental map or a strategic plan whilst architectural design should result in a building. Most criticism is aimed at Tim Brown, Managing Director of IDEO and leading exponent of design thinking philosophy, for the statement from his book *Change by Design* claiming that design thinking can put creative “tools into the hands of people who may have never thought of themselves as designers and apply them to a vastly greater range of problems” (Brown, 2009): critics react by saying that non-designers cannot just up and use tools that they have not been trained to use.

The architects arguing against design thinking methods might feel threatened because their *modus operandi*, the design process, is being hi-jacked by non-designers and workflow evolved into a less tangible routine with the designer becoming increasingly engaged mentally while, in fact, design should not be

just a mental process that can be learned from a book. In no way, it is argued, it should ever be reduced to following five consecutive steps¹ and doing user interviews. A creative design process is tailor-made, by definition; it always “varies from customer to customer and from project to project.” (Verweij, 2017). Whilst some architectural firms, such as William S. Duff Jr.'s San Francisco-based company, encourage staff members' contribution into collective design processes “in a manner centered on a guiding vision curated by the firm's leadership team and reviewed in collaboration with everyone”, even using certain written code of design principles in the form of “in-house book” to “develop concept sketches, refine details, select materials, and coordinate with consultants on their projects” (Duff, 2021), it still is very rare to see an architectural project being developed in an orderly, organized and scheduled manner. However, a paradox of design thinking philosophy is that the proponents of the method claim that it itself is not actually orderly and scheduled, that the process is, in fact, non-linear, iterative and cyclical, and since the design problem is wicked and ill-defined, it cannot therefore be solved by applying formulas: the claim that loses credibility when there is a strong evidence that an overwhelming number of its supporters champion the exact opposite. For instance, while they claim that concept “offers the opportunity of abandoning schematic thinking and replicating usual patterns, leading to innovative solutions that are especially applicable to the architecture of the future”, in the next sentence they contradict their own position by saying that design thinking “consists of stages that are very important in architectural design: definition of users' needs and brainstorming,... [it] requires team work, which is nowadays highly recommended. Unlike individual work, team projects tend to lead to innovative solutions” (Tymkiewicz and Zasadzka, 2016).

Opposing these assertions, who some observers may consider self-contradictory, dogmatic and even false,

¹IDEO supports the following five-step design thinking process which forms the basis for Stanford University's *d.school* curriculum: Empathise – Define – Ideate – Prototype – Test

they write that “in architectural design studio, students should be educated not only to solve ill-defined design problems, but also real-world problems.... Considering the characteristics of architectural design students who were short of innovative training in their former study at school and real situation of our traditional frontal teaching model, it is necessary to discuss the issue about the improvement and measurement of the creative thinking in architectural education” (Potur & Barkul, 2006). Others argue that design thinking is more applicable to large business projects and less to smaller architectural ones: since it “correlates to a systematic emphasis on research, collaboration, modeling, and critical evaluation – that is to say, an idealized vision of the design process – one can only applaud its broader adaptation by the business world... If architecture is an insecure profession, it is also an egotistical one, its practitioners frequently harboring the belief that they are somehow uniquely possessed of an ordering vision to which the world should simply conform. Too many architects don’t just want a seat at the table, but the seat at the very head of the table, from which they can pontificate *ad nauseam*.... Collaboration, a hallmark of design thinking, may be vital for large projects, but at some point, at the beginning of any endeavor, someone has to sit down in front of a blank page and make a mark. That creative act requires a combination of disciplined training, historical knowledge, personal experience, and natural ability that no system can provide.” (Lamster, 2010). In further debate following this opinion some leading architects have been instantly critical of the concept: “Toshiko Mori is not interested in carrying the mantle of design thinking, which she categorizes as often limiting itself to the “hardware” side of things, to products and goods. She’s after the application of architectural thinking to global policy, politics, economics, and business” (Zeiger, 2011).

Other authors took a more conciliatory note, pointing out that “the most frequent type among the architects was ENTJ – extraversion, intuition, thinking, and judging... common drawback of the ENTJ type is a go-it-alone attitude – a lack of empathy and an impatience with teamwork... Collaborative practice

and team-based “design thinking” may be all the rage in the profession right now, but clearly, they don’t come naturally to a great many architects, who’d rather present their own ideas for others to implement without discussion. To make an enterprise truly collaborative, all architects – and ENTJs in particular – need to strive for self-awareness, so they can understand their limitations as well as their talents.” (Hurley, 2011).

