The place and importance of informal education in the freshman year experience of architectural education

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Abstract

Formal architectural education is inadequate for students in the current dynamic world where visual content and speed have become determinative. Particularly, freshman-year architecture students have difficulties in this process. In order to facilitate this process, dynamic methods, in which the student is interactive, should be included more in formal education. Informal education methods should be used complementary to formal education in terms of achieving the required skills and development along with knowledge. The aim of this study is to emphasise the requirement, importance and practice methods of informal education to make the education process more efficient for freshman-year architecture students. The quantitative research method is used in the study, and a survey is conducted with the sample group of selected freshman-year architecture students. With the results of the survey, it is tried to determine which informal learning the students preferred and found useful in the process of obtaining information. As a result, informal education methods, their contribution to the education of freshman-year architecture students, the results of this contribution and the student learning outcomes are evaluated.

Keywords: Architectural education, formal education, informal education, freshman-year architecture students, architecture courses;

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1. Introduction

The purpose of education is to raise individuals who know how to reach information and can think critically with the information at hand. Within this perspective, the discipline of architectural education is one that provides the necessary learning habit for lifelong learning, sharing and practice (Yucel & Aydinli, 2015). As in every field, numerous novelties and changes are experienced in the field of education in this rapidly changing world. Abstract concepts such as intuition, common sense, emotional intelligence, flexibility and creativity come to the forefront, especially at the present time, when uncertainties have increased and education has become personal and open-ended (Yurekli & Yurekli, 2004). Together with the fact that changing dynamics direct designs of any nature, the question of 'how do people learn?' rather than 'how can we teach better?' has begun to be discussed in the field of education (Aydinli, 2015). Many changes occur in architectural education. The educational discipline of architecture is constantly debated, and assessments are made on how it should be. Along with the changing profile of architecture, competences required in architectural education have also diversified.

Studies demonstrate that there is an increasing interest in methods other than formal education since it is not predicated on lifelong learning (Werquin, 2010). Therefore, different teaching methods, notably design studios, are now discussed in architectural education that could provide students with new opportunities in the path of gaining information and knowledge. At the same time, in order to free these students, it is of great significance to create opportunities for them so that they can gain self-confidence and reach beyond their capabilities (Radford, 2000).

The study problem addresses the experiences of freshman-year architecture students and the difficulties they encounter throughout their education process. The topic of discussion of the study is the necessity of freshman-year architecture students, in particular, to be supported by different teaching methods for their intellectual–cognitive development and adaptation and for, more importantly, the information, skills and competences they are required to gain in this new education and design world they belong to.

The aim of the study is to present the necessity, importance and practice methods of 'formal–informal integrated education system' for the educational knowledge and attainment needed by freshman-year architecture students for a more fruitful education process. Therefore, within the scope of the survey used in collecting data in the study, the students were asked to match the courses with informal education methods. The sub-goal is to gain information on the difficulties freshman-year architecture students encounter throughout their first year and their reasons. In the meantime, the study does not only aim at finding precise answers to the problems presented, but also aims at opening possible conditions up for discussion in favour of re-considering freshman-year architectural education. Not all but only freshman-year architecture students were selected as the sample group of the study, and a 'match between formal–informal education methods' was obtained. The study is significant since it can provide data for further research on 'informal education and freshman-year architectural education and holism of education systems'.

2. Architectural education

Since architecture is a multifaceted profession directly associated with different disciplines, it necessitates various skills to be incorporated within. Thus, one of the principal objectives of architectural education is to form a connection between theory–research–practice (Erbil, 2008).

Architectural education considers the individual to be in the centre of lifelong education. It ensures that the individual interrelates with the whole architectural environment he/she exists in, comprehends and questions it and transforms the knowledge and information within this environment (Yucel & Aydinli, 2015). Today, architectural education has gained independence from the reach of architecture. The classical education system has started to be replaced by dynamic processes and experimental architecture (Yurekli & Yurekli, 2004).

Learning activity in architectural education is based on learning by doing. Hence, no matter the information to be gained, the idea that the 'learning by doing and exploring' manner, incorporating the condition of self-learning, has come into prominence (Schon & Wiggins, 1992). The aspect of architecture that is both most exhilarating and most annoying is its open-endedness, comprising a mixture of measurable and immeasurable features (Cook, 1996). Evaluated as such, benefiting from different fields of education to access information and skills more productively is a requirement for students just starting their architectural education.

