

# A Market Study on the Effectiveness of Diploma of Art and Design, Industrial Design (DIDE) Programme towards Students' Early Academic and Career Development

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## ABSTRACT

Universiti Teknologi MARA or known as UiTM offered various academic programmes for the undergraduates and postgraduates study in Malaysia. In 2000, UiTM introduced the Diploma Programmes offering to 'Sijil Peperiksaan Malaysia' SPM holders. The Diploma Programmes served as a platform for *Bumiputera* students to further their higher academic education and prepare them for the professional careers in the field of science and technology, social sciences and humanities, and business and management. The academic programme of Industrial Design is one of the areas introduced under the Faculty of Art and Design since the early development of ITM before UiTM. This programme is offered for almost 50 years, in line with the industries demand. In search of the relevancy of the programme offered, a market survey and interviews were conducted involving alumni and industry expertise in this study. The results indicated the current DIDE programme curriculum is relevant and matches with the industrial needs. This study suggests for the DIDE programme to be updated with the current needs and the results lend further weight, will improve and strengthen the curriculum design.

**Key Words:** Industrial Design, Diploma Courses, Curriculum Design, Art and Design

## INTRODUCTION

Design discipline as mentioned by Cross (2001) includes Industrial Design as one of discipline combining an industrial technology, production technology system and society which involves the process from idea to industrial production. In another term, Industrial Design encompasses designing an innovative product to generated or produced from the industrial process (Nigel Cross, 1982). Supporting to this, as stated by (Bajuri, 2007), this discipline involves a practice of analysing, creating and developing products for mass-manufactured where it aims to achieve forms and functionality before extensive investments can be made by the stakeholders. Industrial Design is one of the biggest services in the world that corroborated our lives, from the clothes that we're wearing until the bed that we're resting and sleeping in, by completing arduous chores or even easy daily routines. From the revolutionary days until today, Industrial Design has developed to be a diversified design field that not only caters to produce products, furniture, automotive but other high-technology products. It is true, without the collaborative knowledge with the engineering and science expertise, most industrial design products might be a lifeless encase, but, with the assistance of Industrial designers, most products in the market nowadays are more meaningful intrinsically and not only be seen for its functionalities nor the beautiful forms.

The Malaysian Government supports and endorses the design discipline as one of major factors contributed to the economic growth with the establishment of the Malaysia Design Council known as 'MRM' *Majlis Rekabentuk Malaysia* in 1996, under the Ministry of Science, Technology and Environment. This spearhead the government initiative for Vision 2020 in making Malaysia as an industrialised nation (Bajuri, 2007). Within this initiative, the National Policy of Creative Industries was introduced along with The Action Plan of Malaysian Higher Ministry Education. The Higher Education Entrepreneurship Development Policy helps to enhance the policy with the primary goals of generating high-quality human capital which equipped with entrepreneurial thinking, attributes, and values. Hence, it will produce more entrepreneurs graduate to act as catalysts for the economic transformation (Ministry of Malaysian Higher Education, 2007). In realising this vision, the government expected the creative industry to contribute at least RM33 billion towards the Gross National Income (GNI) by the year 2020. The improvement was seen as this industry contributed RM9.4 billion equivalent to 1.27 percent of the GNI with a workforce of 45,000 in 2008. It gradually increased to 5.8 percent from of a workforce of 100,000 in the year of 2010 (Bernama, 2016).

This study was done to investigate the alumni's opinion and suggestion towards the demand of this programme. The discussion draws on the literature of Industrial Design in Malaysia generally, and UiTM specifically intends to refer in academic literature and the curriculum review supporting documents.

## **HISTORY AND BACKGROUND OF INDUSTRIAL DESIGN IN UITM**

Industrial Design Department under the Faculty of Art and Design (FSSR) founded in 1967, known as the oldest faculty in Malaysian universities which offered a diverse Art and Design programmes to the Bumiputera students. The School of Art and Design was separated from the School of Architecture in 1972 to become the School of Art and Design where the Department of Industrial Design was established (Marzuki Ibrahim, 2005).










The other public universities which offered the Industrial Design Programme are Universiti Teknologi Malaysia (UTM), Universiti Malaysia Sarawak (UNIMAS), Universiti Putra Malaysia (UPM), Universiti Islam Antarabangsa (UIA), Universiti Sains Malaysia (USM), Universiti Darul Iman Malaysia (UDIM) and Universiti Malaysia Kelantan (UMK). Private universities which offered this course are Universiti Kuala Lumpur (UNIKL), Lim KokWing University of Creative Technology, Centre for Advanced Design (CENFAD) and Malaysian Institute of Art (MIA) (Alli & Abdul Rahman, 2008).