In the same debate, others supported introducing design thinking into the architectural practice in stronger terms: “The issues of the 21st century – transportation, health, safety, land use, energy, affordable housing, and, of course, sustainability, bring to light the possibilities of what could be a golden age for design thinking. It’s not the work of a single architect or firm, however talented. It’s even beyond our profession and industry.

What’s called for is a carefully thought-out, integrated approach that aggressively pursues strategic alliances, helps shape legislation and regulation that put in place the right framework for a healthy profession, works with the schools to make sure the next generation of architects is prepared for the future, sponsors the research they brings to light knowledge resources that make a difference, and educates the public on the ways in which design and architects elevate and enrich the human experience.” (Miller and Manus, 2011). Some authors went as far as to actually suggest that the greatest innovator of the XX century architecture – Le Corbusier had, in fact, been using design thinking tools in his creative endeavors: “Corbusier was an eminent designer with a bold expression. His manifesto ‘Towards a New Architecture’ was a legitimate exploration of design thinking. Villa Savoye, an architectural marvel, was its preliminary example. Corbusier applied his five points to create it as a prototype. At first, he simplified the architectural features of the edifice. For climate considerations and optimal views, he introduced the concept of ribbon windows. Spatial planning cognizance resulted in a free plan and its corollary of a free façade.” (Pavan, 2021) – a questionable assertion since it is a known certainty that most of Corbusier’s urban visions

had “ended up as dirty towers on windswept lots, the kind of places we have been critiquing in recent years with dynamite.” (Berger, 2010).

On a more profound research level, attention is paid to a different epistemology of design thinking, introduced in the early 1980's by Donald Schön, who proposed “reflective practice” as an antidote to the crisis of legitimacy in architecture – improvisational exploration of the problem space using frame experimentation: iterating inquiry, reflection, and problem framing/reframing. Schön's reflection-in-action starts with the involvement in the problem definition and continues with the detachment from it, experiencing “perceiving-in-action, a process of tacit error-detection.” (Malinin, 2018). This strategy became more valuable than conventional design thinking since it involves the act of questioning basic assumptions that can become the first step toward reinvention and meaningful change. “Becoming more open to risk and experimentation is particularly important, and can require a shift in thinking.” (Berger, 2010). Reflective practice maybe is more appropriate for architectural projects: “severe constraints can... lead to radical innovation in the use of materials, pushing designers to seek out new ways of utilizing inexpensive ones so as to do less with more or, in the words of architect Shigeru Ban, to create “strength from weakness” (Berger, 2010): this Pritzker Prize winner Japanese master is one of the most innovative individual creative talents in the field.

But proponents of design thinking are reluctant to allow individual creativity as they consider that “the complexity of most of today's projects is fast relegating this type of practice to the margins”. They increasingly want “to see designers working with psychologists and ethnographers, engineers and scientists, marketing and business experts, writers and filmmakers” (Brown, 2009). They justify this position by arguing that “[m]any designers who are skilled technicians, craftsmen, or researchers have struggled to survive in the messy environment required to solve today's complex problems. They may play a valuable role, but they are destined to live in the downstream world of design execution... In an interdisciplinary team there is

collective ownership of ideas, and everybody takes responsibility for them”. For the argument, Brown brings into the design thinking picture such an unshakable architectural authority as Frank Lloyd Wright who he says “was famous for the fastidiousness with which he attended to every aspect of the owner's experience. The Meyer May House, a modest residence in a suburban neighborhood in Grand Rapids, was designed to protect the privacy of owners and guests through the overall layout of the building, and detail after detail supports this overall objective... Throughout the house, he designed the living experience down to the last detail.” (Brown, 2009).

