Belief and Intention towards Design Ethics among Design Undergraduates in Malaysian Higher Education Institutions

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Abstract. This paper reports on the findings of a study by design graduates on their belief and intention on ethical issues in the creative design industry. The study was conducted at two universities (University A and University B) in Malaysia, which included 120 undergraduates in design. A survey was conducted in which a questionnaire was distributed among respondents to determine their degree of agreement with respect to each argument in the questionnaire. The results of the data showed that the belief and intention of design graduates towards design ethics is poor, with the exception of the respondents of University A who have strong belief towards social, environmental and sustainability issues. These results indicate that a well-structured model of design ethics education and effective teaching mechanism for design ethics education should be in place. These would have an impact on students' belief and intention towards design ethics. As such, the research results serve as a cornerstone from which the current practice of teaching and learning of design ethics education can be more critically examined, so that more changes can be made to the existing curriculum that can help to develop designers with ethical characteristics.

Убеждения и намерения в области этики дизайна среди студентов бакалавриата в высших учебных заведениях Малайзии

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Аннотация. В этой статье представлены результаты исследования выпускников факультетов дизайна об их убеждениях и намерениях по этическим вопросам в индустрии креативного дизайна. Исследование проводилось в двух университетах (Университет А и Университет В) в Малайзии, в которых приняли участие 120 студентов, изучающих дизайн. Был проведён опрос, в ходе которого респонденты отвечали на вопросы анкеты для определения степени их согласия по каждой позиции анкеты. Результаты показали, что вера и намерения выпускников дизайна в отношении этики дизайна низки, за исключением респондентов Университета А, которые твёрдо верят в социальные, экологические вопросы и вопросы устойчивости. Эти данные говорят о необходимости хорошо структурированной модели обучения этике дизайна и соответствующего эффективного механизма обучения. Это повлияет на убеждения и намерения студентов в отношении этики дизайна. Таким образом, результаты исследования послужат предпосылкой критического рассмотрения текущей практики преподавания и образования, с тем, чтобы внести изменения в

существующую учебную программу для формирования у будущих дизайнеров необходимых этических ценностей.

Ключевые слова: этика дизайна, дизайнерское образование, студенты дизайна, творческая индустрия, вера, намерение

Introduction

In the economic development of a nation in the 21st century, Creative Industry is becoming an important field. Creative industries are the amalgamation of both information and advanced creative designs. This sector can be divided into three categories: (i) creative application, (ii) creative expression and (iii) creative technology, comprising of sectors such as art, film, digital, industrial innovation and so on. Particularly in this era, this sector is a fast-moving industry where users are very keen on the latest models and innovations.

Those who are attached to creative industries are primarily recognised as designers. Design is the rudimentary aspect of the Creative Industry (Collins) [1]. Van Laar et al. observed that the Creative Industry plays a critical role in shaping a nation's socio-economic growth that directly affects society [2]. Fahmi et al. believed that creative industries infiltrate many important aspects such as economy, culture, technology and, most importantly, social, eventually raising the role of designers in the Creative Industry from an individual who deals with creative production to an individual who plays a vital role in enhancing human well-being and environmental sustainability [3].

In view of the fact that the essence of the design profession directly affects society, designers must have sufficient principles and a sense of duty to preserve society's well-being from any damage that could be caused by unregulated growth in the Creative Industry. In addition to focusing on technical innovation and its related skills in this era of Industrial Revolution 4.0, it is also equally important to focus on building good values among future designers to contribute to a prosperous world in the future.

Future designers need to be prepared with basic knowledge, skills and values to accomplish this, so that they can strike an acceptable balance between their obligations to their careers and the well-being of the biosphere when they reveal themselves as designers in the profession. In this respect, ethics education in Creative Industry programmes in higher education institutions must be in place.

Ethics education plays an important role in educating future designers with knowledge of ethics, good principles and expertise to deal with ethical problems in the design field. In the context of Creative Industries, ethics may give the current and future designers the courage to tackle any ethical dilemmas that engulf society and ecological sustainability.

