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THE POWER OF PHOTOGRAPHY IN URBAN DESIGN DISCIPLINE: A MODULE CATALOGUE

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Keywords

Photography; urban design; critical thinking; visual thinking; psychomotor domain.

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Abstract

This work focuses on the pedagogical method that documents the public realm by promoting to students learning through photography in urban design programmes to investigate everyday events that form public life. Picturing the commute in our cities could be guided by digital photography, archival research and critical thinking analysis. To contrive a kind of change, a module structure may come for the task of urban design as a field of professional practice to have a varied, integrated and transitioning role with different disciplines such as photography for raising the visual skills and boosting the way that students see their external environment. Moreover, the methods and techniques of urban design need to be extended to the unlimited borders of teaching various skills. The results of the current research stem from the reports of excellent students' feedback, as well as the comments on the course and expert interviews. The conclusion is that urban design, as visual-aesthetic management, can benefit from a method for module revisited that provides themes for photography to boost the skills that students should gain. The concluded six key factors could foster the integrity of the modules of urban design and site photography.

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INTRODUCTION

Notwithstanding its regular presence in educational and professional documents, urban design is quite a vague term, practised differently by different groups in different circumstances. One of the most crucial matter is how a city looks and how its spaces are designed, this makes a body-base superimposed on what range of possible sensations can be thought about, evaluated and achieved. Regardless, the concept of urban design as nice images, the urban architecture of cities comes in accumulative order and creates a visual excitement which gives meaning to the locations concerned. This article discusses the purpose and value of photography in relation to the design process and understanding urban context, and the extent to which students of urban design are schooled in the context that can be seen outside the windows. In the present, in some Arabic cities, the problem of chaos is distinguished by persons and users who compare the differences in another context, and some have become familiar with it to the level of convenience. For students in architecture schools with chaos around, he/she can criticise the badness regarding being good because this is the only scene they are accustomed to in their daily lives. In this case, reclaiming visual perception becomes a core skill for students of architecture and urban designers who grew up in a city of chaos. Meanwhile, the author bases much of the discussion on her own experiences in teaching both site photography and urban design courses. The author discusses the importance of visual skills to discover the order and disorder in the surrounded context. The current research aims to provide a tool to improve students' visual skills in urban design academic disciplines using photography as a technical tool. The photographs could be handled as a separate module in the programmes of architecture and urban design, or be involved as a subject in splinter courses such as site analysis and communication skills. The question concerns what students should learn in both cases.

WHY SHOULD STUDENTS LEARN PHOTOGRAPHY WITHIN URBAN DESIGN?

Generally speaking, the intended learning outcome of urban design courses focus on the common six factors in the cognitive domain that student should gain by the end of the course: the knowledge, comprehension, application, analysis, synthesis and critical thinking or the evaluation skills. Anderson et al. (2001) and Bloom (1956) in pedagogical discipline provide, aside from the cognitive domain, the psychomotor and affective domains to describe the taxonomy of learning outcomes. The argument, in the current research, is the intended pedagogical skills in learning photography that support the teaching policy in Urban Design Programme or tracks. Otherwise, some modules could be involved in the curriculum maps to support the learning of urban design techniques (Palazzo, 2011). In the case of current research, the action is to create or develop a good city in return for what the student of urban design will learn, and what visual skills will boost the proper context.

Evidence from Literature

Urban design is the art of (re)making dynamic public spaces into places promoting human intercommunication, economic exchange and well-being (Abussada, 2015). This interdisciplinary field depends on collaboration among various professions concerned with people and the built environment. The intention is to transition streets and backyards into a series of places where activities take place. In addition to creating places where people feel safe, that are aesthetically pleasing or allow ease of movement throughout a space, urban designers consider the relations between the natural environment and the constructed



environment to create successful cities and urban centres. Therefore, the design process is based on the human needs of people who will use the space concerned. Consequently, the designer must create the space from their perspectives to support the sense of community. The beginning of urban design in Harvard University in the mid-1950s was an academic discipline within post-graduate studies that support the visual aspects of public life (Lang, 2005; Carmona, Heath, Oc, & Tiesdell, 2010; Cidre, 2016). The latter acts as both an academic discipline and a field of the profession to cover dimensions rather than the visual (Shane, 2011; Elshater & Abusaada, 2016). Now, the ambiguous term 'urban design' is used to specify any configuration that takes place in any city settings (Lang, 2005) with a specific concern on what is experienced in the outdoor environment (Mehta, 2009; Almazán, Radovic, & Suzuki, 2012; Moulay & Ujang, 2016).

The revised process of developing an educational curriculum depends on scholars and practices driving the knowledge base, the discernment of what urban design is and the intended outcomes that will be applied to the local community, indeed, '... urban design education should be based on an understanding of what are seen to be successful, robust places, as well as the multiplier and side-effects any design has on its surroundings' (Lang, 2016, p. 563), (Carmona, Heath, Oc, & Tiesdell, 2010). The question comes from how the curriculum of urban design programme boosts the student in regard to what they see. Moreover, Cuthbert (2001), Lang (2005) (2016, p. 562) and others (Pittas & Ferebee, 1982; Lara & Evans-Cowley, 2016) have explained the importance of learning the urban design process through making the built environment functions, and where the knowledge-based and problem-solving or project-based learning approach should be directed. These approaches focus on the case studies and challenges that exist in cities. The advantage of using the problem-solving approach based on the available case studies is having the potential to learn the holistic and significant characteristics of authentic life circumstances (Yin, 2003).

Beyond the substantive of visual settings of the built environment, Kepes (1944; 1956; and 1972) argues about the chaotic and disordered environment that shapes our vision and influences our creativity from one side, and the end-product of the spatial planning on the other (Oc, 2004). Without order in things around, self-confidence is destroyed and has "robbed us of the power to make our experience coherent. When visual responses are warped, visual creativeness is impaired" (Kepes, 1956, p. 69). In another argument, Cuthbert (2001, p. 304) and Wanga and Zhao (2017) have rephrased the query that has been widely praised in literature from 'What are the core skills that all urban designers should have to practice efficiently' to 'Which generic problems exist in the urban design, and what contextually specific knowledge is required for understanding them?' When combined with socio-culture, linguistic, religious and other norms to reach future spatial scenarios (Moudon, 2016), it becomes evident which knowledge is necessary and which is restrained or otherwise eliminated from traditional urban design modules. The evidence is also related to the approaches of teaching practice that has been discussed by Cidre (2016, p. 537) in four groups: research-led, research-oriented, research-based, and research-informed.

Urban design could be taught in many ways, but should focus on two going-together streams and ends regarding city prosperity: one track is for the theory, and the other is for methods and techniques. Salama (2015, p. 9) mentions '...that many recent graduates of architecture schools have been inadequately trained to work in the real world', but the question comes to the skills gained during his/her undergraduate studies. The current research will focus on the second stream which can be separated from the first one. The methods used include a broad range of subjects, from approaches and person-environment relations to communication



routines including these of digital media (i.e. photography). Reading and documenting a photograph or other visual images plays a major role in raising the visual skills that the city designers should have (Banks, 2001, p. 11). The literature describes approaches to reading photographs: 'looking through', 'looking at' and 'looking behind' (Collier & Collier, 1986; Wright, 2016). In looking at the visionary objects, Tjintelaar and Gospondarou (2014) and Schulz (2015) answer what makes a good message in the photo as the connection with the subject. If the designer gains this connection with the city objects using while taking a photo, he/she can read, elicit the art of relationship between things and criticise the good and bad in things around them. Further, Cullen (1971) presents the concept of serial vision in his book *The Concise Townscape* through the approach of sensory of photo-elicited. Documenting the concept of serial vision tends to interpret the dynamic nature of the user's experience and is considered one of the foremost objectives of the urban designer. Those students and professionals who present similar analysis to the way Cullen did in the plan of Westminster, Ipswich and Oxford to think more clearly about the art of relationship of 'what is here and there' (Lim, Azevedo, & Cooper, 2016, p. 255), and the change in the view while moving around on the street and in public places.

In another context raised by Frey (2007, pp. 339-340) visual skills could be taught and seen in a good image with an opportunity to be sensible and an aesthetically appropriate context (Figure 1). In the same vein that emphasises on the sharp differences between the architect and urbanist, Stefanos Polyzoides (2007) in his manuscript 'If I were a Young Architect' documents his sceptical of photography in the death of the architecture. The photographers who do not have the background of being an urbanist, who sees a holistic view of isolated objects, 'promotes a view of Architecture as scenography, frozen in time, isolated, and divorced from the physical erosion of the natural world' (Polyzoides, 2007, p. 186).