A growing number of architectural schools try to introduce design thinking philosophy into their curriculum claiming that it will assist “students in how to work in multidisciplinary teams to solve complex, real-world problems. Students will engage in collaborative design thinking methods [and] complete projects by generating a variety of ideas, applying and synthesizing knowledge from their discipline, building prototypes and evaluating with critical thinking.” (University of Tennessee). Recently, another school's website argued that “design needs to face challenges of our built environment, urban futures and sustainable developments at a larger scale. Especially in a post-COVID world, we need to direct architectural capabilities and skills to entrepreneurial ventures and have a bigger impact beyond individual building designs. With their thinking and tools architects can create innovations and enterprises with a positive societal impact.... The students finalize the course with studio concept consisting of presentation, report and a paper-prototype of their offer to world.” (Technical University of Munich). And another school was even more enthusiastic in describing how it can address a children cancer hospital project using the design thinking educational model in a studio for an undergraduate class, listing the steps such as Discover (exploiting a UX tool); Define (focusing on ethnographic research); Secondary Research (introducing child development psychology); Ideate (throwing out inconceivable ideas during multiple brainstorming sessions and arriving at a

“How Might We?” statement), and, finally, Conclusion (implementing ideas through 2D architectural drawing and making 3D models (Loughborough University).

But all these models may easily fail against a simple observation of the genius of a creative individual made by Albena Yaneva, who experienced the following sensation in the Rotterdam office of Rem Koolhaas’ OMA (it is worth quoting these lines in full):

“You stop thinking,

you just look at the piece of foam and you try to make it

beautiful,

you cut.

Sometimes you slice something,

and then another thing,

and ou-u-u-p-p-p something is there.

And you think:

“Oh, that’s interesting;” it’s there” (Yaneva,2009).

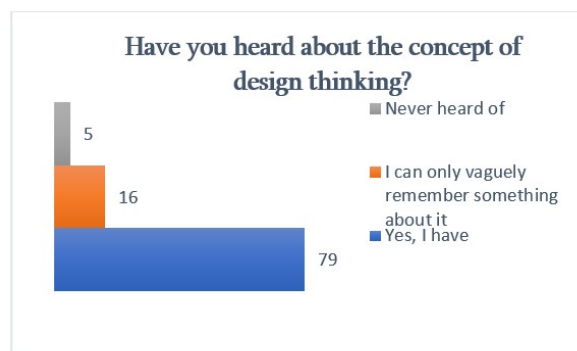
Questions the authors of this article raised were: can design thinking educational models help prepare young architects for an architectural practice where a breakthrough, innovative solution still mainly depends on the talent, experience and rich knowledge of individuals who are responsible for the result? Are these models sustainable against the creative intelligence? May the education models help to achieve the genius of design?

To find answers to these questions, the authors of this article asked the undergraduate students of IDS of Georgian Technical University a set of questions related to their attitude and understanding of design thinking. The poll was conducted during the fall semester of 2021-2022 and involved 100 students of all 4 years of the bachelor studies, who in their junior years learned fundamentals and as seniors specialized either in architecture and interior, visual communication, or product design. The poll form is attached to this article as Appendix 1. Poll was answered by 41 freshmen of IDS, 24 sophomores, 14 juniors and 9 senior undergraduates.

On the question: “What is your interest in IDS?” - As expected, the largest proportion of the students are at IDS for visual communications, which is closely followed by architecture and interior, and only 11% are interested in product design: understandably, in a small

country like Georgia with a weak industrial base it is difficult to find a good job in product design. Also noted that for the first time since the foundation of IDS number of students interested in visual communications is larger than in interior: this reflects an increasing interest in the Internet-age design directions such as website design, mobile applications, computer games and so on.