In UiTM, two more branch campuses were offered Diploma Programme of Art and Design (Industrial Design) (DIDE) which are in Sungai Petani branch Campus, Kedah was opened in 2002 and Alor Gajah branch Campus, Melaka in 2010. The main and branch campuses are equipped with high technology machinery such as Rapid Prototyping Machine (RP), Computer Numerical Control machine (CNC), and other machinery which enabled students to produce and explore technologies and materials in designs (Md Hashim, Zainal Abidin, Zainuddin, & Abd Majid, 2006).

## **SPECIALIZATION IN INDUSTRIAL DESIGN**

Art and Design are interrelated regarding making and appreciation. Design means to give attention to aspects of technology, planning and function. According to the Malaysian Qualification Agency (MQA) (2013), the main programme in Design consists of 1) Textile Design; 2) Fashion Design; 3) Ceramic Design; 4) Fine Metal Design; 5) Industrial Design; 6) Graphic Design; 7) Creative Multimedia; 8) Photography; and 9) Printing Technology. Mainly, Industrial Design specialisations offer by UiTM are divided into three categories consists of Product Design, Furniture Design and Transport Design. Product design focuses more on daily product ranging from home usages to working environments. While Furniture Design focuses more on movable objects that can hold weight and aid human activities.

Lastly, Transport Design concentrates more towards the styling and appearance of automotive design. Table 1 below shows the sample of design works produced by the previous and current students from Industrial Design programme in UiTM Kedah.

<p>Product Design</p>	 <p>Kitchen Utensil</p>	 <p>Headphone</p>	
<p>Furniture Design</p>	 <p>Lounging Chair</p>	 <p>Coffee Table</p>	
<p>Transport Design</p>	 <p>Aircraft – DraSky</p>	 <p>Volvo Bulldozer</p>	
<p>Sample of Rendering Technique Artworks</p>			

	Armchair – mixed media	BMW – mixed media	Watch – grey markers/ mixed media
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**Table 1: Sample of students’ artworks. Source: Authors’**

**Worldwide View on Industrial Design Education**

Industrial design as defined by Industrial Design Society of America (IDSA) is:  
 “A discipline historically known for creating products and systems that optimize function, value and appearance for the mutual benefit of stakeholders involved. It has thrived in recent years—as many other disciplines recognize the value of ID in cross-disciplinary collaboration and innovation efforts.” (Industrial Designers Society of America - IDSA, 2017)

Moreover, the definition of industrial design has been expanded and according to [International Council of Societies of Industrial Design](#) (ICSID) in (World Design Organization (WDO), 2017) as:

“... a strategic problem-solving process that drives innovation, builds business success, and leads to a better quality of life through innovative products, systems, services, and experiences. Industrial Design bridges the gap between what is and what’s possible. It is a trans-disciplinary profession that harnesses creativity to resolve problems and co-create solutions with the intent of making a product, system, service, experience or a business, better. At its heart, Industrial Design provides a more optimistic way of looking at the future by reframing problems as opportunities. It links innovation, technology, research, business, and customers to provide new value and competitive advantage across economic, social, and environmental spheres” (World Design Organization (WDO), 2017).

Tauke as cited by Yang, You and Chen (2005) listed the trends of the industrial design practices that affect the industrial design education nowadays; 1) *Emerging of new technologies increased the usage of digital media, and has changed the presentation methods of sketching, rendering, model making and technical drawings* – with the immense usages of CAD and 3D drawings shown that the students must be equipped with this knowledge and skills as the essential requirement for their further education and career development. This knowledge-skills need to be aligned with the industries requirement as it is part of the well-known and a vital design process, 2) *The boundary between design disciplines is fuzzy, which makes it necessary for designers to understand other design fields and interact more with other disciplines* – more studies from different areas were explored, and it is important for the students to be aware of the real design issues that are relevant to the design process although it’s not purely from the design fields. This contributes to the cross-study of industrial design with other fields; 3) *There is a need for interdisciplinary teamwork involving not only the traditional issues of physiology, materials and technology related to product development but also user research and lifestyle trends before the product development and social, psychological and ideological issues* – with the collaboration of people from the different expertise, the designs that are developed can be further enhanced and expanded (from its functionality, materials and technologies usages, etcetera.); 4) *The expanded definition of products concerns not only the specific functions for individual*

*products but also the system composed of various products and the interfaces among parts* – products were designed to have more functions not only to make things more easier but to save costs and time; and 5) *There is an increasing dependence on online resources, and the internet has become a tool to deliver teaching, learning, interaction and communication among students, faculty and practitioners* – information and knowledge are beyond the boundary, as the vast usages of the internet and network increases the knowledge sharing around the world.

