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RESEARCH PROPOSAL

Unlearning Within the Context of Architectural Design Beginning Studio

1. Problem Statement and Motivation

Carrying out unlearning techniques for transforming some cognitive and behavioral characteristics of first-year students in architectural design schools is fundamental in various pedagogical approaches in the beginning studio since 1920s. However, unlearning -as a term- is usually not mentioned by name in architectural design education literature, and, the process -with its cognitive and behavioral aspects- is an underresearched field. On the other hand, unlearning concept in other disciplines has become popular today, after it was first coined in the literature by Hedberg in 1981. Obviously, it is for "the crisis of confidence in professional knowledge" that Schon brought forward in 1980s (Schon, 1984). Professional knowledge today is accepted as an ever-changing concept. Schon's concept of "Reflective Practice" is the foundation of many researchers studying to theorize unlearning; however, there is no reference to beginning studio education which uses its own unlearning techniques for decades. From this point of view, "professional schools [still] have much to learn from the studio" (Schon, 1984).

The purpose of this collective case study is to explore the process of unlearning and its cognitive and behavioral drivers within various beginning studio activities which aim at unlearning of first-year students in two phases: first, within planned three intensive three-week-workshops with pre-university students (8 to 10 students per workshop), and second, in six different beginning studios of three large research universities. The study will, then, seek an explanation as to what pedagogical approaches in the beginning studio are more effective to meet unlearning goals.

THEORETICAL PERSPECTIVE

Dominant learning theories in studio pedagogy are considered as insufficient for examining unlearning process of today's architecture student. New paradigms of digital age is considered as an important factor for re-evaluating the pedagogical approaches within beginning studios; therefore 'Learning Process of Digital Natives', despite being a controversial theoretical framework, constitutes the proposed study's theoretical perspective.

Up to now, the education theorists' endeavors in comprehending the way children learn (this is also valid for beginning studio learning) are mainly based on foundational theories of learning developed by the theorists like Piaget, Vygotsky, Skinner, Bruner, Bloom, Gardner and de Bono (Kivunja, 2014). As stated by Kivunja (2014), while their use was valuable, it should be considered that the time they were developed is before the digital era which open a critical question: Do Digital Natives learn as the learners of the times before 1980s do? (Kivunja, 2014). Based upon the topic of this study, the question could be applied to architectural design students: Do Digital Natives have similar difficulties and reactions in adapting to the unlearning process of the beginning studio considering their overdependency on mobile phones and high exposure to images usually lacking quality and deep meaning? However, it would not be possible to compare unlearning processes of two learner types. The main research question is: How do digital natives unlearn in the beginning studio? Accordingly, the unlearning exercises to be studied within this research will consider (besides the main targets like cultural bias about design, learn-by-rote habits, etc.) additional unlearning-required cognitive and behavioral characteristics of Digital Natives, including patterns of access to information, understanding of the accessed information, questioning skills, collaborative working skills, skills of producing with hands manually, and, skills of seeing things in a pure way.

The research proposal is novel since there is not any scientific research on 'unlearning' process in the beginning studio within the paradigm of the digital age. The theoretical model to be produced has potential to make a valuable contribution to new pedagogical approaches in architectural education. The research findings can be shared more broadly with other fields to help a better understanding of 'unlearning'. The study can be published in several scientific journals (Journal of Architectural Education, Journal for Education in the Built Environment, Arts and Humanities In Higher Education, Journal of Applied Research in Higher Education, etc.) and conferences (eCAADe, ACADIA, EDEN Conferences vb.).

2. Research Hypotheses

H1. The efficiency of the main drivers of unlearning in the beginning architectural design studio will not differ by either different studios or by different universities.

H2. The distilled data on unlearning process obtained from the pretesting workshops with pre-university students will be similar to architectural design first-year students doing the same exercises within the beginning studios.

3. Research Questions

RQ1.   How do digital natives unlearn in the beginning studio?

(_Explanation: There are wide range of studies in unlearning in the literature; but studies on its process is so little and they are not in the context of architectural education and/or digital natives. The answer will be explored in two phases: first being within pre-university student workshops, and, second being beginning studios. Workshop phase will ensure distilled data about unlearning exercises._)

SQ1.   What are the cognitive drivers of the unlearning process in a beginning studio?