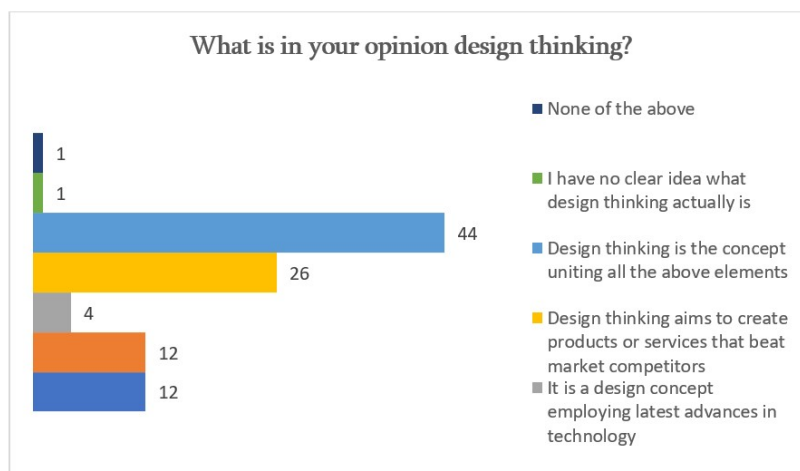
An important starting question: “Have you heard about the concept of design thinking?” was answered as follows: A great majority - 79% heard about the concept of design thinking, and further 16% have at least a vague remembrance of the term. Only 5% - all of them freshmen - claimed that they never heard of it, which was not true: the poll was conducted in spring-summer of 2022, by which time the concept had already been discussed in philosophy classes and further detailed in Society and Design course conducted by one of the authors of this poll. More likely, the negative answers came from the students who are not probably ranked among the best ones.



This was followed by the next question: “What is, in your opinion, design thinking?” Most students haven't made their mind up to clearly recognize the most important priorities of design thinking: while the smartest 44% answered that design thinking unites all concepts - teamwork, user-centered approach based on empathy, advanced technology and market competitiveness, another 26% concluded that beating competitors is the main goal of design thinking: of course, such a conclusion from more than a quarter of all participants showed that they do not fully

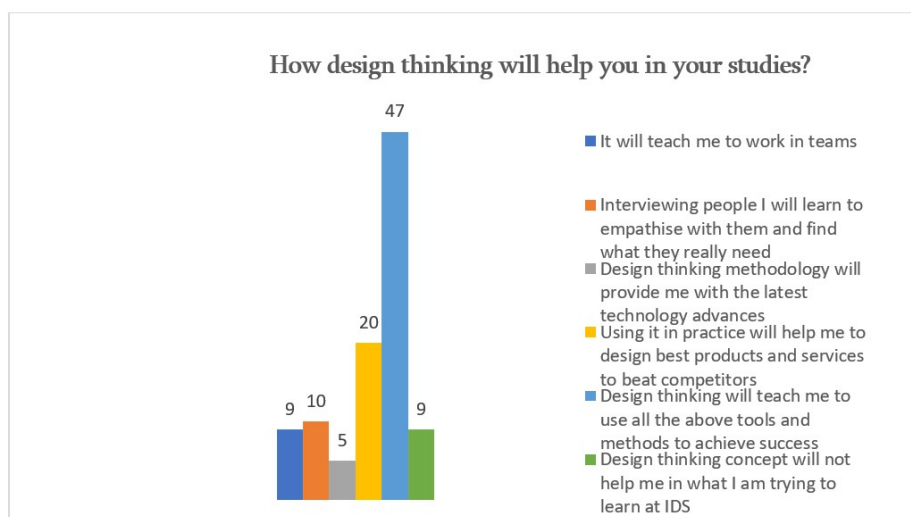
understand the concept. Almost similar number of IDS students tend to think that teamwork or user-centered approach based on empathy is what design thinking is about: seemingly, nothing wrong with such an understanding - but then it just clearly misses all other

priorities. Such a confusion in answering a key question of the poll reflects that even though most of IDS students know, or at least heard about the concept of design thinking, more than half of them misread, misunderstand, or simply ignore it in their studies.



On “Do you think that IDS curriculum follows the concept of design thinking?” over two-thirds of the students answered the question positively, and just less than a quarter honestly admitted, that they don't know

whether IDS curriculum follows the concept of design thinking or not: among them is 95% of freshmen, which explains the number.