**DIPLOMA PROGRAMME IN INDUSTRIAL DESIGN IN UITM**

Industrial Design Diploma courses designed according to the programme standard of diploma in art and design requirement of Malaysian Qualification Agency (MQA). Diploma standard was based on level 4 under the area of Design which focusing on aesthetics, concept, function, creativity and innovation (Malaysian Qualification Agency, 2013). Specifically, Diploma programme requires outlining by providing graduates with the related broad-based knowledge, equipped with advanced skills, entrepreneurship, creativity and innovation, visual expression and communication in art and design. These qualities will contribute towards the creative industry as well as towards their lifelong learning.

Diploma graduates according to the programme standards guideline are expected to; 1) demonstrate broad-based knowledge and advanced skills in the area of specialisation; 2) produce creative and innovative artworks; 3) demonstrate an ability to articulate and document workflow; 4) demonstrate an understanding of visual literacy and communication; 5) be able to use information from a variety of sources; 6) demonstrate professionalism in accordance with ethical and legal principles; and 7) apply the skills and principles of lifelong learning in their academic and career development.

The programme duration offers for Diploma in Industrial Design in UiTM is two and half years, and the students may further their study to Bachelor of Honours (BA Hons) in Industrial Design Programmes or any other programmes subject to the programme requirements. Table 2 below shows the current Diploma Programme aims and objectives.

Name of Programme	Diploma in Art and Design (Industrial Design)
Level	Diploma
Duration	2.5
Location of Programme	UiTM Kedah UiTM Melaka
Programme aim	The programme aims to demonstrate knowledge and skills for Bumiputera Industrial Designers, who will practice appropriate design processes towards the synchronisation of both industry and further academic pursuits which are essential for them to be equipped with.
Programme Objectives	<ol style="list-style-type: none"> <li>1. To produce Industrial Design apprentices with basic knowledge &amp; technical skills alongside outstanding performance in industrial design specialisation.</li> <li>2. To produce Industrial Design apprentices who are able to respond and acknowledge the design practices, equipped with relevant skills and attitudes and will be able to value and communicate the design effectively.</li> <li>3. To produce Industrial Design apprentices who are able to perform, initiate design practices and work alongside with the design industries professionally.</li> </ol>



**Table 2: Programme's aim and objectives**

The design curriculum course was recommended to apply the teaching and learning models of Inquiry Learning Model (ILM), Problem-Based Learning (PBL) and Integrative Learning. ILM is a model of fundamental to Visual Art which emphasises on the investigation process as well as the image or object production. This model intends to develop students via investigative and thinking skills in order to contribute their participation on aesthetic ability. It includes four processes consists of researching, developing, resolving and reflecting (Queensland Studies Authority, 2007).

The Problem-Based Learning (PBL) model was concentrated in promoting lifelong learning skills development in the form of open-minded, reflective, critical and active learning. This model facilitates the acquisition of problem-solving, communication, teamwork and interpersonal skills attributes which are sought after the related industry (Tan, 2003). While, Integrative Learning (IL) emphasised on fun learning process which focuses on creativity, multiple intelligences, and the global and analytical abilities of the students. These models were incorporated into the curriculum design as teaching and learning models in producing highly qualified graduates.

Table 3 below shows the samples of Body of Knowledge for Industrial Design programme which was incorporated into the curriculum design of Industrial Design Diploma Programme offered in the UiTM (Malaysian Qualification Agency, 2013).

No.	Areas / Academic programme	Body of knowledge
1		Computer-Aided Industrial Design
2		Design Management and Product Strategy
3		Drawing
4	Industrial Design	Visual Culture
5		Material and Manufacturing Processes
6		Model Making
7		Rendering Techniques
8		Workshop Practice

**Table 3: Samples of Body of Knowledge for Industrial Design areas/programmes**

The courses offered for Industrial Design Diploma Programme offered in the UiTM can be seen as indicates in Table 4 below. There are 19 courses offered for semester one until five. Three (3) courses must be completed by semester one consists of 1) IDT 112 – 3D Modelling and Techniques I; and 2) IDT 113 – Sketching and Rendering Techniques; and 3) IDT116 – Technical Drawing. During Semester two, four courses must be commenced 1) IDT160 - Introduction to Industrial Design; 2) IDT162 – 3D Modelling and Techniques II; 3) IDT163 – Digital Sketching and Rendering Techniques; and 4) IDT165 – Computer-Aided Industrial Design I. Continued in semester three, six courses must be completed are 1) EAD214 – Presentation Sketching; 2) IDT203 – Material and Manufacturing Technology; 3) IDT205 – Ergonomics; 4) IDT206 – Furniture Structure and Construction; 5) IDT207 - Vehicle Styling; and 6) IDT252 – Computer-Aided Industrial Design II. During semester four, five courses must be commenced consists of 1) EAD 254 – Presentation Rendering; 2) IDT 260 – Industrial Design Specialization I; 3) IDT 261 – Diploma Project I; 4) IDT 262 – Advanced 3D Modelling and Prototyping; and 5) IDT 263 – Professional Design Practice.