SQ2.   What are the behavioral drivers of the unlearning process in a beginning studio?

4. Short Literature Review

UNLEARNING

'Unlearning' concept today is defined as the complement of learning on the shifting sands of knowledge. It means to passivate the anticatalyst or mind-blocking information and be prepared for the new and essential ones. Since the time Hedberg first brought it up to the literature (Hedberg, 1981), it has become a popular topic in management, education, psychology, and many other fields. David Dalrymple writes, "Knowledge was once an internal property, and focus on the task at hand could be imposed externally; with the Internet, knowledge can be supplied externally but focus must be achieved internally." (Dalrymple, 2011). It is accepted by authorities that unlearning is a need for building of knowledge and / or behavior; however, the controversy on using the term and the definition of the process is ongoing (Hislop, 2014). The concept is mostly based on Double Loop Learning concept of Argyris and Schön (1978) and Dewey's Theory of Inquiry (Dewey, 1938).

According to Hislop, unlearning can be categorized as either individual and organizational unlearning, or unlearning of values/assumptions, beliefs, skills, knowledge and/or behaviors; so, he develops a typology for individual unlearning: Cognitive Unlearning (Deep Unlearning) and Behavioral Unlearning (Wiping). Hislop concludes his study recommending further detailed qualitative researches to inquire this complicated concept in a series of contexts and environments (Hislop, 2014). In this study, Hislop's approach will be followed.

(To be developed further)

UNLEARNING & ARCHITECTURAL DESIGN BEGINNING STUDIO

Architectural education aims to reveal creativity through intelligence and intuition (Dostoğlu, 2003). According to Higgot, creativity starts with a process of unlearning (Higgot, 1996). As stated by Dostoğlu (2003), the duty of the studio master includes making the students question their existing knowledge, refresh the perception of the social and physical environment, discover their own creativity potential and teach architectural terminology.

Use of unlearning techniques in architectural education by studio masters is dated back to Bauhaus. For decades, many architecture schools have been using the unlearning approach as the foundation of many beginning studio exercises - even though it may not be mentioned by name. First intention of these unlearning activities is to eliminate students biases about designing, to question the 'normal', to think conceptually, and, to develop spatial awareness and composition skills - that constitutes the cognitive part. The other intention which serves as the behavioral part is to re-gain required skills such as seeing with a purer eye and working with hands as it was in the childhood. This makes the beginning studio is the most important process of architectural education. Dostoğlu adds, due to the education system in Turkey, in architectural education it is essential to train questioning and creative thinking students, who previously experienced a prolonged process of repetitive and learn-by-rote education system starting from the primary school to the end of high school (Dostoğlu, 2003).

"Learning and Unlearning" of Bauhaus - Savvy Contemporary Project

Bauhaus is accepted as the first school that based its learning approaches on opposing the existing architecture education. This year (2019), being the 100th anniversary of Bauhaus), a bus representing Bauhaus School in Dessau tours four cities (Dessau, Berlin, Kinshasa -in the Democratic Republic of the Congo-, and, Hong Kong) in order to discover new forms of "learning and unlearning", namely "Un-school". With this initiative, "Savvy Contemporary project seeks to challenge and act against the inherent, neocolonial power structures in design practices, theory and teaching" [1].

(To be developed further)

LEARNING PROCESS OF DIGITAL NATIVES

The terms "Digital Natives" and "Digital Immigrants" are first presented to educational theory by Prensky in 2001 (Prensky, 2001). Since then, the need for advancing new pedagogies for Digital Natives become urgent both for children education and for higher education.

To be developed further:

Cochrane, P. (2010). A shift to whole-mind instruction. In I. Jukes; T. McCain & L. Crockett. Understanding the digital generation: Teaching and learning in the new digital landscape. Hawker Brownlow Education, Moorabin, Australia., Ch.7. pp.57 – 78.

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Kivunja, C., (2014), "Theoretical perspectives of how digital natives learn" International Journal of Higher Education, Vol 3, No. 1, pp. 94

Tapscott, D. (1997). Growing up digital. New York: McGraw-Hill.

Tapscott, D. (2009). Grown up digital: How the net generation is changing your world. New York: McGraw-Hill.