There are various national and international platforms oriented at architectural and design education, which enable the transformation of design knowledge by sharing it on a broader scale. The discussions carried out by these platforms provide data for the current architectural setting (Yurtsever, 2017). Being one of the aforementioned platforms, the International Union of Architect (UIA) creates a setting for architects and their experiences all around the world without making any distinctions. In 2002, the 'UIA–UNESCO Architectural Education Charter' was created by the UIA–UNESCO partnership to promote a global architectural education network, enabling the sharing of individual competences to be acquired by all. In this charter, the essential competencies the students are expected to acquire are listed as follows: 'design', 'knowledge' and 'skill' (The International Union of Architects, 2017). The 'UIA – Architectural Education: Reflections and Recommendations' document was accepted in principle, and notes on informal education were attached to the architectural education content of this document. Many universities have accordingly added and continue to add a new dimension to their architectural education curricula (Orhan, 2017).

2.1. Freshman year

During the freshman year of architectural education, architecture students' lack of skill, insight and horizon, which should have been gained in the years before undergraduate education, come to the fore. Freshman year is of vital importance since it is the year when opportunities to develop solutions to these problems arise. The students are faced with a tremendously different educational system, aiming at a 'critical and creative thinking system' compared to their previous education based on memorising and repetition. The difference in systems and methods mainly presents itself in the design studios. Schon (1985) states that students experiencing the design studio for the first time are in fact faced with a new language, as the basis of the educational process lies the teaching of this design language to which they are foreign.

Students just starting their architectural education bring along their lifelong environmental and lifetime experiences. They limit their ideas and worlds with these experiences. They are affected by their pre-existing judgements during work–design processes. According to Higgott (1996), a process referred to as 'unlearn' should take place in order to unveil creativity. In this sense, students should be allowed to see the social and physical environment with a new perspective by reviewing their past experiences in the design studio during their first year (Birer & Erturk, 2011). To this end, the student is required to

discover the knowledge of architecture in his/her life space and integrate his/her education process and life through the principle of lifelong learning (Yurtsever, 2017).

2.2. Challenges–solutions

Freshman-year architecture students have difficulties in an educational process in which they have to develop their visuospatial skills, meet with both architectural design and visual representation tools and adapt to the design language. Nonetheless, students do not only have difficulty in design courses but also in courses necessitating three-dimensional thinking skills and/or drawing model courses relying on hand skills and in theoretical courses with different intellectual approaches.

These students, who receive education within a stable system with no opportunities of questioning until their undergraduate education, are far from concepts like 'criticism questions, question–scrutinise–assessment'. However, architectural education substantially embodies critical thinking. The individual can truly know himself/herself with the emphasis on 'critical thinking' and 'self-criticism' in education. Initiating and continuing a discussion necessitates an arbitrary background. Particularly in freshman-year courses, settings are formed where numerous participants engage in discussions, which are crucial in gaining critical thinking skills (Yurtsever, 2017). Studios, which are the most fundamental information centres of design departments, are places where designer candidates and lecturers make way and experience each stage of the design process together (Bulhaz & Bulhaz, 2019). The student attains information not only from the criticisms forwarded to his/her work but also from those oriented at other works and through all oral–drawn–written discussions and criticisms in the studios. Design education directs the student towards a creative and dynamic process of thinking and 'ways of knowing as a designer' (Cross, 2006).

Along with solutions–approaches that would help students in the studio and courses, it is important for the student to be encouraged to informal educational settings so that he/she can adapt to the educational setting, design language and his/her new world. These settings also prepare an appropriate ground so that learning can take place. The learning process is one with cognitive and emotional dimensions. The person adds meaning to different circumstances and becomes an active learner based on his/her already-existing mental models and new experiences.

3. Informal education in architecture

Formal education is the one given within an institutional structure based on a specific curriculum and evaluation. The foundation of formal education relies basically on the absolute transfer of knowledge. Informal education is one conducted outside of formal education, in which students willingly participate and a specific grading is not performed.

The competences gained by students during informal education are regarded as connections between theoretical information and professional practice. It is fundamental for the architectural discipline and its education to be based on competences. A competence is the state of being efficient and qualified for fulfilling a certain task or functions regarding specific skills, knowledge, attitude and behaviour (Foqué, 2009).