Finally, during the final semester, three courses must be commenced, which are 1) IDT310 – Industrial Design Specialization II; 2) IDT311 – Diploma Project II; and 3) IDT314 – Project Presentation Techniques.

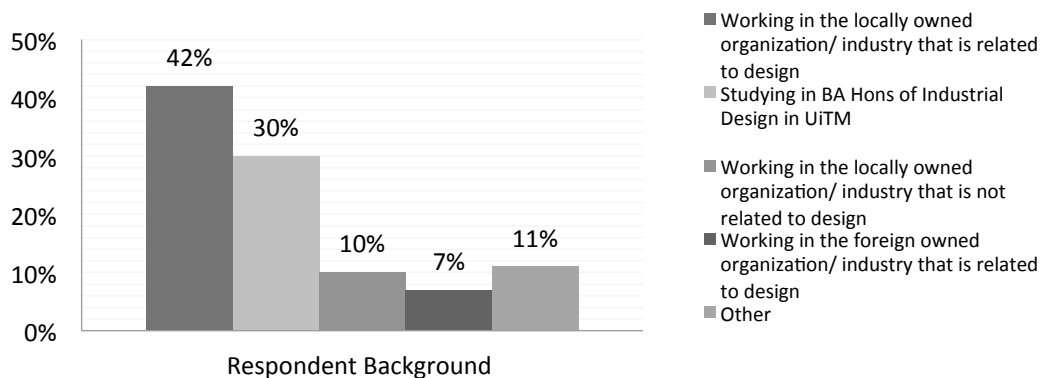
<b>Year</b>	<b>Semester</b>	<b>Course Code</b>	<b>Course Credit</b>	<b>Course Name</b>
1	1	<b>IDT 112</b>	2	3D Modelling and Techniques I
		<b>IDT 113</b>	2	Sketching and Rendering Techniques
		<b>IDT 116</b>	3	Technical Drawing
	2	<b>IDT 160</b>	3	Introduction to Industrial Design
		<b>IDT 162</b>	2	3D Modelling and Techniques II
		<b>IDT 163</b>	2	Digital Sketching and Rendering Techniques
		<b>IDT 165</b>	2	Computer Aided Industrial Design I
2	3	<b>EAD214</b>	2	Presentation Sketching
		<b>IDT203</b>	2	Material and Manufacturing Technology
		<b>IDT205</b>	2	Ergonomics
		<b>IDT206</b>	3	Furniture Structure and Construction
		<b>IDT207</b>	3	Vehicle Styling
		<b>IDT252</b>	2	Computer Aided Industrial Design II
	4	<b>EAD 254</b>	2	Presentation Rendering
		<b>IDT 260</b>	3	Industrial Design Specialization I
		<b>IDT 261</b>	3	Diploma Project I
		<b>IDT 262</b>	3	Advanced 3d Modelling and Prototyping
	<b>IDT 263</b>	2	Professional Design Practice	
3	5	<b>IDT310</b>	5	Industrial Design Specialization II
		<b>IDT311</b>	5	Diploma Project II
		<b>IDT314</b>	2	Project Presentation Techniques

**Table 4: Courses offered for Diploma in Art and Design (Industrial Design)**

### ONLINE QUESTIONNAIRE

An online questionnaire with five (5) sections was developed to gather information from the Alumni of Diploma in Art and Design (Industrial Design). *Section A* was developed for the respondent background; only 1 question was designed for this section that asking on the alumni current working or education status. *Section B* is for Cognitive domains where it focused more on the outcomes of basic theories and practices of Industrial Design. *Section C* is for the Affective domain which designed for the outcomes of values, attitude, and motivations towards basic practices in Industrial Design. Moreover, *Section D* is a Psychomotor domain which focused on the skills and execution techniques of Industrial Design basic practices. Finally, *Section E* intended to gain feedback on the effectiveness of the Diploma in Art and Design (Industrial Design) programme in UiTM. The survey involved a total of 100 respondents ( $N=100$ ) from the alumni from the year 2000 until 2016. For brevity only selected highest or lowest results in each section are discussed in this paper.