Marshall-Baker asserted that ethics played a central role in multi-dimensions aspects of design [4]. Chan asserted that designers' artistic outputs must have values and the values of each design are dictated by the ethical consideration that provided by the designers. During their – designers – studies, as undergraduates in higher education institutions, ethical principles in design need to be exposed and instilled among them [5].

Ethics is one of the core elements of the programme outcomes for Creative Industry programmes at undergraduate level in Malaysia which is clearly outlined in the standard of programme for accreditation. This is drawn up by the Malaysian Qualification Agency[1], which

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[1] MQA (2013). Programme Standard: Arts & Design. Available at: http://www2.mqa.gov.my/

is responsible for the accreditation of higher education institutions for the education programme. Ethics education in Creative Industry programmes is carried out in several ways in many Malaysian higher education institutions.

Chan cited that compared to other ethics education such as engineering, medicine and industry, design ethics education is still underdeveloped [5]. This can be seen in both curriculum creation and research projects related to education in design ethics which are scarce in the overall curriculum model of Creative Industry. Based on an overview of the curriculum structure of several existing higher education institutions offering Creative Industry programmes in Malaysia that has been carried out by the researchers of this study, we found that several institutions infuse the design ethical elements in the subjects related to law and other design subjects, including technical and non-technical courses.

Bauman and May found that an individual's thinking and actions on an issue are determined by their overall believing and intentions which mould his/her attitude towards a particular issue [6]. For the future designers who will be joining the workforce in the creative industries, it is important to equip them with the right belief and intentions towards design ethical concerns as strong belief and intention will produce positive mindset and action towards ethics.

Nonetheless, researchers such as Balakrishnan et al. have raised question about whether the knowledge, skills and values that earned in the ethics classroom effective enough in creating a person who can think and behave ethically [7]. From the educational lens, different teaching strategies can yield various benefits to the development of cognitive, psychomotor and affective learning domains among students (Delany et al.) [8]. Moreover, certain students who went through the course that imparting

QAD/garispanduan/2019/PS%20Art%20and%20 Design/8.%20PS%20-%20Art%20and%20Design_ BI%20-%20[FB].pdf (accessed 16.02.21)

the concepts of design ethics may not acquire the important values of the ethics because they learn the subject or topic just to fulfill the requirements for graduation.

Therefore, it is important to investigate whether the subject or topic of design ethics which are preached in Creative Industry programmes in Malaysian higher education institutions have established the right belief and intention towards design ethical issues among the design undergraduates.

Therefore, in this investigation, we aimed to assess and compare the belief and intention towards design ethics among design undergraduates of two Malaysian universities. This study is crucial because studies that measure the belief and intention of design undergraduates towards ethical issues are not a well-researched field. Moreover, there is a lack of studies that concentrate on design ethics that focuses in the context Creative Industry. The outcomes of this study might serve as a foundation for educators in Creative Industry programmes to establish an effective model of design ethics education and, at the same time, enhance their current learning and teaching practices in design ethics education.

Design ethics education for Creative Industries programmes in higher education institutions

Chan argued that in a radical design scenario-choosing who and what priority should be given, the designer should be able to face the problem or situation and make a good decision without sacrificing anyone – the employer, the client and society [5]. These specific ethical decision-making skills should be developed among designers during their undergraduate studies. Designers need to make critical and wise decisions, and it is crucial to ensure that the decisions made are ethical. Collins pointed out that ethics can provide designers with new possibilities where their inventions or creations are more important to the human race and at the same time protect the world [1]. This begins with a proper ethical attitude among the design-

ers who need to be instilled in their undergraduate education process.

Design by default has a projective perspective, with designers who have indulged in creative industries looking forward to changing the way the world perceives with experiences their creative outputs. D'Anjou stressed that the creations of the designer should benefit the mankind [9], while Cummings pointed out that the artistic outputs of the designer were primarily influenced by the demand of the people and, at the same time, shape the community on how they interpreted and used the designers' creations [10]. Creative Industry is becoming an important component not only of economic growth, but also of human well-being. Designers who are active in this field should also have the ethical values required to sustain their duty for humanity and the biosphere as a whole.