Informal education enables the person to live and learn from his/her experience. The person internalises the situation and forms a mental connection. According to Piaget (1972), learning is a series of internalised actions, and an internal, mental connection is needed to obtain and understand information. The whole world is an area of observation for the student of architecture, and thus a part of the education setting. Non-formal education means that the order in school changes and different

settings and orders come to the fore and provide diverging forms of education. Some informal education settings may have been organised beforehand and some may have been spontaneously developed (Yurekli & Yurekli, 2004). The spontaneous ones can be gone through with daily personal experiences and be part of the education.

'Workshops, seminars, conferences, contests, excavations, design field trips, architectural–cultural trips, competitions, exhibitions, cinema–theatre–concert, etc. events' are considered as informal education settings – a kind organised beforehand. On the other hand, 'extracurricular conversations with lecturers, games, etc.' can be ranked as a kind of informal education not depending on space and time and being shaped suddenly without a plan.

Workshops are one of the most important informal learning settings providing an efficient short-term training method used in a wide variety of settings with an infinite number of topics (Brooks-Harris & Stock-Ward, 1999). Education of creativity must start with the basic questioning of the world and nature and the removal of the borders of the students and their senses. The purpose of education should be to develop students' personality and their world views more than teaching the principles of art-making (Pallasmaa, 1996). Specifically, the settings provided by workshops are places where creativity is at the forefront and solutions and ideas are formulated. Therefore, workshops are used not only in architecture but also in all disciplines.

To conclude, informal education should have a complementary role rather than auxiliary role in formal education. The most significant benefits of informality in education include motivation, creation of a communication setting where different minds and ideas meet, the strengthening of selfhood, comfortable self-expression, the use of intuition and self-confidence issues (Yurekli & Yurekli, 2004). Therefore, creating informal education settings in formal education of freshman-year architecture will help students attain necessary competences for their personal and professional development.

4. Research method

This study conducted on freshman-year architecture students through a survey tried to present the requirement, importance and practice methods of informal education which plays not an auxiliary but a complementary role in the courses to make the education process more efficient for freshman-year architecture students.

4.1. Study population and sample

Without making a distinction between state and private universities, all freshman-year architecture students of five universities located in Turkey constituted the general population of this study. In this study, lecturers of freshman-year courses of the five predetermined universities were contacted. Positive responses were obtained from all five universities, and the survey questions were sent to these lecturers via email to be shared with their students. The survey was communicated to the students with the approval received from the Ethics Board of Atilim University. The targeted number of students was calculated as 12 from each university and 60 on average. However, freshman-year architecture students from only two of the five universities participated in the study. A total of 43 students answered the survey questions and constituted the sample of the study.

4.2. Data collection

This is a quantitative study. The survey method was used as the quantitative data collection technique. The surveys were collected from the freshman-year architecture students in September 2020 when freshman-year education is completely finished. Data of the study were 43 student surveys. The survey questions include open-ended and closed-ended questions. The questions were given under two

main headings as 'questions on the department and profession of architecture' and 'questions on the freshman-year curriculum and courses' (Table 1).

4.3. Data analysis

In data analysis, the answers given to open-ended questions were grouped according to the words contained, the condition to be communicated and such similarities. The percentage value of all answers was calculated, and analyses were carried out as regards these values (Table 1). Through the questions, answers were sought to various issues such as 'what is the role of informal education in making the education process of the students more efficient and in helping the students gain necessary knowledge/skill and competences more easily and accurately?', 'what informal education do they prefer and find useful?', and 'how are the courses within the scope of architectural education and their relation with informal education?' (Table 1).

For the analysis of the sub-goal of the study, the answers to six questions of the heading 'A. Questions on the department and profession of architecture' constituting the first part of the survey were collocated as percentage values, and these answers were used as data. In line with the objective of the study, the answers to 10 questions of the heading 'B. Questions on freshman-year curriculum and courses' constituting the second part of the survey were collocated as percentage values, and analyses were made taking into account the answers with the highest percentages and the data of the first part of the survey. These answers were used as data (Table1).