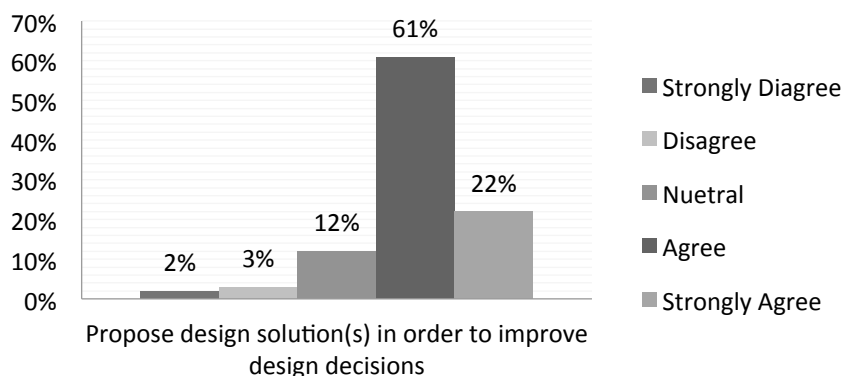
#### Section A: Respondent Background



**Figure 1: Respondent background**

As illustrated in Figure 1 above, it shows that 42% of the alumni are currently working in the locally owned organisation/ industry that is related to design. Thirty percent (30%) of the alumni are currently studying in BA Hons of Industrial Design in UiTM while (7%) Working in the foreign-owned organisation/ industry that is related to design. However, only 10% are now working in the locally owned organisation/ industry that is not related to design.

#### Section B: Cognitive Domains: outcomes of basic theories and practices of Industrial Design

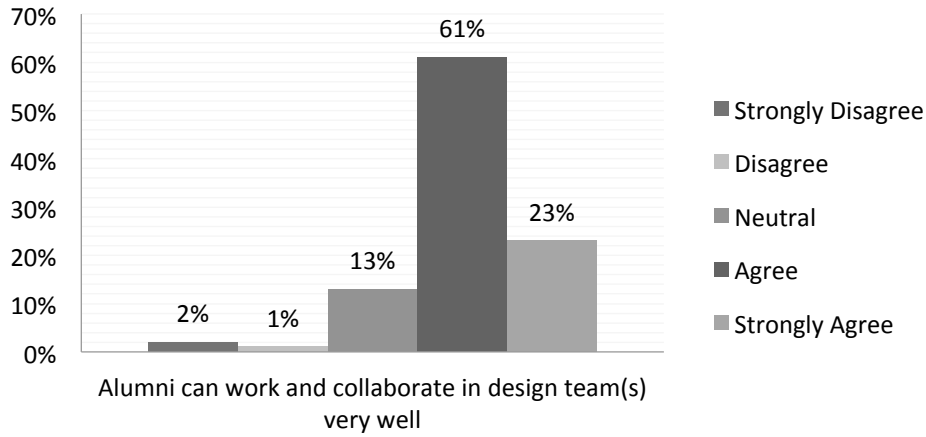


**Figure 2: The alumni can propose design solution(s) in order to improve design decisions**



Eighty-three percent (83%) of the alumni can propose design solution(s) in order to improve design decisions as shown in Figure 2 above.

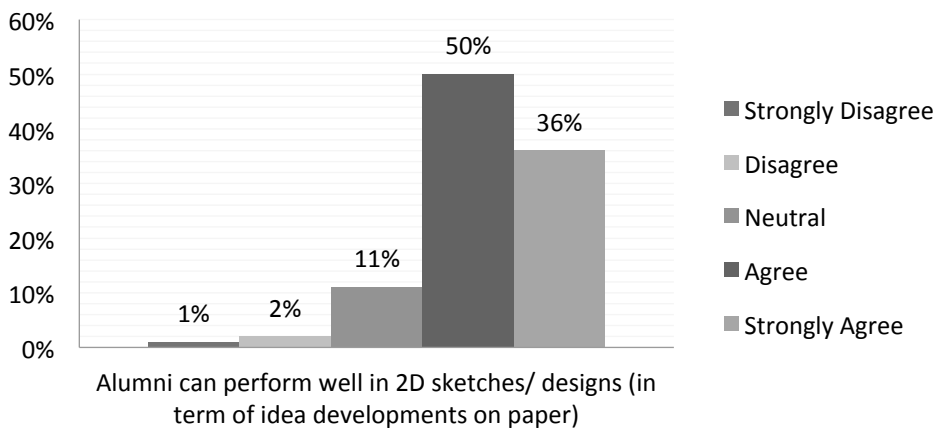
Section C: Affective Domain: outcomes of values, attitudes, and motivations towards basic practices in Industrial Design