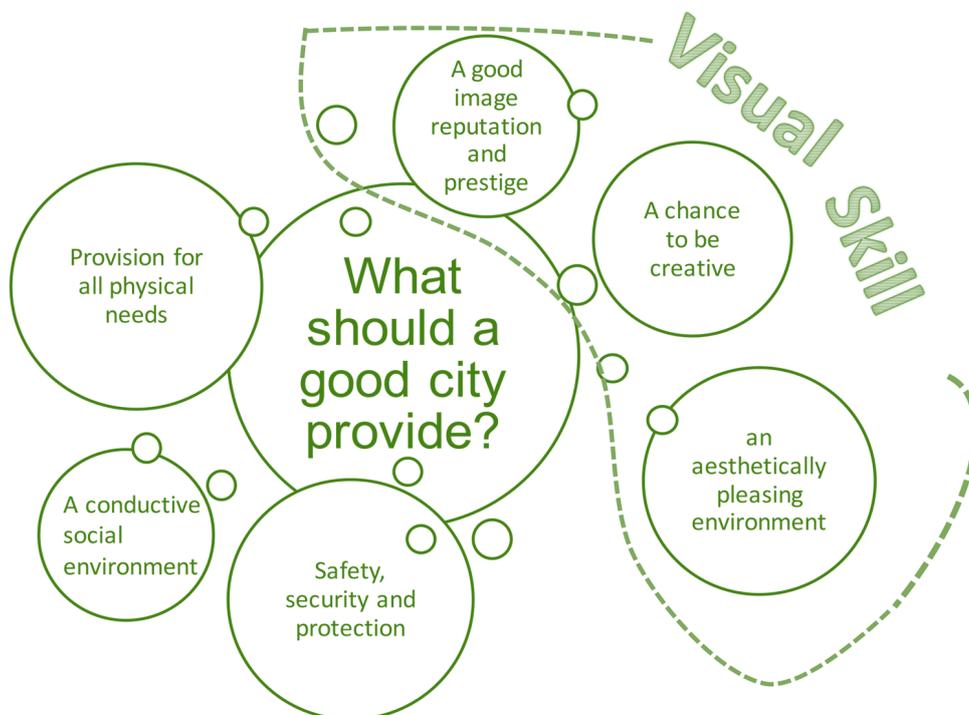


Figure 1: The visual skill that could boost a good city. (Source: the author based on Barnett, Parry, & Coate, 2001).



Generally, literature tells us six main skills under the cognitive domain starting with remembering, understanding, comprehensive skills and ending with evaluation and creating skills (Anderson, et al., 2001; Krathwohl, Bloom, & Masia, 1973; Bloom, 1956; Engelhart, Furst, Hill, & D.R., 1956). Notably, although the visual skills in most modules at Egyptian education institutions are not found or listed under the cognitive domain, the psychomotor domain provides doing skills. In the psychomotor domain, the skills start with the perception of senses cues that guide the motor activity and end with organisation process that creates a new pattern for specific situations (Clark & Chopeta, 2004; Simpson, 1972). Besides, the affective domain contributes to the feeling tone, emotional settings and degree of accepting or rejecting of the topics discussed in both the cognitive and psychomotor domains. Moreover, Barnett, Parry and Coate (2001) mention that knowledge has two domains regarding outcome: self and action (Figure 2).

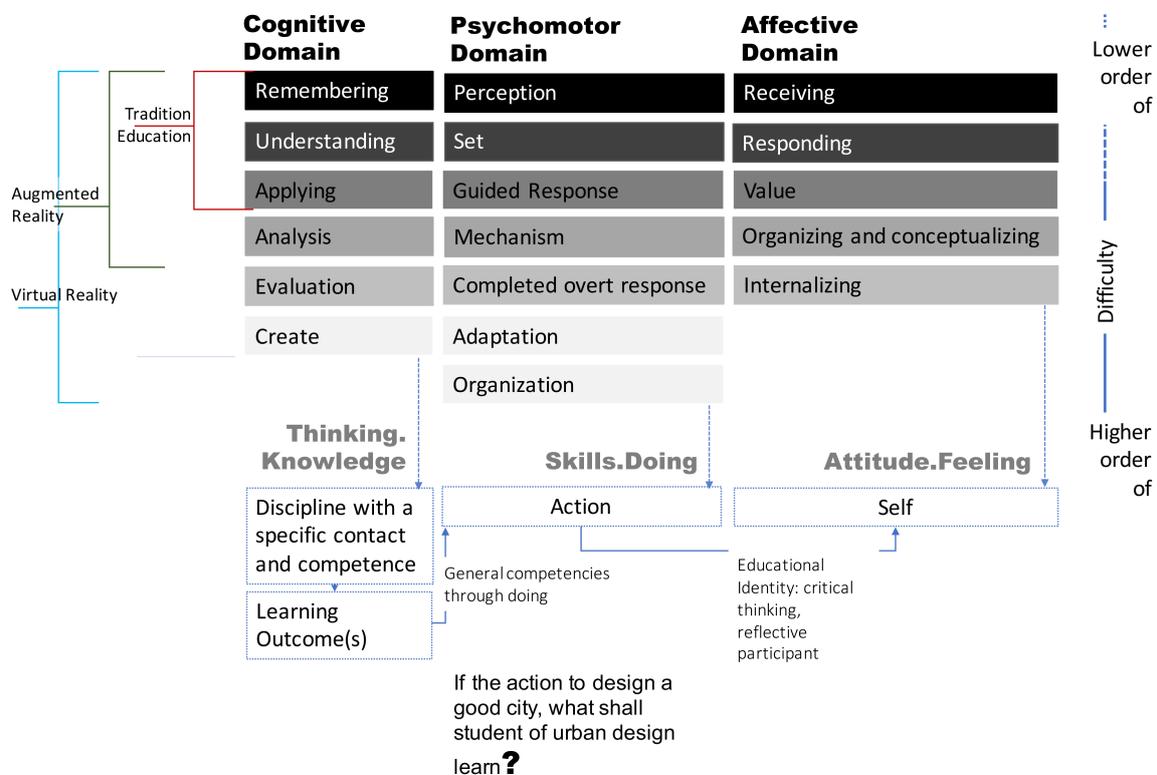


Figure 2: The taxonomy of learning outcomes (revisited). (Source: the author based on compiled references Mathews, 2017; Iowa State University, 2012; Barnett, Parry, & Coate, 2001; Bloom, 1956).

Philip Thiel (1962; 1981); Cullen (1971); Crowe and Hurtt (1986); Arnheim (1997) and Jiménez-Montano and Ortiz-Rivera (2014) go on to show how a programme in visual education using other graphic processes (i.e. photography) may be applied—in concentration and in-depth—to boost the breath-taking preparation that meets profession demands among urban design professions. Bauhaus formed a consistent method of teaching objects and background in the art by joining the visual language to John Ruskin's prototype of the innocent eye (Ruskin, 1885; Varnelis, 1998). The concept of the 'active vision' introduced by Colin Ware (2008) has profound implications for design and the visual education through boosting the process of visual thinking. In this context, both Ware and Wiggins & McTighe

(2005) frame the visual thinking as ‘a kind of dance with the environment with some information stored internally.’ Subsequently, Colin Rowe and Robert Slutzky (1976) interpreted, in architectural terms, the idea of a language of space; this served to reinforce the academic discipline when architecture tended to lose its meaning in the sixties (McClure, 1962). Also, the concluding remarks raised by Freeman and Vass (2010) through their work emphasized the importance of the multiple dimension maps that our children can produce to guide the planners about implicit features in person-environmental relationships.

Therefore, visual education should hold a vital position next to design itself, in the curriculum of any school of architecture. To ensure effectiveness, this must be increased ahead of the time-extolled exercises of freehand sketching and rendering. Generally, in architecture school and urban design programmes, undergrads and post-graduate students learn two things: first, how to think architecturally within a given context; second, how to apply your architectural thinking based on the conductive social environment and as a specific thing that should be focused on visual skill. Visual skill is what distinguishes architecture from other disciplines; specifically, the visual ability could be gained and tracked in site observation and site analysis, which may need to be taught at the university per specific rules.

Evidence from the Universities

The problem in Egypt arises because the architectural programmes do not focus on the visual skill as essential in the design process. The proof could be tracked in the curricula in most distinguished universities, with Cairo being one example. These curricula only focus on the visual skill of drawing through the courses addressed; the course regularly teaches classes such as ‘Freehand Drawing and Visual Training’ without reflection of the outside environment that a student lives through or sees on his or her daily trip. In other words, the main objective of all instructors in the architecture programme is to raise the students’ intellectual skills with a missing part of how to criticise the current scheme in their built environment.

In Harvard University—in the Department of Visual and Environmental Studies—students are studying photography and studio art; Introduction to Still Photography, Slow Photography (formerly Conceptual Strategies in Photography) and Expanded Visual Thinking. The Department of History of Art and Architecture has a notable course, Islam and Image, which addresses the relationship between the Islamic religion and photography looking ‘at the broad scope of two-dimensional images produced throughout the Islamic lands’, through the module entitled Twentieth Century Photography (Faculty of Arts & Sciences, 2017), photography, race and citizenship (Lewis, 2017). Further, some researchers conclude the importance of the photograph as supporting tools raise the visual thinking skills in Architectural education (Lukovich, 2017; Pour Rahimian, Ibrahim, Wirza, Abdullah, & Jaafar, 2011; Toka, Kaplanb, & Tanelia, 2010; Salama, 2008; Salama & MacLean, 2017; Kress & van Leeuwen, 1996).

Continuing to the importance of the specific disciplines like photography in urban design teaching might be expressed in a similar way to the idea raised by Barnett, Parry and Coate (2001) aside to the argument of learning through game-based learning by Madani, Pierce and Mirchi (2017, p. 2). These thoughts are to change the undergraduate’s traditional curricula toward emerging curricula that use, for instance, knowing how instead of knowing that, and the proposition-based learning to the experiential learning (Table 1).



Table 1: The distribution of the taxonomy of the learning outcomes among the traditional and emerging curricula (Source: the author based on Barnett, Parry, & Coate, 2001; Bloom, 1956).