Table 1. 'The place and importance of informal education in the freshman-year experience of architectural education', survey questions, answers and ratings

A. Questions on the department and profession of architecture	Answers (No. of participants: 43)		
	Yes	No	
1. Did you intentionally choose the department of architecture?	71%	29%	
2. Did you have necessary information on what architecture and architectural education are before the start of the education?	51%	49%	
3. Which topics did you have difficulty in when you started your education? *Adaptation to university life Adaptation to architectural education process Difficulty in learning the design language Not forming the abstract–-concrete relationship Not forming the theory–practice relationship Being distant from creative artistic approaches Having no city environment awareness, etc....*	Difficulty in learning the design	57%	
	Having no city environment awareness	42%	
	Adaptation to architectural education process	60%	
	Not forming the theory–practice relationship	25%	
	Not forming the abstract–concrete relationship	22%	
	Adaptation to university life	25%	
	Intense studying pace	34%	
	Drawing	2%	
	Problems in meeting the material and tool need	2%	

4.	**What helped you most in adapting to the architectural education system?**	Relationship with the lecturer		62%
		Friends		37%
		Comprehending the education		8%
		My family		8%
		Realising my wishes and talents		17%
		The courses I received		3%
5.	**In what areas did you have difficulty while adapting to the architectural education system?**	Design language and process		31%
		Intense study pace		45%
		Unable to abstract thinking		5%
		A different education system		20%
		Drawing		3%
		Financial burden		3%
		New circle of friends		3%
6.	**What are the changes and developments you realise about yourself with the freshman-year education you received? On which topics?**	Capacity to interpret the world, environment and events differently		68%
		Personal change and development		34%
		Expanding your horizon		11%
		Art and history knowledge		14%
		Imagination		5%
		Design skill/improvement in creativity		34%
		Thinking and questioning		22%
B.	**Questions on freshman-year curriculum and courses**	**Yes**	**No**	
1.	**Did you receive any lessons on the design prior to your undergraduate education?**	18%	82%	
	If yes, did you benefit from these courses in your architectural education?	18%		
2.	**Did you receive any lessons on art prior to your undergraduate education?**	14%	86%	
	If yes, did you benefit from these courses in your architectural education?	14%		
3.	**Did you adapt easily to the architectural education system?**	74%	26%	
4.	**Which course was the most compelling in your freshman year education? On which aspect was it compelling?**	Technical drawing		27%
		Basic design		73%
		Non-math courses		5%
5.	**What method did you follow to express yourself in the courses?**	Mutual interaction with the lecturers		25%
		Attending the lessons		11%
		Expressing, describing myself and my work accurately (using drawings, sketches and models along with verbal discourse)		68%
6.	**Which activities/education made learning easier for you apart from your formal architectural courses?**	Book		17%
		Cinema/theatre		22%
		Architectural–cultural field trips		42%
		Conference/seminar		17%
		Exhibitions		20%
		Design field trips		37%
		Extracurricular conversations with the lecturers		14%

7.	Which of the below-mentioned informal education methods do you think helped and/or will help you with your courses? *Workshop-conference/seminar- design field trips-architectural-cultural field trips- competitions- exhibitions- excavation work- concerts/ cinema/ movies- theatre - extracurricular conversations with the lecturers*	Design field trips	57%
		Architectural–cultural field trips	68%
		Competitions	45%
		Conference/seminar	34%
		Exhibitions	51%
		Artwork	5%
		Cinema/movies–theatre	28%
		Workshop 28%	28%
		Extracurricular conversations with the lecturers	48%
		Excavation work	14%

8. In line with the answer given to the previous question, could you match 'the course with the informal education method?' You can match more than one informal education method with one course.

Courses in the Curriculum	Informal education methods	
Basic Design /Architectural Design Shop	Design field trips	68%
	Competitions	28%
	Exhibitions	40%
	Cinema/movies–theatre	14%
	Extracurricular conversations with the lecturers	14%
	Architectural–cultural field trips	31%
	Conference/seminar	20%
	Workshop	11%
Graphics Communication	Workshop	14%
	Architectural-cultural field trips	11%
	Extracurricular conversations with the lecturers	8%
	Exhibitions	48%
	Competitions	40%
	Conference/seminar	14%
History of Architecture	Architectural–cultural field trips	77%
	Excavation work	48%
	Conference/seminar	17%
	Exhibitions	11%
	Concerts	2%
	Cinema/movies–theatre	14%
Architectural Principles and Concepts	Conference/seminar	65%
	Exhibitions	22%
	Architectural–cultural field trips	42%
	Extracurricular conversations with the lecturers	17%
Modelling Techniques	Workshop	14%
	Exhibitions	25%
	Competition	51%
	Conference/seminar	11%
Architectural Design I	Architectural–cultural field trips	28%
	Design field trips	40%
	Exhibitions	22%
	Conference/seminar	25%
	Workshop	5%
	Competition	14%
9. Are there any extracurricular informal education activities carried out within	Exhibition	25%
	Conference/seminar	34%