5. Methodology of the Research Study

Approach: Qualitative Approach

Theoretical Perspective: Learning Process of Digital Natives

Research Design: Collective Case Study Design, Multi Sites, Focused on An Issue (*instrumental case*).

Within the proposed study, the concept of unlearning will be defined within the context of beginning studio. The key elements of collecting data are interviews with students and supervisors, questionnaires with students, observations as an outsider and an insider, and, document analysis of produced individual works and collective works by students (see Research Methods below for further information).

Selection of participants: Purposeful maximal sampling

In line with the purposes of the research, the study will be done in two phases with two different student profiles, both being Digital Natives:

1) Three Intensive three-week workshops with pre-university students about to start to study architecture. The participant number is planned to be 8 to 10.

2) Six different beginning studios of three large research universities will be studied on site. For the study, 8 to 10 student per studio will be selected, with approval of the organizations.

Access to the Organizations:

It is planned to contact faculty administrations and senior academic staff at least three months prior to the planned events, giving detailed information about the study, data collection techniques, and, time schedule. Some of the possible universities to be consulted for organizing the workshops within their campus and participate in the studios in collaboration with their academic staff are: Istanbul Technical University, Yıldız Technical University, Mimar Sinan University, Gebze Technical University, Kocaeli University, MEF University, Altınbaş University, Bahçeşehir University and Beykent University.

1. Unlearning Themed Workshops: It is planned to conduct three intensive three-week-workshops at specified three universities to be realized in summer, like a short summer school for the first-year students who did not start to take any architectural design studio, yet.

2. Beginning Studios: It is planned to be participate in beginning studios as an outsider in the first phase, and as an insider in the second phase.

Research Methods:

Approaches	Data Collection	Data Analysis	Data Presentation
- Multiple sources of information is planned for the study. - A Pilot Workshop will be conducted before finalizing data collection instruments. - Minimum durations of the workshops will be confirmed according to the experiences of the Pilot Workshop. - If possible, unlearning exercises will be co-created with the studio masters. - The planned workshops will ensure validity of the data of unlearning process by distilling it through disembodying from remaining courses of the first year.		As it is recommended by Creswell (2007), the collected data will be analyzed within an *embedded analysis;* each case's extensive representation and themes will be placed as in a *within-case analysis*; subsequently, a thematic analysis among the cases will be done as in a cross-case analysis; interpretation of the case's conception will be presented. *Direct interpretations* will be used since the researcher is focused on the unlearning process only. Then, naturalistic generalizations will be provided, and, finally a detailed picture will be presented	
Interviews	All interviews will be in the studio/workshop space, on student's own desk, and be recorded by a voice recorder and then the records will be transcript. I. WORKSHOP: a) With students (8 to 10 per workshop, randomly selected): Two face-to-face interviews with open-ended questions; one is in the beginning of the workshops and the other is in the end. II. REAL STUDIO ENVIRONMENT: a) With students (8 to 10 per studio, randomly selected): Two face-to-face interviews with open-ended questions; one is in the beginning of the studios and the other is in the end. b) With supervisors: Face-to-face semi-structured interview with close-ended questions at the end of the studios.	Transcripts will be analyzed considering <u>cognitive </u>drivers of the process by; - first, detailed and many readings, so, becoming familiar with the data - then, identifying the categories that are grounded in the data and become apparent - finally, interpretations will be done based on findings	Researcher will show a detailed picture of the cases using narratives, word frequency maps and tables showing; - changes in time - differences per student - differences per supervisor - differences per the case
Questionnaires / Surveys	All questionnaires/surveys will incorporate questions about <u>cognitive</u> and <u>behavioral</u> drivers of the process. They will be online and available on mobile phones.	Questionnaires / Surveys will be analyzed with help of a survey analyzing software in two categories of concept: cognitive unlearning and behavioral unlearning.	Researcher will show a detailed picture of the cases using narratives, tables, and figures (with help of a survey analyzing software) showing; - changes in time