		The taxonomy of indented learning outcomes								
		Category			Outcome			Domain		
Traditional Curricula	Emerging Curricula	Thinking	Doing	Feeling	Knowledge	Skills	Attitude	Conative	psychomotor	affective
Knowing that	Knowing how	*			*			*		
Written communication	Oral communication			*			*			*
Personal	Interpersonal			*			*			*
Internal	External		*			*			*	
Disciplinary skills	Transferable skills		*			*			*	
Intellectual orientation	Action orientation	*	*		*	*		*	*	
Problem-making	Problem-solving	*	*		*	*		*	*	
Knowledge as process	Knowledge as product	*			*			*		
Understanding	Information	*			*			*		
Concept-based	Issue-based	*	*		*	*		*	*	
Knowledge-based	Task-based	*			*			*		
Pure	Applied		*			*			*	
Proposition-based learning	Experiential learning	*	*		*	*		*	*	

In the case of Egyptian students, a question posed to students about the skills they would like to develop, asking them to state them in order of importance. The answers the researcher received were percussive since visual skills were not listed among the students' answers. A diagram had shown to them the difference between what one thinks and what people actually understand, with 86% of students agreeing with this description. This reflects the gap between what students think and who othes perceive the idea. Generally, the leader of knowledge of urban design has stages (Abusaada & Elshater, 2018). Actually, their answer regarding the previous interview, as well as being stacked with these students in several courses, shows that most of them are at the 1st and the 2nd stages of knowledge (Figure 3). Furthermore, if they have the ability to raise their skills to reach the 3rd stage ('action', for instance), there will be a gap linking the gained knowledge to professional practice and the labour market. Moreover, many individuals, as well as 'architects, need to draw while they talk in order to express their ideas' (Brunon, 1971, p. 53). 'They need to make a mark on paper as they state a point; they build up a diagram' (p. 53) as they develop their argument, take a photo to document a place, event or even express idea that could be applied similarly to his/her project. Consequently, most architecture courses should focus on things such as site photography, and the intended learning outcome of photography courses



that enhance student's visual skill should be those skills that they should acquire before graduating.

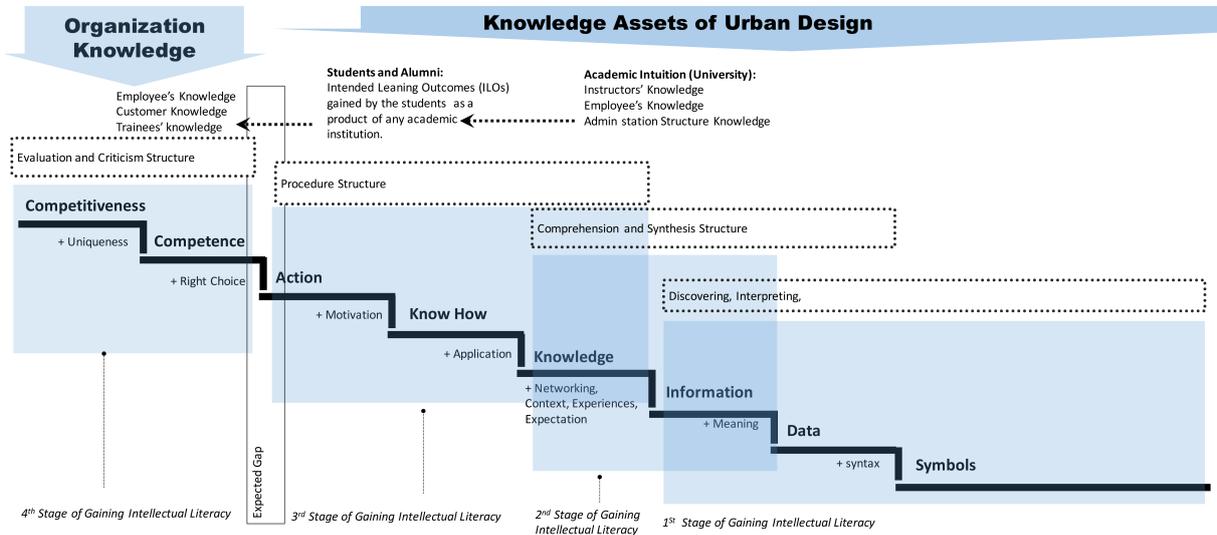


Figure 3: The leader of knowledge (Source: the author based on Abusaada & Elshater 2018).

A CASE FROM EGYPTIAN UNIVERSITIES

In 2013 the course Site Photography and Documentation: UPL 153 was designed and developed by the author in the programme Landscape Architecture at Faculty of Engineering, author's university, Cairo. This module is designed for students at the first level of their Architectural learning. Based on the questions raised, in order to create a state-of-the-art curriculum map, there are five main stages of learned lessons that are covered in different periods of time (Figure 4). For instance, camera shooting is covered in six weeks and the rest in six weeks; the remaining time is for linking the knowledge gained to other disciplines and practising on the critical thinking.

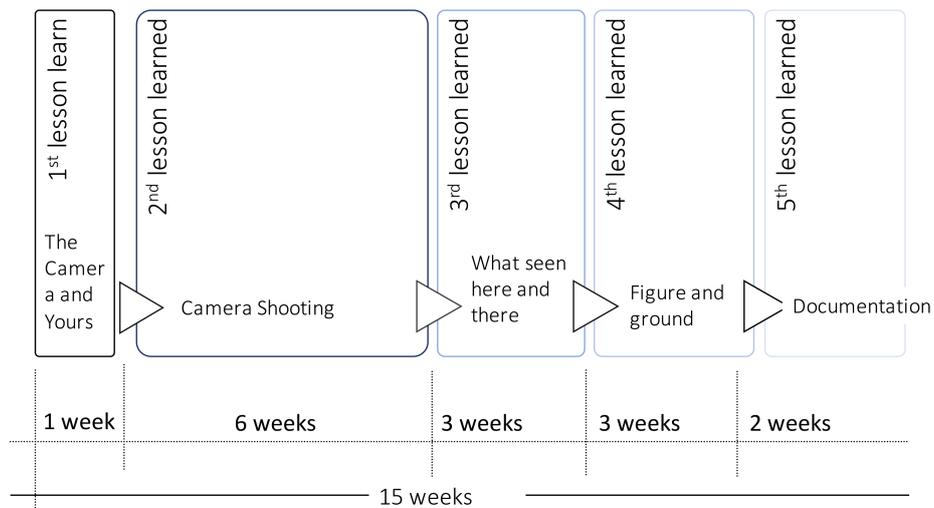


Figure 4: The five stages of the course structure (Source: Author).

The course also has three submissions and follow-ups with pre-given criteria. Documenting the photos, and in what field they are to be used, is presented in the designing of a poster or book cover using the photos students have captured as well as to organise photo session events. The photos are intended for exhibits during the last three years to document the theme of Our vision–Our Place, Known and Unknown Places, A Voice for Children in Design Process and the final one in Summer 2017: The Food in Built Environment (Figure 5). Also, the learning outcomes of the serial vision is an activity to document with the photo-elicited technique (Figure 6).

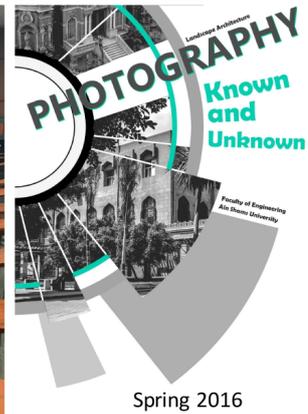


Spring 2015

The 5th lesson learned

Documenting the photos and in what field they will be used

Spring 2017



Spring 2016

Figure 5: Some academic activities as the 5th lesson learned through the documenting process (Source: Author).

The Methodology of Module Revisited

The module of 'Site Photography and Documentation' has been offered throughout the four years of teaching within the Landscape Architecture programme for undergraduate studies as a pre-request module for urban design. The current research tries to revisit and analyse the progress of the course through the instructor's reports, student feedback and experts' interviews, as well as per external referees of the course itself. The course report is one resource for course improvement. Analysing the instructor's reports during the course offered provides both summative information for decisions relating to curricular development and formative information for instructional improvement at the academic instructions tenure and promotion in higher ranks. The results of this analysis will report the core skills of understanding, intellectual and practical skills regarding the students' attitude.

The students' feedback was collected by the questionnaire (Appendix A) through 554 participants who completed the course during the last four years and ten sessions of the course offered. Only excellent students, with grades of A+, A, A-, were invited to this investigation as partners to discuss the pros and cons of the current teaching policy. The

limited selection is because the excellent students' peers are in less level of the academic progress that enables them to give helpful feedback. Besides, the inconvenient grades of students who had not gained excellent marks may affect their responses. The number of collected responses of these outstanding students comes from 82 students (14.80%) out of 554 students who passed the module distinguishably during the last ten semesters. Table 2 shows the number of students enrolled in the module from the beginning in Fall 2013 and their relevant grades. Aside from the understanding, intellectual and practical skills, the invited students were interviewed about the transferable skills that support the critical thinking, creative thinking, communication and collaboration.