Taylor pointed to the fact that ethics is a collection of principles of social practice and is based on a professional code of conduct [11]. While Parsons stated that ethics is a set of principles of social practice and is based on a professional code of conduct [12]. Ethics plays a key role in moderating the action of a person to create or be effective with a sense of duty for all stakeholders who are directly and indirectly involved in his or her work. In the sense of the Creative Industry, ethics – to be exact, design ethics – will direct designers to decide the virtues and obligations in order to conform with the social norms and expectations demanded by the profession.

Design Ethics is a concept of morality in practices that engulfs the rudimentary knowledge that leads a designer to assess, explain and direct his/her creative production [5]. Ethics is largely based on universal philosophies such as utilitarianism, deontology and virtue ethics [13]. The ethical education model for other fields, such as engineering, medicine and industry, is also based on these theories.

In the scope of design ethics, the model of education implemented in higher education institutions should be capable of creating future designers who have both innovative skills – gained

via technical and non-technical subjects – and good ethical principles. This is important for these aspiring designers to develop outputs that could benefit all relevant stakeholders, including society and the community at large.

Thus, the infusion of ethics and its fundamental knowledge, skills and values must start from higher education institutions where prospective designers are developed to serve the Creative Industries in near future. Future designers should have a proper ethical behavior that can only be achieved by proper education. It is the responsibility of higher education institutions that offer Creative Industry-related programmes to spearhead a vision for the development of holistic and responsible designers.

Design ethics education in the University A, Malaysia

The University A is a private university in Malaysia offering different undergraduate programmes in the creative field. One of the main goals of this university, especially for Creative Industry programmes, is to encourage creative activities to stakeholders through a sustainable approach, and graduates should have the expertise and skills required to build a creative and ethical range of creative outputs. There is no dedicated subject for design ethics at the University A, but the ethical aspects are taught in two subjects – Communication Law and Sustainability Design.

In the course of Communication Law which is taught in year one, the design ethics elements have been exposed in the following topics:

a. Communication and Media Ethics;

b. Media Professionals' Role and Responsibilities;

c. Ethics in Media and Communications.

This course is a two credit hours subject in which it is conducted via lecture and tutorial classes.

While on the second course, Design for Sustainability, this topic focuses on creative sustainable design concepts. This course is being taught in the first semester of their final year. The design undergraduates need to develop a
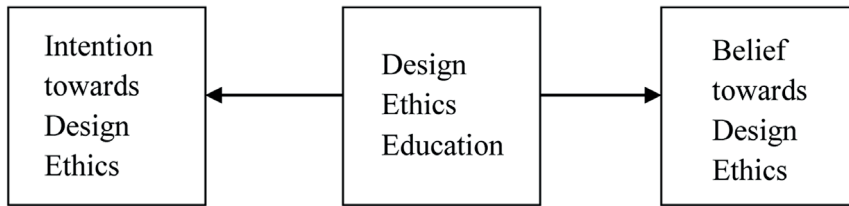
Intention towards Design Ethics		Design Ethics Education		Belief towards Design Ethics

Fig. 1. Research Model of the Study

project addressing community issues that take sustainability into account. Design graduates will go to the public and figure out the issues and come up with ideas – solutions – via their innovative prototypes and creative designs.

Design ethics education in University B, Malaysia

The University B is also a private higher education institution offering several programmes related to the Creative Industry. There is no subject explicitly allocated to educate design undergraduates on design ethics at this university, but a component of ethics is incorporated in a subject called Media Law that is provided in year three semester one.

This subject consists of three credit-hour classes, which are split into two-hour lecture class and one-hour tutorial class each week. The pedagogical approach is more focused on the traditional approach of teacher centered learning. There is an assignment that the undergraduate designers need to carry out as part of their coursework in this course. The main focus of the assignment was on problem-based learning dealing with media law and its related activities.

Research model and methodology

Design Ethics education aims to equip the future designers with the appropriate and sufficient knowledge, skills and values that may mould their attitude and behaviors towards design ethical issues. The future designers should be committed towards ethical issues and this highly depends on their belief and intention towards ethical issues. Nonetheless, it is questionable whether ethics education has the capacity to develop appropri-

ate belief and intention towards design ethics among the learners.