**Figure 3: The alumni can work and collaborate in design team(s) very well**

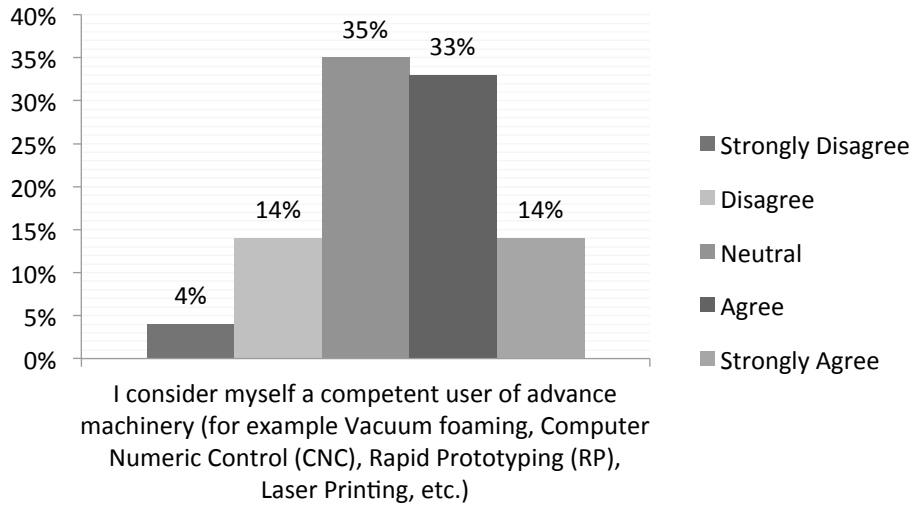
As shown in Figure 3 above, 84% of the alumni can work and collaborate in design team(s) very well.

Section D: Psychomotor Domain: outcomes on the skills and execution techniques of Industrial Design basic practices.



**Figure 4: The alumni can perform well in 2D sketches/ designs (in term of idea developments on paper)**

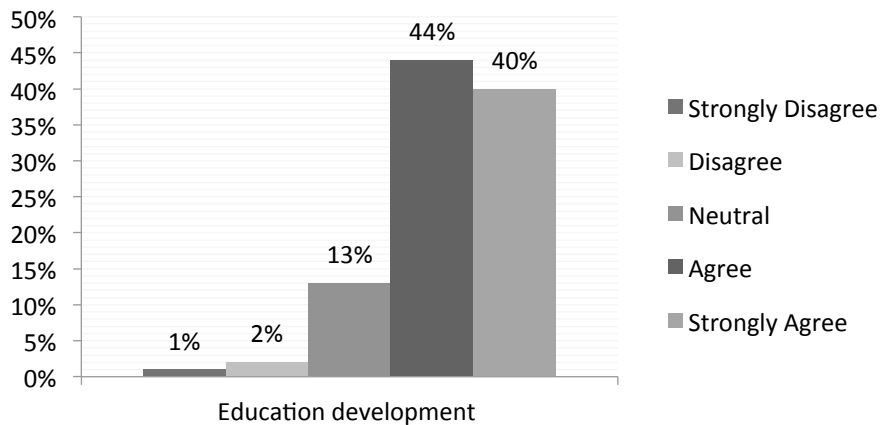
Eighty-six percent (86%) of the alumni can perform well in 2D sketches/ designs (in term of idea developments on paper) as depicted in Figure 4 above.



**Figure 5: The alumni consider themselves as competent users of advanced machinery (for example Vacuum foaming, Computer Numeric Control (CNC), Rapid Prototyping (RP), Laser Printing, etcetera)**

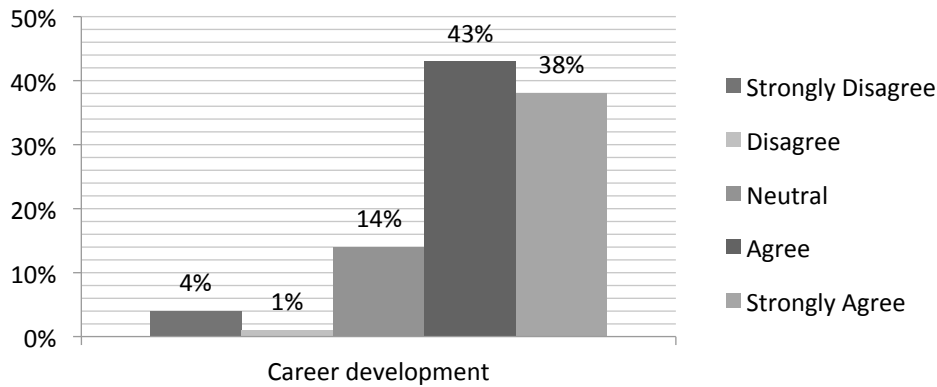
Figure 5 above shows 53% of the alumni do not agree that they have the skills in high-capacity machines.