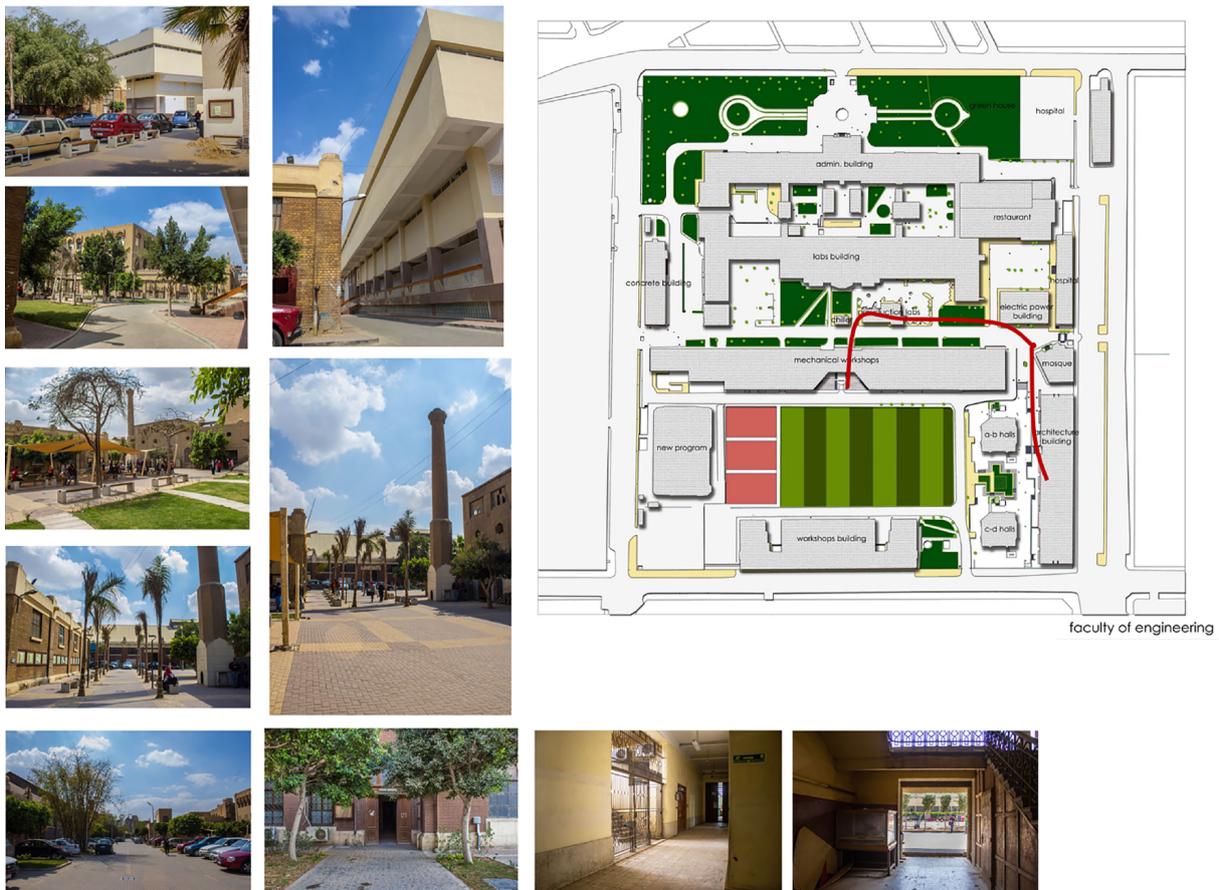


Figure 6: The application of the serial vision in the documenting process (Source: Author).

Excerpts were selected for the interview based on being early career professions practising urban design or architecture using the digital photography techniques. In order to have a photography module in Urban Design Programme, the questions that the instructor asked needed an explicit answer. The questions are compiled and modified based on University of Glasgow (2017) to cope with the Egyptian context. The issues asked to the academic lecturers within the tutorial of the module were:

- What do you want learners to comprehend and be able to do by the end of the programme/course?
- How will the seniors be able to use the gained knowledge? Doing what? In what circumstances?
- What level are you endeavouring?

- What will the novice need to do to describe the students' progress and how well they have achieved the outcomes?
- If someone were to question the followers what they have received in this programme/course, how would you like them to respond?

Table 2: The students' grades during the academic semesters that the module is offered relevant to the invited students to fill out the questionnaire form (Source: Author).

	Fall 2013	Spring 2014	Fall 2014	Spring 2015	Spring 2016	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Total	Students invited to fill the questionnaire
A+	0	0	2	3	0	0	0	0	4	1	10	10
A	4	1	3	3	0	2	0	5	4	2	24	24
A-	3	2	7	6	2	5	1	6	9	7	48	48
B+	16	3	10	12	5	7	2	6	3	4	68	0
B	26	4	19	21	14	3	1	0	4	4	96	0
B-	19	7	20	19	15	2	0	2	5	5	94	0
C+	17	10	14	18	12	0	0	2	1	6	80	0
c	20	6	12	12	11	0	0	1	1	1	64	0
C-	11	3	8	7	11	0	0	2	0	0	42	0
D+	2	0	2	3	6	1	0	0	0	0	14	0
D	0	0	0	0	9	0	0	0	1	0	10	0
F	2	1	0	1	0	0	0	0	0	0	4	0
Total	120	37	97	105	85	20	4	24	32	30	554	82

A+= 97-100, A= 93-96, A-=89-92, B+= 84-88, B= 80-83, B-=76-79, C+=73-75, C=70-72, C-=67-69, D+=64-66, D= 60-63, F <60

WHAT LEARNING SKILLS SHOULD THE STUDENT OF URBAN DESIGN HAVE?

Results and Discussion

This session includes the review of the instructor's feedback, the experts' point of view about the questions raised in the section of the methodology, and the results of students' response to the questionnaire in Appendix 1. The author as an instructor of the architectural photography module provides feedback that covers the module contents of the five phases of learning outcomes (Figure 4). This feedback covers the syllabus (Table 3) and the assessment/evaluation process. The instructor's report for the module during the last four years (Fall 2013 till Fall 2017) follows the bell curve of mark distribution (Figure 7). The grade point average (GPA) is located between the B and B-. Notably, the number of students enrolled in the module varied from 7-120 students.

Besides the module outline and phases, the following points are the learning outcomes of the first learned lesson, which are determined as a result of the first three lessons learned. At the end of this group of topics, the students are able, first, to define the importance of photography in architecture and urban design disciplines. This learning outcome is listed among the cognitive domains of thinking and knowledge with a specified skill of remembering. Secondly, the students processed in a higher level of the cognitive area of

thought and knowledge through applying the basic principles of site photography on the regularly visited sites. Third, the teaching staff guided the students in the psychomotor domain of skills by responding to selections and postures of the best places and objects (figures) in picking a photo. Fourth, for complete overt response in the psychomotor domain, the students should be able to prepare the camera settings for colour, depth, leading lines, and contrast. Fifth, the adaptation of the skills of honing and refining photo elements is also applied by the end of the antecedent lessons. The sixth learning outcome and final stage of the 1st learning lesson has a high level of designing scenarios for sightseeing to cover the ability to create a pattern of a specific situation(s). For the evaluation criteria of the first submission, the student presents ten photos. The evaluation is focused on excellent composition, a focus on emphasising the exciting elements of the building design, light interacting with a building, architectural photography being clean and uncluttered, balancing factors, leading lines, framing, the standpoint, and the adjustment of the vertical and horizontal lines. In case of achieving them all, the students will be graded 10 out of 10. If one item of listed criteria is missing in one photo, the grade will decrease by one mark out of 10.

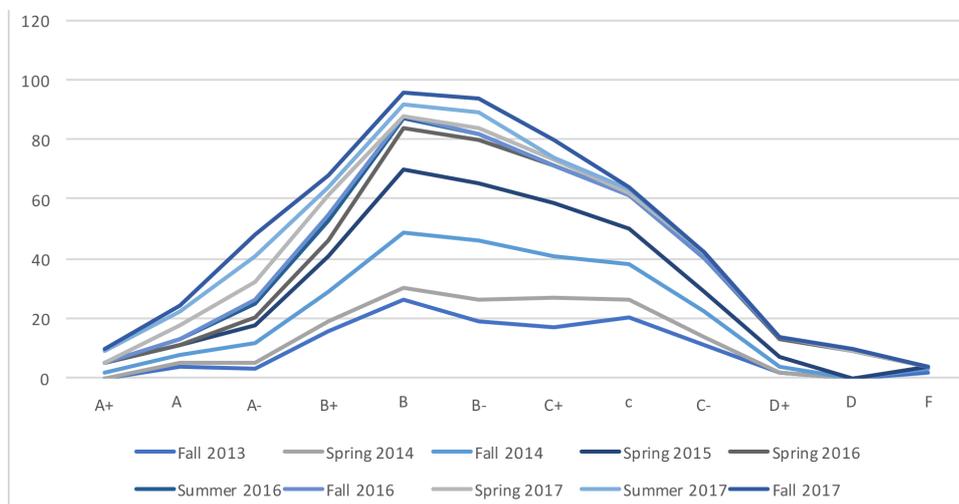


Figure 7: The distribution of grading system during the years the course offering (Source: Author).

Table 3: The syllabus of the module ‘Site photography and Documentation’ Code: UPL 153 that is taught in Faculty of Engineering, Ain Shams University (Source: Author).