Approaches	Data Collection	Data Analysis	Data Presentation
	I. IN THE BEGININNING: A cross-sectional survey on demographic info of the students: a) At the workshops b) In the studios II. WITHIN THE PROCESS: Short questionnaires for all students on each activity a) At the workshops b) In the studios		- differences per student - differences per supervisor - differences per the case
Observations	First, an observation guide considering <u>behavioral</u> drivers of the process will be prepared. Accordingly, with help of a daily tracking mobile application, daily field notes and activity photos will be taken; - spontaneously for capturing student's working process - periodically with one- or two-hour intervals -at the end of each day for capturing produced works by each student I. FIRST PHASE: Observations by researcher as an outsider a) At the workshops b) In the studios II. SECOND PHASE: Observations by researcher as an insider a) At the workshops b) In the studios	Observations will be analyzed considering the following aspects of students' behaviors: - physical models / sculptures / or similar objects produces by hand - hand drawings - use of mobile phones - use of body and hands - use of a pure eye	Researcher will show a detailed picture of the cases using narratives, tables and figures showing; - changes in time - differences per student - differences per supervisor - differences per the studio
Review of Documents and Artefacts	COLLABORATIVE CONCEPT MAPPING (Participant-generated concept maps) The students collaboratively produce concept maps on "Architecture" and "Design" within a brainstorming study, one is in the beginning and the other is in the end of; a) The workshop b) The studio	Documents will be analyzed considering the following aspects of students: a) Behavioral: - physical models / sculptures / or similar objects produces by hand - hand drawings - use of mobile phones - use of computers - use of body and hands - use of a pure eye b) Cognitive: - problem-solving -comprehension of the situations -flexibility Documents will be analyzed considering the following aspects of environment: Researcher will;	Researcher will; - illustrate concepts - illustrate relationships -show framework of the research - present findings

Approaches	Data Collection	Data Analysis	Data Presentation
		- specify relationships among concepts - identify themes and interconnectedness - summarize discussion transcripts	
	IMAGES/TEXTS PRODUCED BY THE STUDENTS Images / texts / drawings / collages produced by the students will be collected to be analyzed.	Documents will be analyzed considering cognitive and behavioral drivers of the process by; -Word Frequency Approach (if applicable) - Image interpretation - Text interpretation	- Software generated concept maps

Validation of the Findings:

Based on Crewell's recommendations (Creswell, 2007), the following validation techniques are selected to help to ensure validity of this research.

- Multiple and different sources of data: three different workshops with different students and six studios within three different universities, each of them with different studio masters (the planned workshops are the most important part of this validation; because the data of unlearning process can only be distilled by disembodying it from remaining courses of the first year.)

- Multiple data collection methods: interviews, questionnaires/surveys, observations, review of documents and artefacts

- Continual involvement and tenacious observation in the workshops and studios

- Member checking (if possible): reviewing the preliminary analysis with three focus groups (one group per university) composed of the participants in the studio studies to take their views and ideas about any missing

- Writing with in-dept and thick description

Possible limitations of the study:

- Inadequacy of previous research studies on the topic of 'unlearning in architectural design education'

- Time constraints: The timeline for the workshops may be inadequate for observing bold changes in the students' cognitive and behavioral habits

Ethical Issues:

This section will be developed later based on the refences given below.

* Ethical Standards of the American Educational Research Association

* Sieber, J. E. (1998). Planning ethically responsible research. In L. Bickman & D. J. Rog (Eds.), Handbook of applied social research methods (pp. 127–156). Thousand Oaks, CA: Sage.

* Creswell, J. W., (2012), Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Upper Saddle River, NJ: Merrill Prentice Hall

TO BE DONE NEXT:

- Timeline of the study

- More literature review on the subjects: architectural design studio education, cognitive unlearning, behavioral unlearning, learning of digital natives

6. Expected Outcomes

- Comparing different studios and comparing workshop studies with studio studies will show how unlearning process is convergent or diverge.

> *Possible Further Studies:* If it is convergent, further studies to generalize to other fields studying unlearning can be undertaken. If it is diverged, a further study for categorizing studio unlearning can be undertaken.

- Developing an understanding of needed changes, the beginning studio pedagogical approaches aiming at unlearning may lead to a call for action in beginning studio pedagogy.

- Developing an understanding of needed changes, the beginning studio pedagogical approaches for Digital Natives may lead to a call for action in beginning studio pedagogy.