Section E: The effectiveness of the Diploma in Art and Design (Industrial Design) programme in UiTM



**Figure 6: Education development**

As illustrated in Figure 6 above, 84% of the alumni agree that the Diploma of Art and Design (Industrial Design) programme helped them in their education development (if they further their study).



**Figure 7: Career development**

Eighty-one percent (81%) of the alumni agree that the Diploma of Art and Design (Industrial Design) programme helped them in their career development as shown in Figure 7 above.

**SUMMARY OF ONLINE SURVEY**

The responses received from 100 alumni of Diploma in Art and Design (Industrial Design). Forty-two percent (42%) of the alumni are currently working in the field of design which is owned by the local industries. For the findings, the highest percentage is for Psychomotor Domain questions in Section D where 86% alumni agree that they can sketch very well in the development of ideas stage (on paper). Eighty-six percent (86%) alumni agree with the duration of the study (2.5 years) offered by UiTM at this point. Fifty-three percent (53%) alumni do not agree that they have the skills in high-capacity machines such as Vacuum Foaming, Computer Numeric Control (CNC), Rapid Prototyping (RP), and laser printing machine. The reasons that this question received the lowest percentages are due to several reasons such as the machines must be monitored by a technician for students to use it due to advance machine-used procedures. Other than that, the students must obtain permission, or the machine is not purchased or used in that time; the alumni have never used or never got a chance to use it before. Overall, 19 out of 20 questions received positive feedback by 66% and above. In addition, the alumni also provided feedback to propose continuous improvements for the programme of Diploma Art and Design (Industrial Design). They suggested that practical skills courses should supply more than theoretical courses. Moreover, the alumni also suggested the need for the latest 3D software to be in accordance with the requirements of the industry. Among other suggestions are; the improvement of workshops facilities, machinery, and high-technology equipment, incorporates the industrial training course as well as provide programmes that involve the collaboration of industries in the curriculum.

**INDUSTRIES DEMAND: INTERVIEWS**

According to Ibrahim (2004), even though industrial design has been fully recognized by the Ministry, most industries in Malaysia still lack of understanding in the roles of industrial designer involving in the development of the of product designs, which may only be seen as an artists or aesthetician who is functional as a person to beautify the products. For these reasons, it is important for the university and educators the equip the students with enough knowledge and experiences that can match the needs of the industries, and will also help the students to go further in their career development path.

Series of interviews were conducted with four (4) respondents from expertise in the industry, and the result concludes the relevant of having Diploma graduates in the industries. Established company such as Proton, Perodua and most of the company were looking for degree graduates. Even though the minimum requirement for the designer is diploma but as a designer, they must capable of handling projects given by the company. Therefore, designer’s professional thinking must parallel with another related party who are involved in design developments. Diploma graduates need to understand that diploma certificate is at an intermediate level in the industry, while, the job position offered was at the minimum level in the industry sector (Avvisati, Vincent-Lancrin, & Jacotin, 2013). Depending on certain companies, positions for Diploma graduates are still offered due to lower salaries compared to graduates with Honors. There are few job positions requiring Diploma holders such as the production of 3D drawings using computer software, model making, and operators’ as well as other position. A study by Döngel, Çınar, and Söğütü (2009) determined that a significant step in basic design education in CAD help the students to shortens the design development processes and it also showed the effectiveness of the visual learning process. Table 5 below shows the classification of recruiting qualifications, a study by Yang, You, and Chen, (2005) on the competency requirements of Industrial Design students especially in 3D and 2D software for professional career development.

Category	Item	Qualification
Basic requirements	Education	Senior high school; college; university; graduate; not mentioned; abroad studies
	Age	Under 30; under 35; not mentioned
	Gender	Male; female; not mentioned
	Past experience	1-2 years; 3-5 years; 6-9 years; over 10 years; not mentioned
	Other experience	International working experiences; managerial experience; can work independently; experience with a particular industry/product; interest to a particular industry/product
Competency requirements	Professional	3D graphics software; 2D graphics software; creativity and imagination; knowledge of moulding tools or plastic injection; aesthetic discipline; sketching an ideation; popular messages and trends; new product planning and marketing; (clay) modelling
	General	Basic communication ability in English; fluency in English; can communicate, coordinate, organize; international views

**Table 5: Classification of recruiting qualifications (Yang et al., 2005)**

Table 6 below shows the expectations from industries towards Industrial Design Diploma Graduates using the core nine courses offered in Industrial Design (DIDE) programme.