Week No.	Course Content (Topics)	Required activities for the next time	Marks
1 st (4 hours)	<p><u>First:</u> Preface, What is this course about? Course Description, Course Syllabus; Course Aim, Course Outcomes, Grades, Course Outlines, References Independent Theme, Course Contents, Framework, Applied Work.</p> <p><u>Second:</u> Introduction The Camera: a good relationship should come between the students and his/her camera which starts with the deep understating of potentialities and usage of the tool and various context</p>	Take two photos	-
2 nd (4 hours)	<p><u>First:</u> What Makes a Great Architectural Photo?</p> <p><u>Second:</u></p>	Apply the principles of photography on the campus of the Faculty of Engineering (two	

Week No.	Course Content (Topics)	Required activities for the next time	Marks
	Site visit (the main campus of the FOE)	photos)	
3 rd (4 hours)	First: The Role of Architecture as a Photographic Subject Importance of Vanishing Points Second: Feedback on the picked up photos	Prepare for the 1 st submissions (Compare the forefront 4 photos and the modified version of the said ones)	
4 th (4 hours)	The 1 st submissions: The start to pick up objects in a rectangle Follow up and comments (5 photos on the screen show)		10 marks
5 th (4 hours)	Converging Verticals Camera Standpoint	Take a photo of any place around your living environment or in the campus	
6 th (4 hours)	Composition and Framing Creative Tips and Tricks and 2 nd submission		5 marks
7 th (4 hours)	The Effects of Focal Length Image Formats		
8 th (4 hours)	The 3 rd submissions and follow-up In this the student receives comments (Midterm: pin-up as a printed submission and written quiz).	Preparing the argument to defend the submitted work	25 marks
9 th (4 hours)	The task is to select a theme for an exhibit What can be seen here and there, the <i>Figure and Ground</i>	Finalize the theme	
10 th -11 th (8 hours)	The documenting process through the Serial Vision	Prepare the frames, theme, poster selected photos	
12 th (4 hours)	The 4 th submissions: The usage of the photo(s) in the field of specialization (draft submission of the theme and elected photos) + the serial vision submission		10 marks
13 th (4 hours)	Site photography in the natural environment and the social settings Putting them all together	Capture 5 photos for: Events related to food urban chose- indoor places (kitchen, bathroom, ...etc.)	
14 th (4 hours)	Assessment and follow up through the discussion of the 5 photos	Prepare the frames for the selected photos	
15 th (4 hours)	The 5 th submissions and final revision of the paperwork and printed documents. Presenting an exhibit that could be Our Place- Our Vision, Known and Unknown Places, Food in the Built Environment, Cairo Below the Eye Level,etc.		10 marks
16 th (2 hours)	The Final Exam		40 marks
Total Marks			100 marks
The Total-contact Hours			15x4=60 h

Colour Codes

	The 1 st lesson learned		The 2 nd lesson learned		The 3 rd lesson learned		The 4 th lesson learned
	The 5 th lesson learned		The evaluation		The assessment		Regular Day

The second submission is an assessment process that comes after the 5th and 6th weeks of working on some selected principles of architectural photography. This submission is in the form of choosing an idea that will be expressed in one photo. As a result of the five lessons learned, the student will be able to select a theme with a similar subject matter, the same technical composition, and a similar mode or feeling. Also, he or she will be able to apply the principles discussed previously to the selected theme. Moreover, by reaching nearly to the end of the second phase, the student will have the technical ability to resolve and manage

the disturbing elements in picked-up photos. Five areas of consideration will be taken into account when reviewing the creative execution of the picture. The photo that makes the cut will be graded on a five-point scale. Specifically, students will receive one mark for each of the following criteria: the uniqueness of the vision (standard versus creative); the lighting (reflections, standard, silhouette, and flash vs. no flash versions); vanishing point(s), horizontal or vertical elements, and angle of view; depth of field (shallow, deep or somewhere in between) and place of focus; and distracting elements, inadvertent inclusion of a subject (contrails, vehicles, etc.), or lens flare.

For the third submission (midterm exam evaluation), and as a result of five lessons learned, the student will have the ability to define the basic knowledge of a written exam. This written exam is assessed out of 25 marks. These marks are distributed in two parts: theoretical (knowledge base and comprehension base) and application. The theoretical part is evaluated out of five marks based on first describing the site's photography process and the principles of a good photo. Second, he or she should be able to state the technical and aesthetic differences between traditional and digital photography. Third, the student can list the relationship involving the art maker, the process, the product, and the viewer. The fourth ability is limited to letting him/her describe the impact of the context on the site photography and define the composition of objects in the photo farm. Fifth, the student should show his/her excellence in locating the best position for picking up an impressive photo or comparing two or more pictures of the same site and the same condition of lighting. Meanwhile, the assessment of the application part is assessed out of 20 marks, which include the application of all the previous fifteen points of the first and second submission over printed ten photos (15 marks out of 20), and the quality of the delivery is marked out of 5 marks out of 20.

For the fourth submission: Using the photos in the field of architecture and urban design, the student should learn critical thinking skills through self-evaluation to reach the level of creation. The point is to make a defence judgement based on the internal evidence or external criteria discussed in other cases similar to his/her submitted photos. The student in this submission has compiled the components and ideas into a new, whole picture. Besides, the student has broken down the objects and idea(s) in the captured images into simpler parts to find a solid argument to convince his/her instructor(s) and colleagues to give their voices. The assessment criteria include, first, five marks for the designed issue using a photo. The design evaluation looks for relevance in the selected theme, legibility in the presented idea, image quality, and links between the images. Also, the point that the evaluator(s) has considered in referring the submitted design is based on the learning outcomes. In this matter, the cognitive domain is followed by both the knowledge and skills necessary to define the objectives/messages of the poster, cover, etc., which stated and addressed specific issues. The student's design ended with a conclusion based on the available data. Also, through fitting the affective domain of valuing antedate, the student designs the theme with excellent composition, as well as neat and attractive elements or/and fonts. In internalising the affective domain, the student acts upon the presented information creatively through clear graphics.

The remaining five marks are graded to the serial vision. The selected track for the serial vision starts at specified points and gradually begins to take photos as the photographer walks from point to point in the process that makes sure of inclusion of the elements and gives different information from the previous points. The students should have the ability to internalise the changing view that provides a sense of discovery and drama. The student is graded on the second five marks if he/she describes all the above points. Moreover, he/she



gets four marks if the student forgets the criteria of start and end point and mentions some of the above. The three scores will be deserved if the student remembers the requirements of the beginning and end point, the position of each photo, and mention all the above. Finally, the grades are equalled to two marks if the student gives some short notes of the path that the photographer should walk and neglect the previous elements.

To manage physical elements of the surrounding environment, the process that produces an enthusiastic impact of the affective domain and feeling that student has is through a single-direction path to configure and investigate the relationship between the two parts of the visual experience, the existing view, and the emerging view (Cullen, 1971). Notably, in separating the existent from the come-into-view picture, Cullen (1971) captures the feelings associated with the experience of the current viewpoint and the expectation of the next view. The pedestrian's view continually varies when keeping track of a curving pathway and entering an urban space or altering a direction.

In the final stage of the learning outcome, the fifth submission, which is entitled 'putting them all together,' the student is assessed accumulatively and is actively engaged in the affective domain. The student's learning outcome is evaluated based on the previous seventeen points. Half of one mark for each point in the assessment criteria and one-and-a-half marks are graded on the student's ability to the transfer the knowledge and attitudes of the affective domain that were gained in the course and link them to other modules like site analysis, graphic design, design studio, or urban design. In addition, communication and presentation skills are considered to advise the student on how to present his or her work.

The semi-structured interview with academic lecturers (6 experts) gives some remarks in term of intended learning outcomes of the Photography module and the reflection of these findings on other modules. Regarding this matter, the importance of the module is found in auditing the way students should see objects within their constructed environment. Furthermore, most interviewees coincide that the module can help them in regard to interpreting and when thinking critically about the composition of objects. Regarding the response of the question 'What do you want learners to ... by the end ...,' all of the experts mentioned the importance of camera shooting. Alongside this, some of the respondents added that learning photography contributes to captured screenshots in digital media (i.e. 3D max).

By contrast, older professors mentioned that the module was not essential for raising the visual skills; drawings, tracing and depicting, picturing, tracing object as the effective method that can increase curiosity and imagination skills. To find out how will the seniors be able to use the gained knowledge through doing what and in what circumstances, the critical thinking was common in four responses and the answer were skipped by others. Furthermore, the response of the level that the instructor is endeavouring in that module was in the primary stages of studying architecture. To be declared, one of the experts commented that '[...] the course could be an elective course for whom are interested in photography.' 'The student progress could be tracked in the case of site photography modules by several means, assignments and submission should be at the end of the list' said an early career female expert. In this, she mentions the assessment-based learning and problem solving as a way to evaluate the intended learning outcomes.

For the last question, one of the experts commented on the importance of opening the floor to the students to develop the contents and choose the places that would be captured. He added, "By this, my students will give perfect feedback by the self-directed and meta-



cognitive learning of professional, instrumental and social skills relevant for design creativity.” By contrast, an expert added that there was no need to have this course in architecture or even urban design programmes; a one-week workshop will enable the students to learn how to take good photos and document them as well.

The results of students’ responses to the questionnaire show relevant answers to be near to the global benchmark concerning the following questions: ‘How likely is it you would recommend this module to a friend or colleague?’ The choices of the expected answer range between 0–10 from ‘not at all likely’ to ‘extremely likely’. In Figure 8, the response comes reaching the net promoter score (38) to the global benchmark (40). This score is reflected in how relevant topics are discussed in the course regarding the expected career, yielding scores of 36.46% for ‘very relevant’, 23.96% for ‘extremely relevant’ and 6.25% for ‘not at all relevant’. For the question ‘As one of the intended learning outcomes is seeing objects differently, how reachable was this goal?’, the responses varied between ‘extremely reaching’ (45.92%) and ‘not at all reachable’ (3.06%).