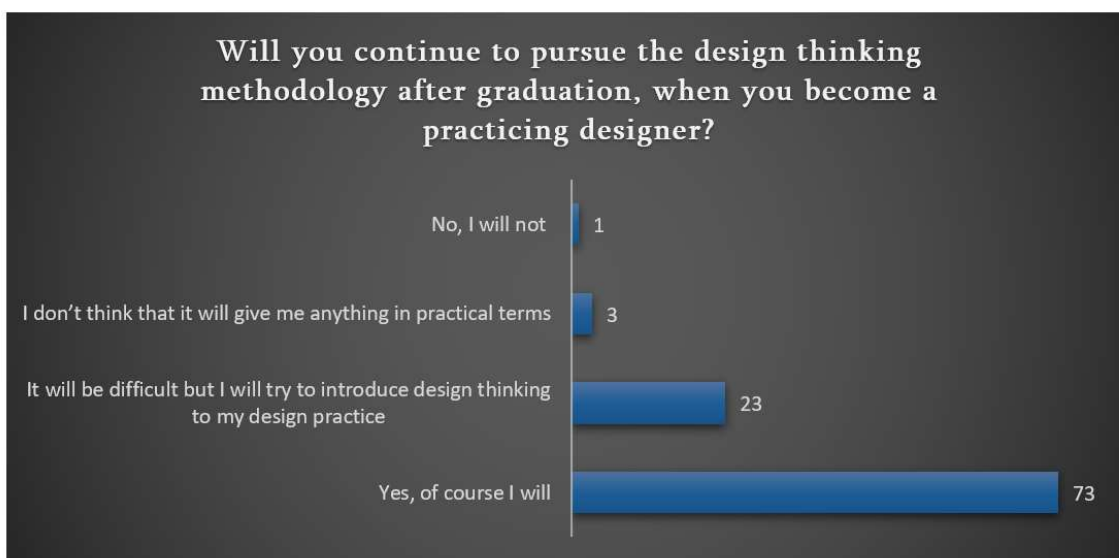
More confusion was caused by the question “How design thinking will help you in your studies?”. While almost half of the students were, yet again, smart enough to conclude that design thinking will teach

them to use all the tools and methods to find optimum solutions to a problem - such as teamwork, empathy, technology advances and so on - a fifth of them still insist that beating competitors is what they need to

learn from the studies. This pragmatic answer from very modern, job-oriented generation misses other basic points of design thinking and leaves them in a limbo – unless, of course, they pick up enough knowledge of the other sides of the concept on later stages of their studies.

An interesting result was achieved by answering the following question: “Will you continue to pursue the design thinking methodology after graduation, when you become a practicing designer?” Earlier polls and interviews with IDS alumni showed that they had indeed tried to advance or, in some cases, even introduce design thinking methods to their companies,

with a mixed success, and unsurprisingly, almost three quarters from the polled students are ready to pursue the method when they become practicing designers. However, almost a quarter of them assume, quite reasonably, that it will be difficult to practice the concept, but they will try - envisaging that the concept is yet to gain a wide acceptance and popularity among design companies in Georgia: probably those of them who will work in Western European, North American or Japanese companies will find a more welcoming atmosphere there for accepting the design thinking methodology.