Body of Knowledge	Skill	Knowledge	Suggestion
<b>Technical Drawing</b>	Be able to draw technical drawing	Ability to read and interpret technical drawings	Capable of using computer software (AutoCAD) for technical drawings to be sent to production (more related to design production in the industry)
<b>CAD</b>	Be able to use certain computer software to produce the required design	Have the understanding of computer software requirements and the ability to produce a design to be manufactured in production.	Having knowledge in computer software as below: <ul style="list-style-type: none"> <li>◦ AutoCAD – technical drawings.</li> <li>◦ 3D Studio Max – presentation drawings.</li> <li>◦ CATIA – drawing of components to be sent into production.</li> <li>◦ ALIAS – design concept drawings.</li> <li>◦ ALIAS Sketch Pro – design renderings.</li> <li>◦ Adobe Photoshop – design renderings.</li> </ul>
<b>Model making</b>	Has the ability to produce model/prototype	Having the understanding of modelling/prototyping process as companies tend to hire Diploma holder	<ul style="list-style-type: none"> <li>◦ Capable of coping with modelling job scope because many Diploma graduates cannot survive in the field of model making</li> <li>◦ Emphasize on manufacturing methods such as industrial clay as exposure to students</li> </ul>
<b>Research</b>	Be able to conduct research	Have the understanding of research especially on design	<ul style="list-style-type: none"> <li>◦ Adding knowledge in problem-solving such as Design Failure Mode and Effect Analysis (DFMEA), Why Why (YY) Analysis, Quality Function Deployment (QFD) and others</li> <li>◦ Understand more into details of product research</li> </ul>
<b>Manufacturing Process</b>	Able to apply modelling procedures in industrial production	Understand the modelling procedures in industrial production	<ul style="list-style-type: none"> <li>◦ Prototyping techniques such as RP (Rapid Prototype) and SRM (Silicone Rubber Mold) need to be exposed to students</li> <li>◦ Basic knowledge of engineering is necessary because the industrial design in Malaysia is more geared towards engineering in production</li> </ul>

<b>Grooming</b>	Able to work in industry according to relevant fields	Understand employment procedures in the industry	<ul style="list-style-type: none"> <li>◦ Industry exposure - industrial visits as exposure to understand industrial procedures and include expertise from the industry as a visiting lecturer</li> <li>◦ Preparation to face the field of work especially from the field of professionalism</li> <li>◦ Has the skill of delivering because graduates are still left behind in presentation skills</li> </ul>
<b>Communication</b>	-	-	-
<b>Entrepreneurship</b>	-	-	-
<b>Sketching, rendering</b>	Have skills in sketching and presentation rendering to produce industrial-related designs	Having knowledge in producing sketches and presentation rendering to produce design industry related	<ul style="list-style-type: none"> <li>◦ To have more exposure on sketching and rendering skills.</li> <li>◦ Capabilities in sketching and rendering manually and digitally.</li> <li>◦ Have the skills to use computer software related to sketching and presentation renderings</li> </ul>

**Table 6: Summary of nine courses offered that are relevant to the industry**

As a summary, nine courses offered which are relevant to the industry should be continued in the DIDE programme. However, all the suggestions were suggested by the expertise should be taken into consideration to be proposed and considered by UiTM in order to improve and strengthen the DIDE programme. Nevertheless, all industry experts agreed and recommended that Diploma graduates to further their study in Bachelor's Degree with Honors as Diploma level unable to fulfil promotion criteria and cannot proceed to a higher level position in career development.

## CONCLUSION AND DISCUSSION

As a conclusion, this study was executed to gain feedback from the alumni and industries and the findings gathered can be used as a guideline to improve the syllabi or courses offered in the Diploma in Art & Design (Industrial Design) programme. This study is important as it shows the relevance of this programme whether it is still in line with the industries. Based on the results of the online survey, the alumni agreed that this Diploma programme helped them in their early education or career developments. The industries also think that the Diploma programme provided a basic design and practical skills knowledge for young designers for their early career development.

With the current need and development for the new and prospective programmes offered by other universities, the urge for monitoring the current programme will suit the industry needs and the current demand of job market. The relevancy of the programmes offered needs to be review by following the programme standards under the Area 9 Continual Quality Improvement (CQI) (Malaysian Qualification Agency, 2013). The curriculum review needs to be conducted once every three to five years in order to cater the demands of the constantly changing environment. The advancements in science and



technology and the explosive growth in global knowledge lead to continually and systematically monitor these issues in catering the programme demand (COPPA, 2008).

Currently, more than 500 alumni's are graduated from Diploma Programme of Art and Design (Industrial Design) (DIDE) in Sungai Petani branch campus until 2012 and the data keep updated from time to time (Alumni UiTM, 2017). However, if the alumni want to heighten their education or career, they still need to further their study to a BA Hons or Master Degree programme as they deem necessary.

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