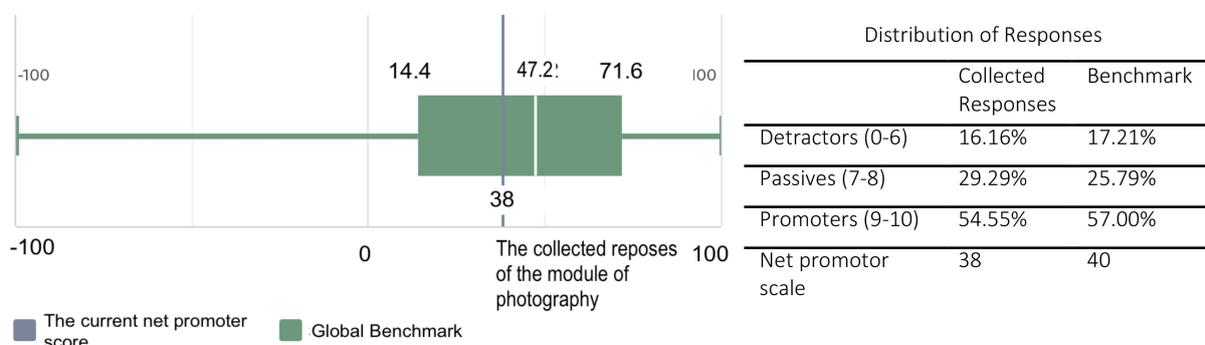


Figure 8: The response to ‘How likely is it you would recommend this module to a friend or colleague?’ (Source: Author).

The arrangement of the topics that had been discussed in the module reflected their importance, from their side, of the tips that should summarise the issue explained to them followed by the camera technique and shooting. The link from photography to other disciplines comes in the latest stages, although without this link students could not be able to use the gained skills in a further advanced module that he/she may practice such as site analysis, urban design and/or 3D max. In particular, photo-participation in an event or workshop was arranged low stage. Figure 9 and 10 give a score out of 10 for the recommended topics with priority given to both the expert and architecture students. Some of elder professors thought the importance of the module to be as an elective course or to be taught as a one-week workshop rather than a core course. There was a minor distance between the respondents of professional participants and the students of the earlier level of the module.

The standard deviation (Table 4) gives a result of a high score for the evaluation possess as a most important topic for the students. Meanwhile, the tips for good photos come in lowest level. Aside from understanding, practical and intellectual skills, the transferable skills gained by the end of the course are shown in Figure 11. Curiosity, imaginably, visual and arguing skills have a high percentage of other skills gained per the module. Notably, some respondents’ answers were gained (other) are out of context and are not relevant to what

had happened regarding the module’s teaching policy (i.e. the presentation techniques and all listed skills).

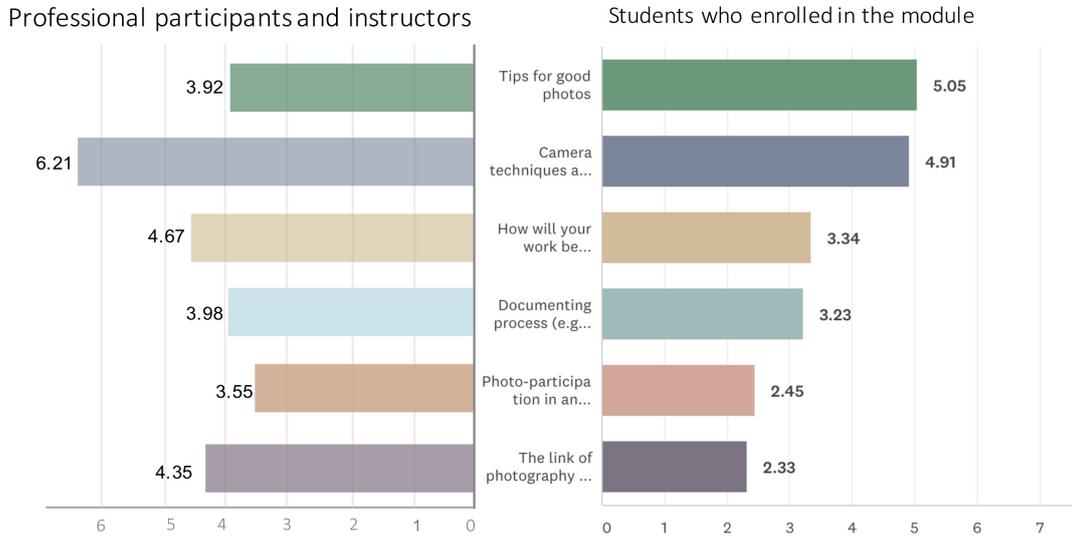


Figure 9: The response of both the professional practice and the student enrolled in the course to the issue 'Question 5: Arrange the following topics based on the importance (Source: Author).

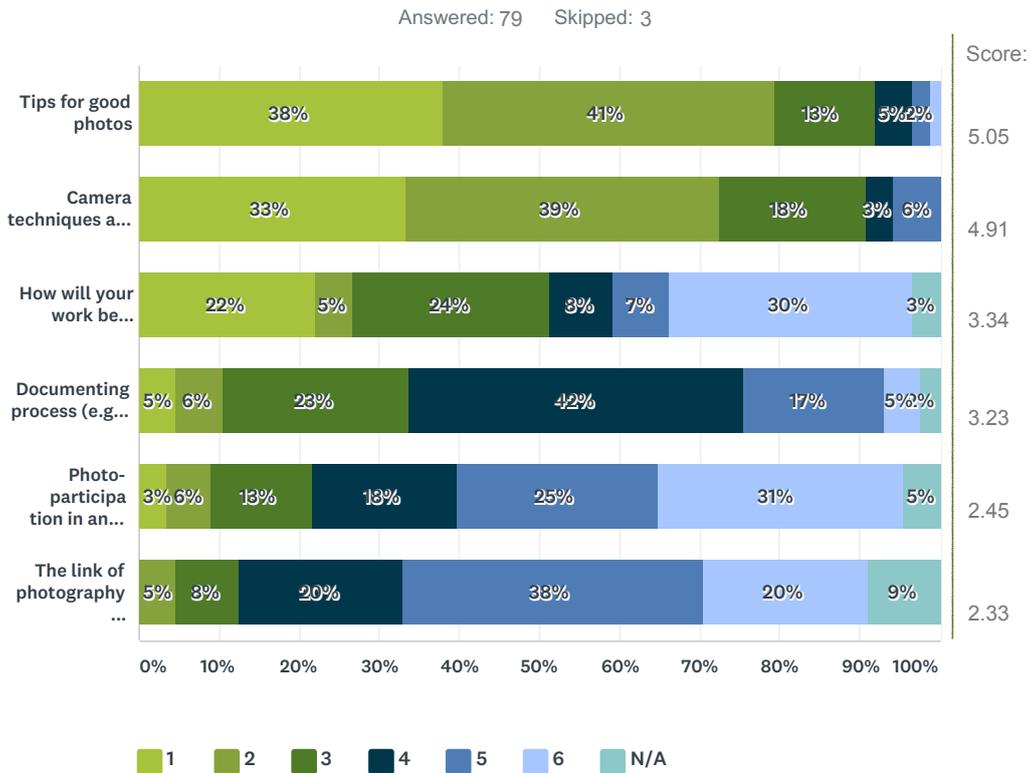


Figure 10: The score of arranging skills based on the responses of the students (Question 5) (Source: Author).

Table 4: The basic statistics of results gained from answers to the Question 5 in the students' survey (Source: Author).

	Minimum	Maximum	Median	Mean	Standard Deviation
How will your work be evaluated?	1.00	6.00	3.00	3.66	1.93
Photo-participation in an event or workshop	1.00	6.00	5.00	4.55	1.39
Documenting process (e.g. serial vision)	1.00	6.00	4.00	3.77	1.11
Camera techniques and shooting	1.00	5.00	2.00	2.09	1.08
The link of photography in other disciplines	2.00	6.00	5.00	4.68	1.07
Tips for good photos	1.00	6.00	2.00	1.95	1.04

Answered: 76 Skipped: 6

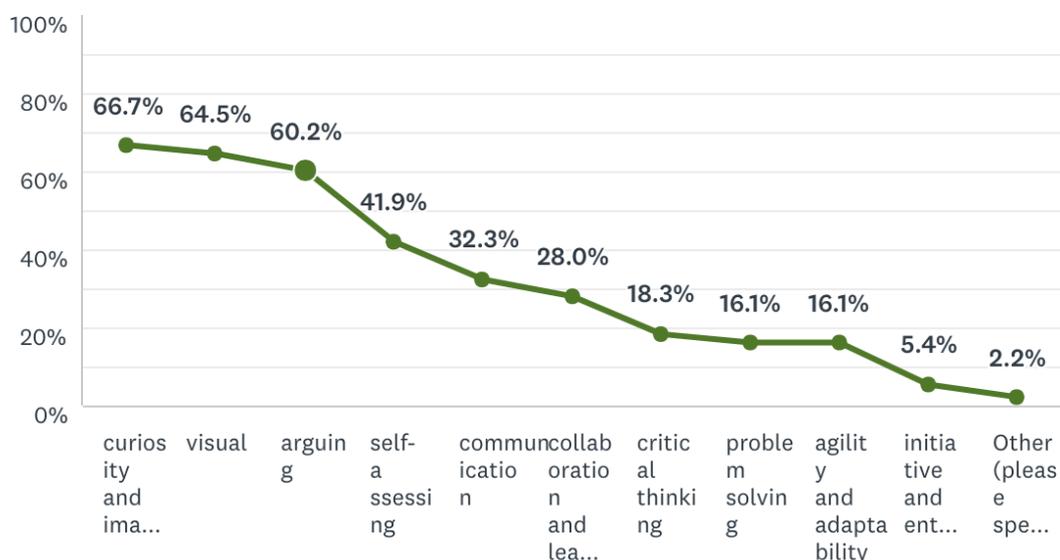


Figure 11: The arrangement of transferable skills that the student should gain (Question 6) (Source: Author).