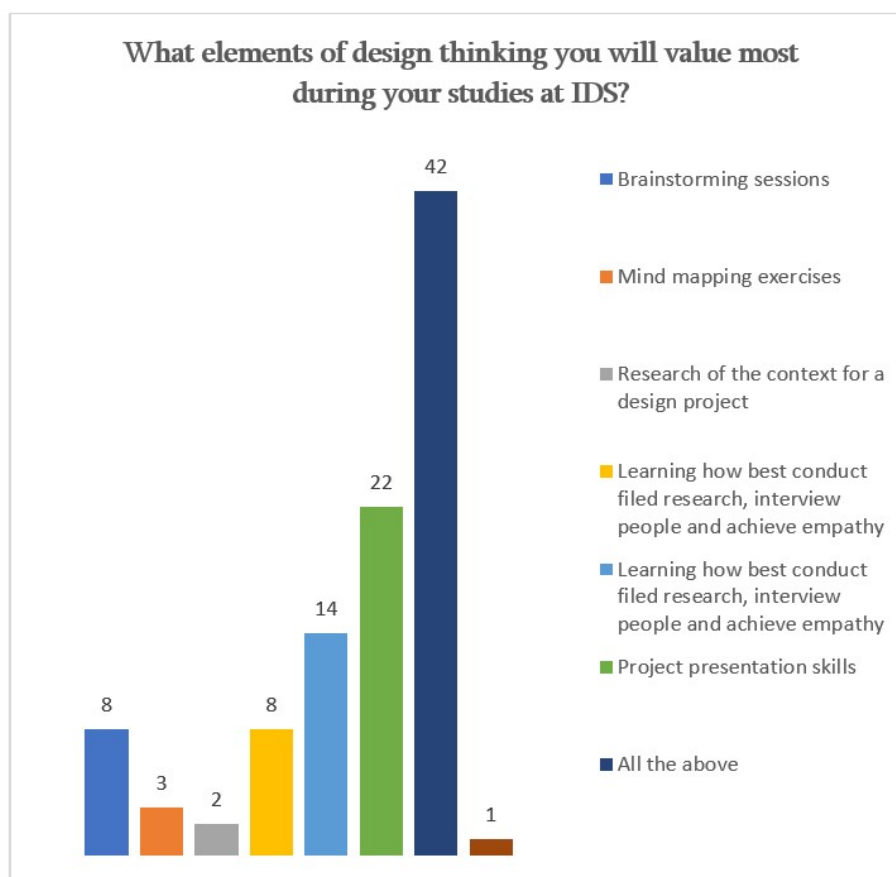


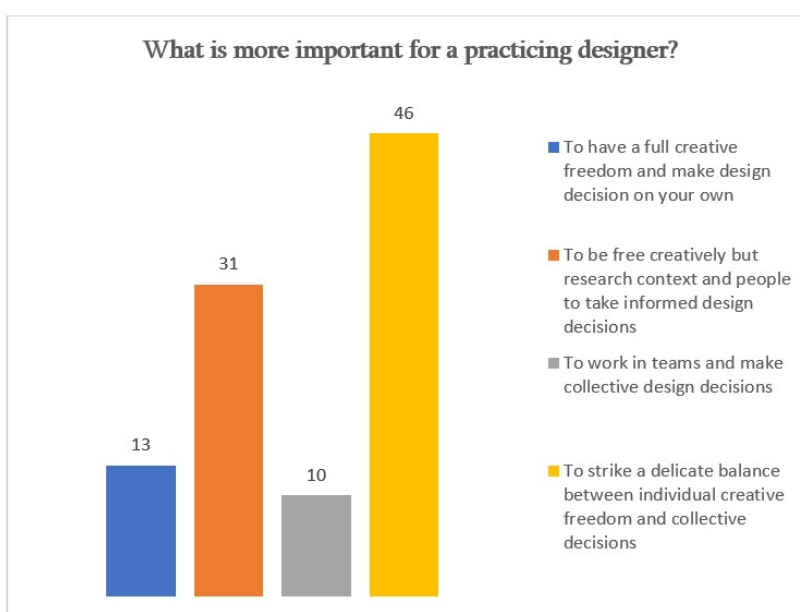
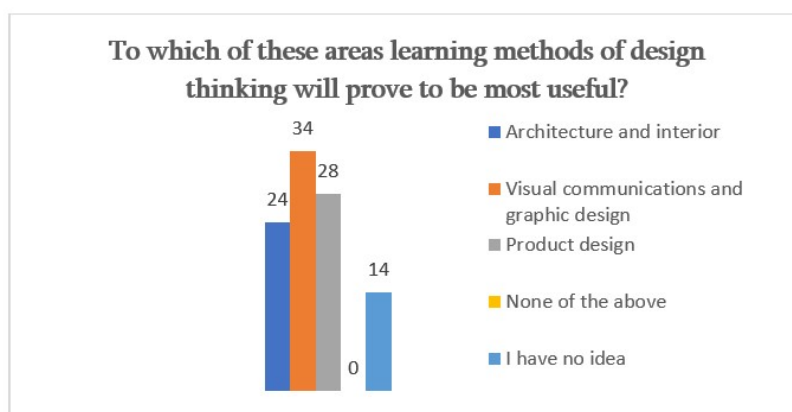
The next set of questions concerned the use of the method: “What elements of design thinking you will value most during your studies at IDS?”, “To which of these areas learning methods of design thinking will prove to be most useful?”, and “What is more important for a practicing designer?”. On the first one, notably, 42% of those who value all the elements of design thinking during their studies are the same students who think that IDS should teach to use all its tools and instruments, and who generally conclude that design thinking unites all concepts - teamwork, user-centered empathy, advanced technology, market competitiveness, etc. Regrettably, only 14% of all students valued