7. References

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[1] "Mobile Bauhaus Bus Begins World Tour To Explore New Forms Of Learning And Unlearning", 2019, www.worldarchitecture.org, retrieved on March 20, 2019
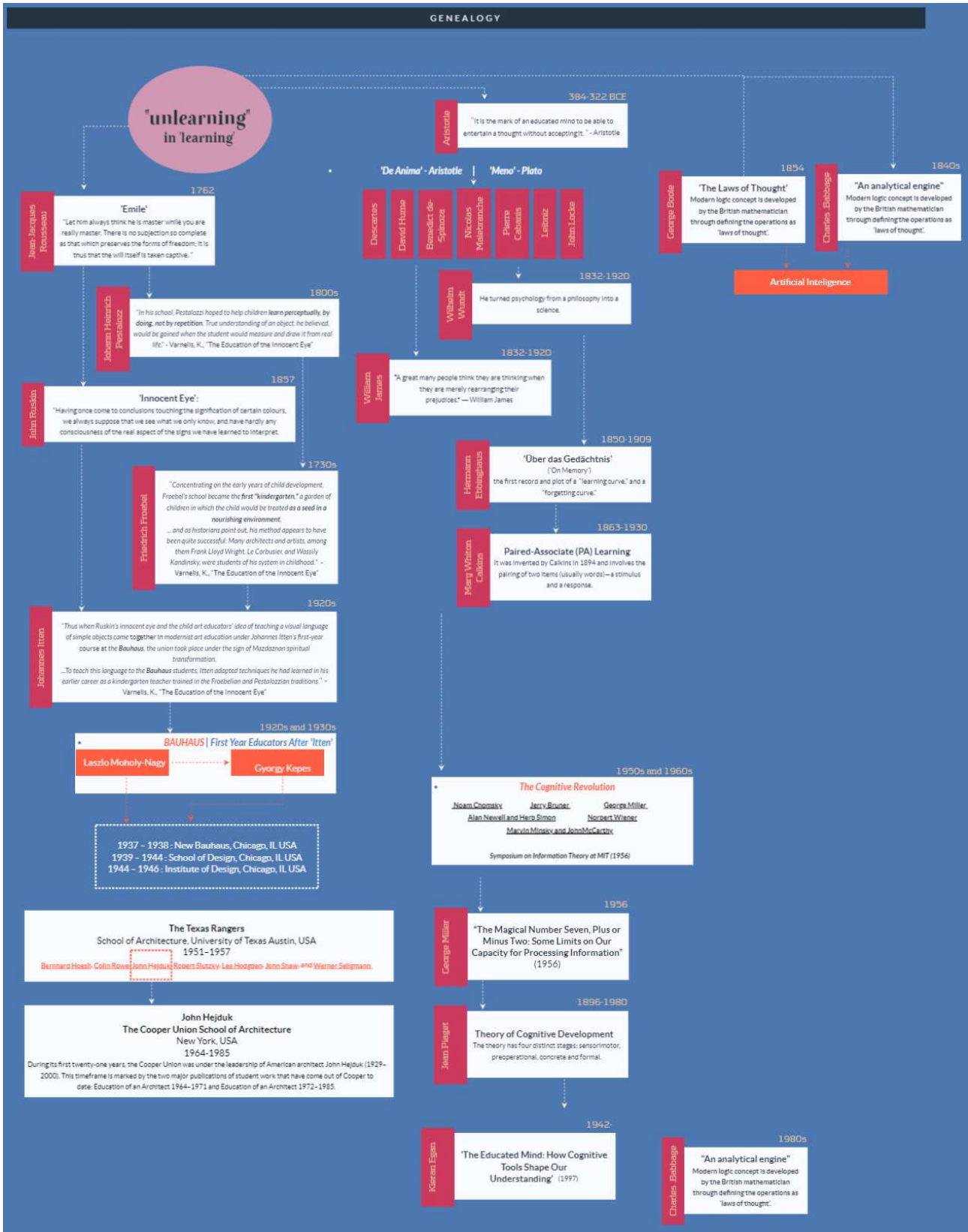
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APPENDICES:

APPENDIX-1: LITERATURE REVIEW – UNLERNING / LEARNING GENEALOGY (draft)

APPENDIX 2: LITERATURE REVIEW MAP