Azjen [14] and Perloff [15] pointed out that belief and intentions could be influenced by the quantum of knowledge that acquired by an individual. Wyer and Albarracin [16] cited that belief influences an individual's value, state of mind and opinion and at the same time, intention is a state of mind that drives an individual's action [17]. Flowerree cited that both belief and intention are inter-linked whereby someone's belief will determine the intention and action ultimately [18]. Belief and intention are agential whereby according to the value expectancy model which emphasized that belief influences someone's intention to act [14].

Thus, belief and intention towards ethics of a person highly depend on the knowledge that is gained in ethics classroom. Moreover, in the context of ethics, the aspect of belief and intention plays a pivotal role in molding person's characteristics and his/her practices towards the ethical issues.

In this study, the design ethical concepts that have been gained by the respondents from the related courses and the pedagogy mechanism that have been practiced by the educators could affect the learners' belief and intention towards design ethical issues. *Fig. 1.* shows the research model of this investigation.

120 design final year students from each investigated university, the University A (sixty students) and University B (sixty students), were recruited to be the participants in this investigation. All the respondents were pursuing their undergraduate study in various Creative Industry programmes such as Media Design, Games Design, Animation and Advertising.

The participants of the study were chosen via stratified sampling. The criteria that have been used to select the respondents are as followings:

(a) The sample must be in their final year.

(b) Completed the subject(s) that related with the design ethics.

(c) Have achieved at least 75% marks in the course(s) that is mentioned in (b).

Both the lecturers and administrators of both universities gave their full support throughout the data collection process of this investigation.

The questionnaire to assess the belief and intention towards design ethical issues was constructed. The questionnaire survey items were derived from the study of Leiserowitz et al. [19]. The survey items that were used in Leiserowitz et al. gauging the level of belief and intention towards sustainable development. Therefore, in order to suit the need of the study, the survey items of the questionnaire were modified so that focusing on design ethics in creative industries.

Each statement of the questionnaire uses 5-point Likert Scale with the agreement that value 1 represents "strongly disagree" and 5 indicates "strongly agree".

The survey questionnaire was approved by four experts − two design educators and two design professionals who possess more than 15-year experience in their respective profession in the field of Creative Industry.

Pilot study was carried out among 25 final year design undergraduates of the University C, Malaysia to assess the reliability of the questionnaire. The co-efficient reliability value (Cronbach Alpha Value) that gained was 0.873 for Belief construct and 0.847 for Intention construct in which both values are deemed to be reliable [20].

Results and Discussion

The data of the survey were analyzed using SPSS − Statistical Package for Social Science − for both descriptive and comparison analysis. The respondents of the study answered all the items in the questionnaire with 100% responses. The data collected were normally distributed and it justifies the use of paired two tailed t-test for each statement in the questionnaire for the comparison study.

The reliability co-efficient (Cronbach Alpha Value) for Part A − Belief − was 0.867 while Part B − Intention − was 0.825 deemed to be reliable [20].

Table 1 depicts the mean score (M) and standard deviation (SD) of both design undergraduates of University A and University B. *Table 2* shows the t values that generated from the paired two tailed t-test.

Referring to the Table 1 − Part A − items that measure the belief on the design ethics, the mean scores for items A1 to A6 ranged from 2.52 (SD=0.17) to 4.76 (SD=0.10) for the responses from the students of University A. While for the students of University B, the mean scores for item A1 to A6 ranged from 2.25 (SD=0.25) to 2.75 (SD=0.13).

For Part B which dealt with intention towards design ethical issues (referring to Table 1), the mean scores for items B1-B6 ranged from 2.53 (SD=0.17) to 3.32 (SD=0.06) for the respondents from the University A and for the respondents from the University B, the mean scores ranged from 2.21 (SD=0.13) to 3.01 (SD=0.23).

Referring to the Table 2, the analysis examining the differences between the responses of the students from the University A and the respondents from the University B for the belief and intention towards design ethical issues revealed that all the items in both Part A and Part B were not statistically significant expect for items A1, A2 and A6, which indicates that both groups' responses were significantly different.