the most important phase of design thinking – exploration, iteration, and prototyping. This shows that although a great majority of the students accepts the concepts and see it as a key teaching method of studies, they still do not fully understand what element of the concept brings the recipe for success to a design project. On the areas of application of methodology, for the working hypothesis of the authors of this article the answers proved to be most telling: while over a third of the students thought that learning methods of design thinking prove to be most useful for graphic designers and 28% thought that they are most useful for product designers, only less than a quarter thought that they are

equally important for architecture and interior. Further discussions with groups of students demonstrated, however, that despite less students mentioning the paramount importance of design thinking in architecture, they admit, that the methods and skills they learnt were of great importance in all fields of design and using them changed their professional approach significantly. Students seem to understand the great benefits of design thinking in architectural and interior design. One of the students even suggested, that this method would be extremely useful even in cinematography. But at the same time, a great majority of them reject that the most important for a practicing designer is to have a full creative freedom and make

design decisions on her/his own: almost half of polled IDS students see that striking a delicate balance between individual creative freedom and collective decisions is more important for a practicing designer, and almost a third of them want to be free creatively but at the same time study context and people and take informed design decisions. These two categories of answers well exceed three/quarters of the polled and show that along with the pragmatism, this generation is happy to work in a collective of like-minded people where they can still maintain a certain level of creative freedom on the way to find an optimum solution to a design problem: a perfect combination, in our opinion, for an architectural company.

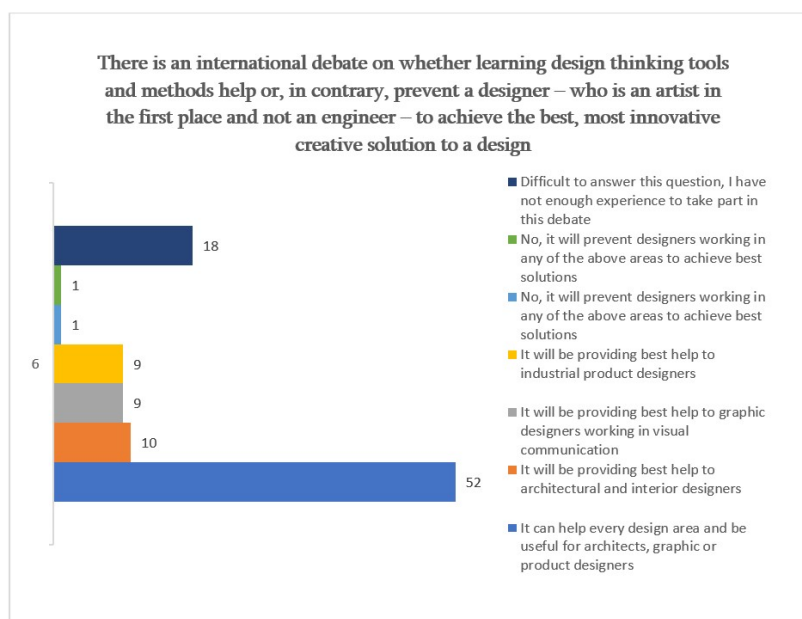




The last question was a complex one: “There is an international debate on whether learning design thinking tools and methods help or, in contrary, prevent a designer – who an artist in the first place is and not an engineer – to achieve the best, most innovative creative solution to a design problem, and whether design thinking is useful for such design areas, like architecture, graphic design, or industrial product design. What will be your position in this debate?” More than a half of the students answered that it can help every design area and be useful for architects, graphic or product designers. About 30 % of them think that it will be providing best help to one of the

three areas of design mentioned in the question. Only 18 % found it difficult to answer this question, having not enough experience to take part in this debate and just 2% thought it would have negative impact on designers and do more harm, than good.

Answers the last question of the poll proved that IDS students think that design thinking can help every design area and be useful for architects, graphic or product designers. So, it looks that a majority of the undergraduates at the IDS feel that design thinking is equally important for every student striving to become a designer regardless of future occupations and interests.