the university or outside the university that you willingly participated in? Which ones?	Architectural–cultural field trips	28%
	Cinema/movies-theatre	31%5
	Competition	%
	I did not participate in such activities	31%
10. Please write down the first 3 informal education methods you think would make freshman year education more effective. Please identify from which angle they would be effective. *You can mention informal education methods. not written here.*	Extracurricular conversations with the lecturers	5%
	Design field trips	45%
	Workshop	14%
	Conference/seminar	45%
	Architectural–cultural field trips	65%
	Exhibition	42%
	competitions	31%
	Artwork	14%

5. Discussion

This literature review showed that many studies have been conducted on architectural and informal education. The reason is that living conditions, technological advancements and changing perspectives and learning methods of the youth oblige different approaches in architectural education. Different views on this topic are included in the present study. For instance, Schon and Wiggins (1992), Cook (1996) and Erbil (2008) specifically emphasise on the learning activity in architecture, the method of 'learning by doing', design language, studio education and the difficulties students encounter when they first meet with design. The results of the survey suggest that our results coincide with the views of the aforementioned researchers.

Various national and international platforms oriented at architectural education have stated their views on architectural and informal education with the reports they have prepared. They encourage the utilisation of different educational areas for knowledge, skills and competences (The International Union of Architects, 2017). Birer and Erturk (2011), Cross (2006), Yurekli and Yurekli (2004) and Foque (2009) indicate that learning can be provided outside the university setting, dynamic settings are needed in education and lifelong learning is significant for the profession of architecture. Informal education needs and preferences reached by the survey support the views of these researchers. As it is understood, since the process of architectural education that contains universal design criteria at its heart enables students to go through similar experiences, views, problems and solutions also show similarities.

5.1. Evaluation on the department and profession of architecture

In this part of the survey and in line with the sub-goal, it was aimed to obtain information on issues such as 'why the students preferred the profession of architecture', 'the difficulties the students are faced with during education', 'the change they go through during this process' and other related matters. According to the results, the following are stated:

• 71% of the 35 students intentionally chose architecture. The participants, at the same rate, had the necessary information before choosing architecture. It is seen that only 38% of the participants chose architecture without prior knowledge of the department.

• **Which topics did you have difficulty in when you started your education?** The answers given showed that even if the participants chose the profession of architecture willingly and intentionally, this did not change the difficulties they had. At the same time, considering the 60% of adaptation difficulty found in the survey, it is safe to say that choosing the department willingly and intentionally does not

have much of an effect on the adaptation process. The topics the participants had the most difficulty with were respectively found as: adaptation to the architectural education process (60%), difficulty in learning the design language (58%) and having no awareness of the city and environment (42%).

- **What helped you most in adapting to the architectural education system?** The students replied with a 62% rate that 'relationship with the lecturer' was the most helpful. As understood, the relationship with the lecturer is important not only in gaining knowledge and obtaining the necessary information but also in the adaptation process in architectural education which is based on the mentoring system.

- **In what areas did you have difficulty while adapting to the architectural education system?** Answers based on commentaries were expected of the students. The areas they had difficulty in were 'intense study pace' with 45%, followed by 'design language and process' with 31% and 'a different education system' with 20%. Considering the first three answers, these are seen to be directly related to one another. Students who are faced with a new education system have difficulty in keeping up with the intense study pace the design process entails and in learning design language to which they are totally foreign.

- **What are the changes and developments you realise about yourself with the freshman-year education you received? On which topics?** The students replied at a rate of 68% to have obtained 'the capacity to interpret the world, environment and events differently'. The answers show that the students are quite pleased with the positive change in their perspectives despite the difficulties of architectural education.