The overall results of this study showed that the respondents from both universities − the University A and University B − have a lack of belief and intention towards design ethics due to the low mean scores that recorded via the survey questionnaire. It is clear that the course(s) that taught are not efficient in imparting the concepts of design ethics to the respondents of the study.

It is also worth to take note that the findings of the study showed that the belief towards de-

Table 1

Mean scores and standard deviations of the survey questionnaire

Statement	Mean Score / SD (University A)	Mean Score / SD (University B)
Part A − Belief		
A1: I feel more ethically obliged to do something for the society.	4.53/0.11	2.30/0.21
A2: I feel more ethically obliged to do something for environmental issues.	4.46/0.13	2.75/0.13
A3: I think I should be responsible towards design ethical issues in creative industry.	3.05/0.17	2.34/0.20
A4: I believe that designers should be accountable on their creative creations.	2.41/0.23	2.32/0.18
A5: I believe in the significance of ethics in my designs.	2.52/0.17	2.25/0.27
A6: I think it is essential to take care of sustainability issues as a designer.	4.76/0.10	2.56/0.17
Part B − Intention		
B1: I prefer to work in the environment that gives importance towards design ethics.	3.02/0.06	3.01/0.23
B2: I intent to be a designer who possesses good ethical values.	2.53/0.17	2.21/0.13
B3: I prefer to work with someone who has ethical values.	2.72/0.15	2.36/0.23
B4: I will promote the importance of design ethics among my peers.	3.05/0.23	2.35/0.15
B5: I will utilize appropriate technology in my designs.	2.94/0.07	2.78/0.15
B6: I will apply the design ethical concepts when taking decisions on my creative creations.	3.07/0.11	2.38/0.25

Table 2

t values of paired two tail t-test

Statement	t-value
Part A − Belief	
A1: I feel more ethically obliged to do something for the society.	4.17[*]
A2: I feel more ethically obliged to do something for environmental issues.	4.23[*]
A3: I think I should be responsible towards design ethical issues in creative industry.	1.36
A4: I believe that designers should be accountable on their creative creations.	1.20
A5: I believe in the significance of ethics in my designs.	1.53
A6: I think it is essential to take care of sustainability issues as a designer.	4.86[*]
Part B − Intention	
B1: I prefer to work in the environment that gives importance towards design ethics.	2.11
B2: I intent to be a designer who possesses good ethical values.	1.72
B3: I prefer to work with someone who has ethical values.	1.53
B4: I will promote the importance of design ethics among my peers.	2.25
B5: I will utilize appropriate technology in my designs.	2.17
B6: I will apply the design ethical concepts when taking decisions on my creative creations.	1.78

[*] $p < 0.05$

sign ethical issues for the respondents from the University A were positive (high mean scores, more than 4.0) on the items gauging the belief towards society (item A1), environment (item A2) and sustainability (item A6) issues. Moreover, referring to the t-values in Table 2, there were significant differences in the responses among the respondents from the University A and University B for items A1, A2 and A6.

This may be contributed by the course 'Design for Sustainability' that was enrolled by the respondents of the University A in their first semester of the final year. Reflecting to the themes

and pedagogy mechanism of the subject, the subject has successfully developed the positive belief towards society, environment and sustainability issues which are important in design ethics. The design projects carried out by the students have proved to give good impact to the students on those issues. Salam et al. found that the project-based learning that involves community could facilitate in building the spirit of responsibility among the learners towards societal well-being and environment protection [21]. This is an important value that a designer should possess in carrying out his/her daily professional activities.

Thus, introducing the fundamental elements of design ethics via different courses has proved not to be efficient enough in cultivating the belief and intention towards design ethical issues. Although in the case of the University A, the respondents have recorded high mean scores (mean ratings 4.46 to 4.76) for the belief towards social, environment and sustainability issues. Therefore, the higher education institutions in this study should put effort in developing a dedicated subject that specifically concentrates on design ethics that could disseminate the necessary knowledge, skills and values among the design undergraduates pursuing their studies in creative industries programmes.