The responses of one-ended-questions open several remarks related to the appealing of the course, the importance of indented learning outcomes, having tangible module outcomes and theoretical and background education regarding being a photographer rather than an architect. Some respondents made it clear that they could not understand some questions and terms (i.e. visual, agility and critical thinking skill,) and said that some words were fuzzy (i.e. initiative and entrepreneurialism). Some could not determine the importance of the intended skills. Regarding this, a student said: 'This is my first level in architecture, I have no link to what had been taken in other courses. Maybe later, I will have a chance to find out the correlation and interference between disciplines. Furthermore, it is good to discover some places and sites that I visit regularly, but I could not recognise its beauty or ugliness.' The critical thinking skill is noticed throw their response regarding the 'assessing method should be more specified', said one of them. In regard to recommending the course to others, one response mentioned it was 'not easy to recommend the course to a friend unless he/she is an architect. The topics raised most are not related to pure photography; architecture

photography.’ The text analysis of the responses shows seven tags for 30 responses and 52 skipped-answers (Figure 12).

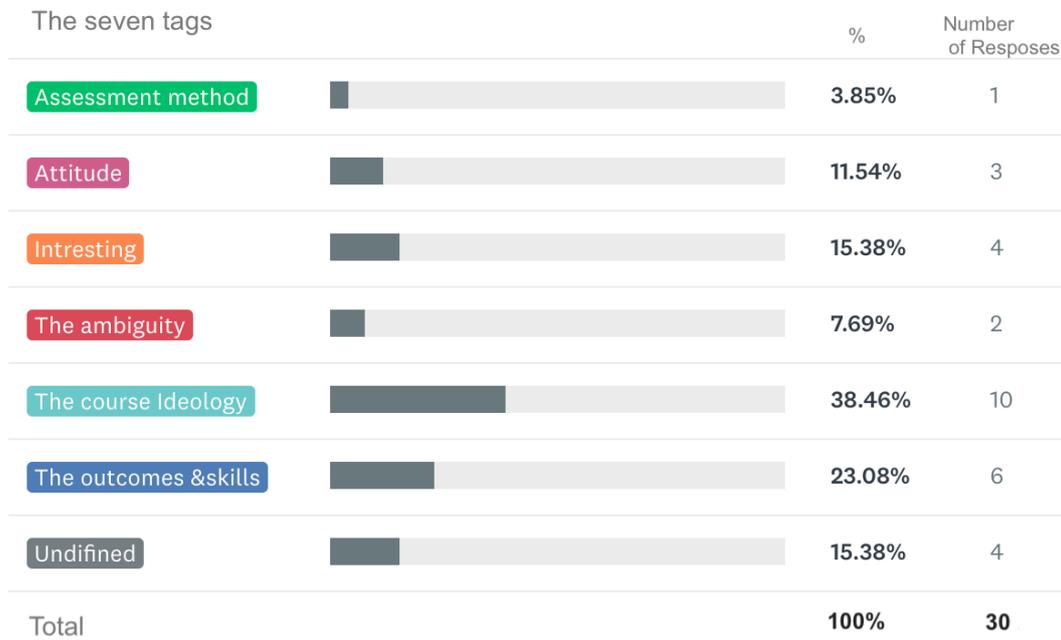


Figure 12: The tags of analysing the responses to the open-ended question (Question 7) (Source: Author).

Findings: Photography is in Urban Design Programmes/Tracks

The outcomes of the current work handle, first, the teaching and learning policy and procedures in the module/ lectures of photography in urban design Programmes. In so doing, photography could be stood as a separating module or embedded through procedure start from the course goals and indented outcomes, the taxonomy (domain) of learning outcomes. Second, the findings link between both the learning outcome and assessment settings and the evaluation method and their criteria. The third discusses the possibility of the continuity in both disciplines: urban design and photography.

Teaching and Learning Outcomes

The supposed learning outcomes in the module/lecture is designed to have the characters of being, first, specified in term of what actual knowledge, skills, and feeling should the student has at the end and what tools are available. Second, the learning outcomes should be written from the perspective of the learner (student-centred wise). Third, the skill level, time and other resources students have should be appreciated. Fourth, the objective statement should be relevant and result oriented to show their mastery of the module content. Finally, the indented learning outcomes should be measurable in term of how I will know that the students have accomplished this outcome. This is directly linked to learning outcomes versus the assessments. Apply these criteria to photography module in Urban Design Programme, the contribution of photos elicited is recognized in some topics such as design principles and applications (Figure 13). The learning tools in urban design pedagogy using photographs, also, are seen in the site visit and technical presentation as well as the techniques of

documentation. The indented learning goals supposed module of photography lead to the course outcomes that is structured by the topics and lesson learned (Table 2).

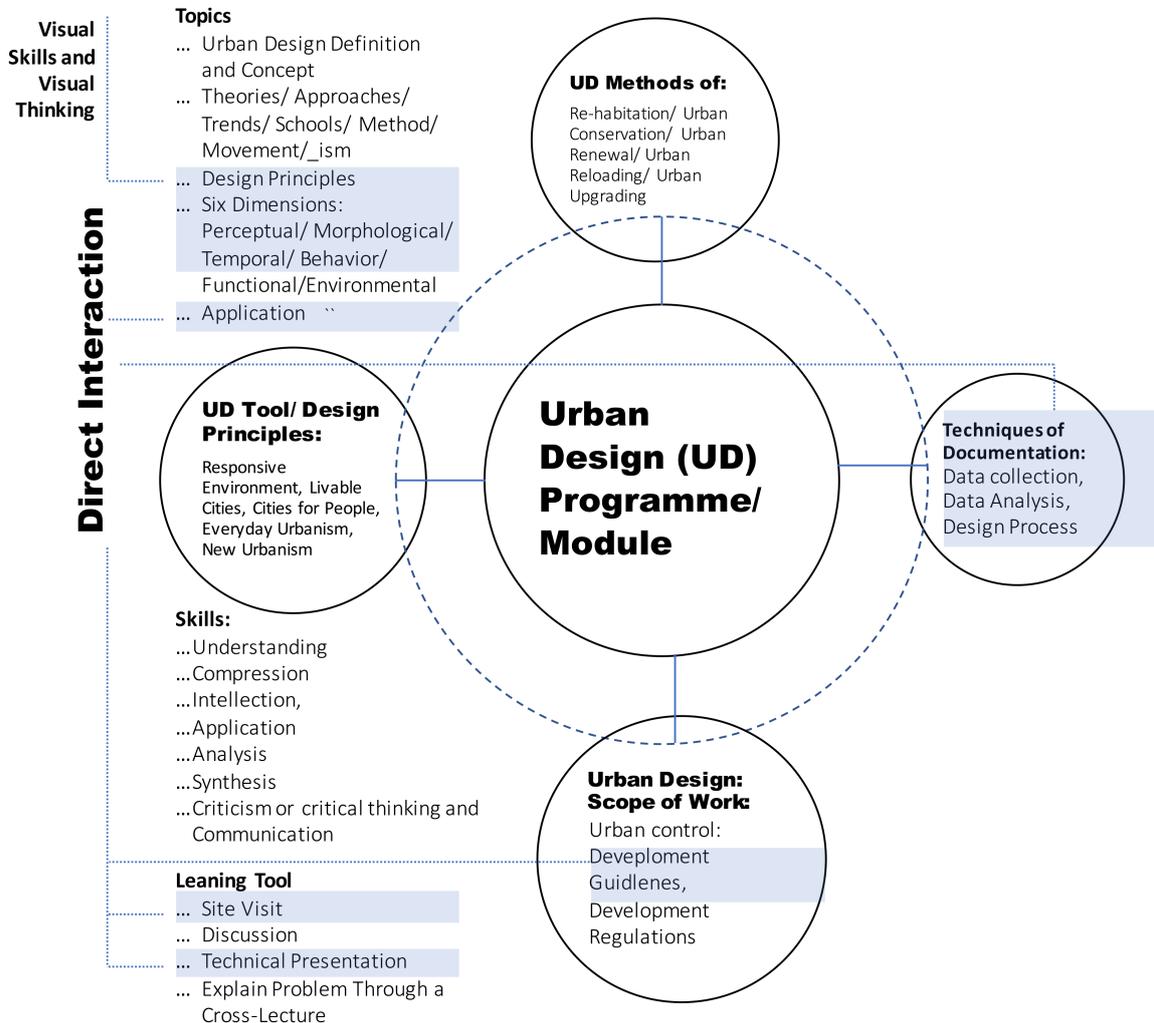


Figure 13: The indented learning outcomes (marked in blue) that the visual skills could be included implicitly (Source: Author).