5.2. Evaluation on freshman-year curriculum and courses

In this part of the survey, it was aimed to gather information on 'informal education, the informal education areas preferred, courses within the scope of architectural education and how these courses can be associated with informal education', which are the main subjects of the research. According to the results, the following are stated:

- 18% and 14% of the 35 students had received lessons on design and art, respectively, prior to their undergraduate education. Even though design-related lessons had been received within the schools' curriculum, it was found that the students had taken private art-related lessons. Students who had received art and design-related lessons mentioned their positive effect on undergraduate courses.

- 74% of the participants stated that they easily adapted to the architectural education system, whereas the participants replied to the question 'the most compelling subjects' with 'adaptation to the architectural education' at a rate of 60%. The different rates of the answers show that the answers to the questions in the first part were given by considering all processes that affect education as a whole. In the second part, however, the questions were regarded as adaptation to the courses received within the education system, and the answers were given as accordingly.

- **Which course was the most compelling in your freshman-year education?** 73% of the students chose the 'Basic Design' course. The study laid stress on the difficulties of design courses. This was an accepted answer considering from a survey point of view.

- **What method did you follow to express yourself in the courses?** 68% of the students chose the answer 'expressing and describing myself and my work accurately (using drawing, sketches and

models)'. Methods of expression are vital in the design process. As understood, the students grasped the importance of acquiring this competence within the freshman year.

• **Which activities/education made learning easier for you apart from your formal architectural courses?** 'Architectural–cultural field trips' and 'design field trips' were the most preferred facilitative informal educations with 42% and 39%, respectively. This might be due to the fact that the action of 'learning and knowing the place with visits' is followed within the scope of design courses and history–culture courses.

• **Which of the below-mentioned informal education methods do you think helped and/or will help you with your courses?** The most preferred methods were 'architectural–cultural field trips' and 'design field trips' with 68% and 57%, respectively.

• **Please write down the first three informal education methods you think would make freshman year education more effective.** The students stated the most effective informal education methods to be 'architectural–cultural field trips', 'design field trips' and 'conference/seminar' at a rate of 65%, 45% and 45%, respectively.

• **'Course-informal education method match' asked for in question 8.** The most preferred course matches are given in Table 2. Table 2 shows architectural main courses of the freshman-year curriculum of two different universities and the most preferred informal education methods.

Table 2. 'Course-informal education method match' as a result of the survey

Courses on the curriculum	Informal education methods
Basic Design/ Architectural Design Studio	*Design field trips (68%), Exhibitions (40%) and Architectural–cultural field trips (31%)*
Graphics Communication	*Exhibitions (48%) and Competitions (40%)*
History of Architecture	*Architectural–cultural field trips (77%) and Excavation work (48%)*
Architectural Principles and Concepts	*Conference–seminar (65%) and Architectural–cultural field trips (42%)*
Modelling Techniques	*Exhibitions (25%) and Competitions (51%)*
Architectural Design I	*Design field trips (40%)*

6. Conclusion

Considering the general result of the survey conducted within the scope of the study, it is seen that the concerns, difficulties and needs of the department and profession of architecture are generally the same. Ideas on curriculum courses and which informal education methods can complement one another and make learning easier are approximately the same. The 'course-informal education method match' offered in line with the answers in Table 2 shows the formal–informal courses the students personally experienced and their positive outcomes.

Together with different preferences, the reason to have reached similar answers is the alterative effect of design, cognitive, methodological and mental approaches of architecture on freshman-year

students. It is seen as a result of the survey that students have created or involved themselves in informal education areas unwittingly and have continued to learn outside the university and course setting. This is a condition needed for the completion of the learning act in formal education. Information and knowledge are associated with practical living, and learning is possible by doing, seeing, joining, experiencing and feeling.

Architectural education wishes to develop students' perspectives and design skills and create a free setting to express themselves. In order to achieve this, informal education methods should be used complementary to formal education. A 'formal–informal integrated educational network' should be established to reinforce the information given within the scope of formal education; the two should be run together during the learning process of the students.

As a result of this study, it is seen that freshman-year architecture students need to be supported by different educational methods for the information, knowledge, skills and competences they are required to gain and for their cognitive–mental development and adaptation to the new education system and design world they have become a part of. In order to free the students, they have to be taught to push their boundaries and should be given the opportunity to do so.

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