It is pivotal for the future designers to equip themselves with the proper belief and intention towards design ethics as the creative industries are progressing at high pace. Moreover, in this time of pandemic of Covid-19 virus, the role of designers is becoming crucial especially in serving the society through their innovations that should protect the well-being of mankind and biosphere. This is where the design ethics education becomes a pivotal element in developing the sense of responsibility among the future designers.

Future designers must be equipped with the necessary ethical characteristics in order to be responsible designers who can make ethical decisions in the creative design process. Based on the findings of this study, it is clear that the ethical consideration and action in creative design

among the undergraduates in creative industry programmes were not encouraging.

Overcoming this issue entails effective approaches and methodologies of design ethics education to develop holistic designers who have sound technical knowledge, creative skills and good ethical characteristics. All related stakeholders should come hand in hand to bring in an effective design ethics education in every classroom in creative industry related programmes.

The following is the list of strategies and approaches that can instill ethical values among the future designers:

(i) Higher education institutions should focus on developing a dedicated subject of design ethics that impart the rudimentary and important concepts of design ethics among the undergraduates. The model of subject should cover all learning domains which are cognitive, psychomotor and affective. At the same time, the subject must concentrate in embedding design ethical issues specifically in the area of creative industries. As suggested by Chan, sustainability, technology and responsibility are the vital elements in design ethics education since these are the elements that designers commonly dealt with in their daily professional activities [5]. Besides those elements, cultural element also should be included since design practices in creative industries strongly bind with the cultural aspects [22]. Thus, the proposed design ethics education model should have the elements of (a) Sustainability, (b) Technology, (c) Responsibility and (d) Culture.

(ii) In the design ethics education, design ethics educators should incorporate numerous pedagogy strategies that could impart the knowledge, skills and values of ethics more effectively to the learners. From this study, it is found that project-based learning that involves community which is known as service learning had a good impact on the respondents' belief and intention on the related issues of the subject matter. The teaching strategies should be applied accordingly to learning outcome intended to achieve. Various methodologies integrating multi and transdisciplinary approaches to teaching design

ethics provide a range of activities to enhance the engagement and development of the undergraduates as responsible designers. Several educational innovations have been developed to improve the instructions for ethics education in various disciplines. For an example in engineering ethics education, Zhou et al. used an innovative problem-based learning environment to teach ethics to engineering students [23]. In addition, Hoover et al. [24] developed an interdisciplinary course that incorporates both technological and ethical components; on the other hand, Lathem et al. [25] applied service learning in the teaching and learning phase of engineering ethical education. These techniques have proved to develop the learners' ethical values.

The examples of teaching methods listed above underscore the efforts of educators to develop the current teaching and learning practice of ethics education. In this regard, it is important for higher education institutions to equip design students with adequate ethical knowledge and understanding that will enable them to become responsible and ethical designer in the future.

(iii) Professional bodies related to creative industries play a vital role in promoting the importance of design ethics among the undergraduates. Professional designers may actively participate in helping to promote the need of ethics among the undergraduates through guest lecture activities. Guest lecture approaches involving professionals to share their experiences dealing with ethical issues can provide better view to the students on the importance of ethics in design activities. This activity will be able to build a right mindset towards ethics among the design students. Thus, the involvement of professionals and professional bodies can stimulate the motivation among the undergraduates to learn ethics and appreciate the role of ethics in design professions.

Conclusion

This investigation has led to an evaluation of the belief and intention of Malaysian design students pursuing their undergraduate studies in creative industry programmes in two universities on ethical issues. The findings have shown that the belief and intention on ethical issues is poor in several dimensions of ethical issues, but the undergraduates of University A, Malaysia have a positive belief in ethical issues related to the dimensions of society, environment and sustainability.

In this fast-growing age, potential designers need to be prepared with the required characteristics that could lead them to be designers with the required ethical principles and, most importantly, to be responsible designers for society in the future. This can be done by the proper design of an ethical education model in the curriculum of creative industry programmes.

Higher institutions that do not establish ethics education in place should begin to think about a proper model about design ethics education to be applied in the classrooms of creative industries. Successful design ethics education will dictate the outlook of potential designers to the ethical problems they will face in the industry after they have graduated.

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