Conclusion

The authors of this article have identified a serious opposition to both the concept of design thinking and its teaching to the universities worldwide, especially among practicing architects in the USA – the country which has accepted, adopted and widely spread the concept to many designer professions and where it now faces the most aggressive resistance. However, it does not seem to be a similar picture in the emerging country such as Georgia, which is both relatively new

to the concept, especially in its higher education sector, and less sophisticated in its implementation in the design practices. According to the results of the poll conducted among the students with foundation experience in architecture, interior, industrial product design, and visual communication, the students of an emerging country are ready to embrace the concept, use it as both a learning tool and a practical experience, and are far from being critical to its application in architectural education and profession.

Please fill this form ticking only one box at a time – Page 1

What is your year of study? ☐Year 1 ☐Year 2 ☐Year 3 ☐Year 4

What is your interest in IDS?

- ☐Architecture and interior
- ☐Visual communications and graphic design
- ☐Product design
- ☐I haven't decided yet

Have you heard about the concept of design thinking?

- ☐Yes, I have
- ☐I can only vaguely remember something about it
- ☐Never heard of

What is, in your opinion, design thinking?

- ☐It is a teamwork when people are making group decisions on a design project
- ☐Design thinking is a user-centered approach based on empathy
- ☐It is a design concept employing latest advances in technology
- ☐Design thinking aims to create products or services that beat market competitors
- ☐Design thinking is the concept uniting all the above elements
- ☐I have no clear idea what design thinking actually is

Do you think that IDS curriculum follows the concept of design thinking?

- ☐Yes, I do
- ☐No, I don't
- ☐I don't know

How will design thinking help you in your studies?

- ☐It will teach me to work in teams
- ☐Interviewing people I will learn to empathize with them and find what they really need
- ☐Design thinking methodology will provide me with the latest technology advances
- ☐Using it in practice will help me to design best products and services to beat competitors
- ☐Design thinking will teach me to use all the above tools and methods to achieve success
- ☐Design thinking concept will not help me in what I am trying to learn at IDS

Will you continue to pursue the design thinking methodology after graduation, when you become a practicing designer?

- ☐Yes, of course I will
- ☐It will be difficult, but I will try to introduce design thinking to my design practice
- ☐I don't think that it will give me anything in practical terms
- ☐No, I will not

Please continue overleaf

Please continue here - Page 2

What elements of design thinking you will value most during your studies at IDS?

- ☐ Brainstorming sessions
- ☐ Mind mapping exercises
- ☐ Research of the context for a design project
- ☐ Learning how best conduct field research, interview people and achieve empathy
- ☐ Exploration, iteration, prototyping
- ☐ Project presentation skills
- ☐ All the above
- ☐ None of the above

To which of these areas learning methods of design thinking will prove to be most useful?

- ☐ Architecture and interior
- ☐ Visual communications and graphic design
- ☐ Product design
- ☐ None of the above
- ☐ I have no idea

What is more important for a practicing designer?

- ☐ To have a full creative freedom and make design decision on your own
- ☐ To be free creatively but research context and people to take informed design decisions
- ☐ To work in teams and make collective design decisions
- ☐ To strike a delicate balance between individual creative freedom and collective decisions

There is an international debate on whether learning design thinking tools and methods help or, in contrary, prevent a designer – who is an artist in the first place and not an engineer – to achieve the best, most innovative creative solution to a design problem, and whether design thinking is useful for such design areas, like architecture, graphic design, or industrial product design. What will be your position in this debate?

- ☐ It can help every design area and be useful for architects, graphic or product designers
- ☐ It will be providing best help to architectural and interior designers
- ☐ It will be providing best help to graphic designers working in visual communication
- ☐ It will be providing best help to industrial product designers
- ☐ No, it will prevent designers working in any of the above areas to achieve best solutions
- ☐ No, it will seriously limit the designers' creative freedom and will do more harm than good
- ☐ Difficult to answer this question, I have not enough experience to take part in this debate

Dear IDS students, please carefully read all of the above questions and try to answer each of them based on your experience, knowledge or feeling, ticking one box at a time. This poll is anonymous and you do not have to sign it or reveal your identity in any way. The poll is being conducted for research purposes only and will have no immediate consequence either on IDS curriculum or your status as an IDS student.

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დიზაინ-აზროვნება არქიტექტორებისთვის: საერთაშორისო საგანმანათლებლო მოდელების კრიტიკა

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