Learning through the Assessment and Evaluation

The link between the learning outcomes and learning objects, from one side, and assessment versus evaluation, on the other side, is crucial. Assessment and evaluation process, in general, should consider the overt criteria, policy procedures and the marking load compared to the workload. For photography module and during the year offered in the author's university, the evaluation criteria have been developed to match the topic listed previously in Table 2. Notably, the assessment criteria have the characters of being ongoing, positive, individualised, provide, and feedback. The evaluation has the feature of being providing closure, judgmental, applied against standards, showing the shortfalls. Both the assessment and evaluation need evidence driven and overt criteria (Knaack, 2011; Wiggins & McTighe, 2005).

Generally, the evaluation criteria are classified based on the lesson learned in each phase of learning objectives. Further, the marking load is described elaborately. Specifically, the assessment in the site photography module is applied for the psychomotor and affective domain. So far, it is plausible to consider the evaluation criteria in the supposed evaluation of photography topics are tools of learning. The boost and/or build-up are, also, recognized in the students' feedback through the percentage of interviewees who give a voice for the ability of the arguing and critical thinking.

The course syllabus discusses the assessment criteria; listed in the second and the third submissions) the with the students consider and in some cases let them elect the way to critique his or her colleague. This correlation of feedback and the assessment is regarded as a decisive issue which enabled some students to recommend the course to others highly. Moreover, the real question raised in the class about the evaluation skills; the evidence is seen in the percentage of student who gives a voice of the importance of the arguing, self-criticism and critical thinking skills. This finding matches the argument raised by Norton (2004), Hornby (2003) and Gibbs (1999) of using the assessment criteria to increase the students' learning. Further, the balanced and comprehensive method to evaluate pedagogy would include many points brought from an extensive collection of teaching policy. Such a method would consist of not only student questionnaire, but also self-assessments, documentation of instructional outlining and design, evidence of scholarly activity to promote and boost education, and most importantly, evidence of undergraduate learning outcomes. However, that is not all. A holistic evaluation of teaching policy would be necessary to include various types of peer assessment, more commonly referred to as "peer observation."

The Regenerative Learning Process: Photography [with]in Urban Design

For being sustainable and regenerative in urban design as a discipline, the matter should be savvied in the adapting the change of the current and coming generations. In this, sustainable increase the value across the board in the long-term. In so doing, the 'value' here indicates to teaching and learning value (Neuman, 2015). By its power of being a 'theme-in-action, single-handedly directed the teaching policies and learning outcomes' (Neuman, 2015, p. 17). These spread the use of knowledge, understanding, perceiving and documenting the diverse settings. Further, the current findings match the concluded remarks of Lim et al. (2016) and (Loveless & Williamson, 2013) about the use of multi-sensory and multimedia to match the changes and attitude of the current generation. These two tools boosted the way persons see their lives, and this should change the way the lecturer or instructor teaches students. Besides, several blogs mansion the importance of media in highlighting the pros and cons of our cities (The Institution of Civil Engineers (ICE200), 2017); The School of Life, 2015) and how the image of the city should be and would be committed to students after their graduation. Photography and other media techniques will enable learners to nourish the visual skills and visual thinking as a pre-required for teaching and learning urban design discipline. The last indeed require such psychomotor domain: skills and doing.

CONCLUSION: A LONG-TERM VALUE

'Professors, students and practitioners often are amateur photographers of cities and planning. All of us could produce not only images but documents of long-term value' (Krieger, 2011, p. 317).



In architecture and urban studies, the matter is not how we can see things; instead it is how we perceive them in context and the vision of documenting them correctly. The necessities of photographers and urban designer unavoidably collide in the world of architectural photography. Though both professions qualify as art professions, designers and photographers manage to see things very differently. Urban designer form, three-dimensional spaces, while a photographer is concerned with only two dimensions and in some case the object, not the background. Architects like to see photos that contain a maximum of visual information and that convey the dimensional and tactile effects of the structure in a pure, unadulterated fashion.

A photographer's interpretation can use framing and composition to produce a very different impression of the same building—an idea that can be seen by the architect to have an adverse effect on the informational nature of the image. The point is, every architectural photo depicts an argument that can—from urban designer's point of view—compromise the authenticity and informational nature of built environment appearance. This contradiction makes it especially challenging for an architectural photographer to satisfy both individual and parties with a single photo. Within the module of photography and in reference to Urban Design programme/module comprised of the methods, tools and techniques and visual skills, visual skill could be embedded in the site visit, data collection, data analysis so on and so forth through short-, medium- and long-term interaction.

The critical thinking, creative thinking, communicating, collaborating and visual thinking, can contribute in the vague in urban design module and even the programme itself. The following key points are proposed. They are the results of teaching a photography module in urban design programmes, but could be suitable across different genres. The concluded six key factors, which foster the integrity of the two modules, includes:

- **Bottom-up teaching strategy:** Both photography and urban design education create outcomes derived from not only the cognitive and knowledge domain, but also the psychomotor, skills and attitude domain. Starting with the end in mind will let the module, lecture, and/or programme have deep focus on the intended learning outcomes.
- **The student has a role:** It is necessary to open up student participation in teaching policy by offering them choices on the format and outcome of a course. They may, for example, prefer to do an exhibit and be assessed in this manner. This will call upon various skills and diverse ways of learning to complete. These covers affective domain and alter the statute and feeling positive.
- **Knowledge alone is not enough for learners:** The psychomotor and affective domains are also important to let the student see places regularly visited differently and clearer. These two domains are a prerequisite for learning urban design.
- **Reflections and implications:** Visual documentation of the current context of cities/ towns have always played a significant role in the studies of urban morphology. It is geared toward understanding the meanings, defining baseline conditions, investigating, analysing the current misfits and envisioning the possibilities for the future. The method of documenting a visual setting, that includes techniques of digital media for the description of place during a short or long period of time, aside to its past, present, and future, have an essential role in morphological readings of cities or towns.



- **Bridging the gaps to an open end (breaking the circle):** Although the gaps in knowledge could be bridged easily, the affective domain makes the gap disappeared because learners and lecturers enhance co-teachers and co-learners in the practicability of these contemporary approaches.
- **Integration:** The integration of knowledge skills and attitudes across a wide range of disciplines and synthesising their qualities. In these insights, sustainability is an incubator for a combination that provides a vein for urban design to integrate different academic disciplines or trans them all outside the border of academia.

In sum, the focus of urban design teaching in the twenty-first century needs to move to development-oriented physical planning and design that covers not only the typomorphological and functional dimensions but also the perception and response of sensory cues. Therefore, photography is a teaching tool for seeing the environment that the urban designer manipulates. Urban design programmes should prepare forthcoming urban designers to understand adequately the outer context and the things that are seen.

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APPENDIX A

This questionnaire is designed by the author and produced on the [https://www.surveymonkey.com/r/5M6S5XT] and launched to a selected number of student.



Module Investigation: 'Site Photography & Documentation'

Thank you for agreeing to take a part in this survey. This survey aims to evaluate the skills gained in the course. It extends to how these skills are relevant to the intended field of specialization. This survey should only take 3 minutes to complete. Be assured that all answers you provide will be kept in strict confidentiality.

1 How likely is it that you would recommend this module to a friend or colleague?

NOT AT ALL LIKELY EXTREMELY LIKELY

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

2 How relevant are topics discussed in the course to your expected career?

- | | |
|--|---|
| <input type="radio"/> Extremely relevant | <input type="radio"/> Not so relevant |
| <input type="radio"/> Very relevant | <input type="radio"/> Not at all relevant |
| <input type="radio"/> Somewhat relevant | |

3 In regards to your academic program, this course is best described as

- | | |
|--|---|
| <input type="radio"/> In your major | <input type="radio"/> a program requirement |
| <input type="radio"/> In you minor | <input type="radio"/> an elective |
| <input type="radio"/> a distribution requirement | <input type="radio"/> other |

4 As one of the intended learning outcomes is seeing objects differently, how reachable was this goal?

- | | |
|--|--|
| <input type="radio"/> Extremely reaching | <input type="radio"/> Not so reaching |
| <input type="radio"/> Nearly reaching | <input type="radio"/> Not at all reachable |
| <input type="radio"/> Somehow reaching | |

5 Arrange the following topics based on importance

:: <input type="text" value="Camera techniques and shooting"/> <input type="checkbox"/> N/A
:: <input type="text" value="Documenting process (e.g. serial vision)"/> <input type="checkbox"/> N/A
:: <input type="text" value="Tips for good photos"/> <input type="checkbox"/> N/A
:: <input type="text" value="The link of photography in other disciplines"/> <input type="checkbox"/> N/A
:: <input type="text" value="How will your work be evaluated?"/> <input type="checkbox"/> N/A
:: <input type="text" value="Photo-participation in an event or workshop"/> <input type="checkbox"/> N/A

6 Aside from the understanding, practical and intellectual skills, the transferable skills gained by the end of the course are.....skill(s)

- | | |
|---|--|
| <input type="checkbox"/> communication | <input type="checkbox"/> agility and adaptability |
| <input type="checkbox"/> critical thinking | <input type="checkbox"/> curiosity and imagination |
| <input type="checkbox"/> visual | <input type="checkbox"/> self-assessing |
| <input type="checkbox"/> problem solving | <input type="checkbox"/> initiative and entrepreneurialism |
| <input type="checkbox"/> collaboration and leading with influence | <input type="checkbox"/> arguing |
| <input type="checkbox"/> Other (please specify) | |

7 Do you have any other comments, questions, or concerns?

