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LANDSCAPE ARCHITECTURE INDUSTRIAL TRAINING: SUSTAINABLE ABILITY THROUGH THE LANDSCAPE INDUSTRY DEMANDS

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Abstract

Industrial training is the platform for students in academic programs to get exposure to real-world experience and discover knowledge that is not taught in the syllabus. In the prospect of Landscape Architecture students, the students can utilize industrial training to gain valuable real-world experiences that will strengthen their positions, allowing them to gain an edge during job search (Neuman, 1999). This requires three-way communication among the educational institution, the student intern, and the industry worksite supervisor. Landscape architecture field is categorised as a professional area where the relationship between three parties are strongly needed. Thus, the aim of this paper is to identify the dimension of ability that is highly demanded by the industry from the industrial training students in a way to give contribution in organization of landscape architecture industry. Industrial training is often used as filtering devices by employers for the student's ability to join the company in future. Qualitative data was conducted in this research to develop a model that consists of the dimension themes that are needed the most by the industry from the industrial training students. There are 6 significant themes developed in this research: (1) technical ability, (2) communications persuasive ability, (3) professionalism ethical values, (4) theoretical knowledgeable ability, (5) ideas and creativity, and (6) teamwork ability. The findings of the study may lead to improvements concerning the dimensions from the roots in diploma study that are needed to be considered in the future syllabus in order to develop and mold the ability required by industry.

Keywords: *industrial training; sustainable ability; landscape architecture; skills; demands*

1.0 INTRODUCTION

The landscape Architecture profession today is taking a proactive and bold step, to pave the direction for their professional practice, in combating the increased issues looming on the horizon, and yet must play a more influential role in national development. The landscape architect profession is a key player in planning and designing the built environment and takes a more influential role to lead and inspire design solutions that will shape the future, for a better living environment for all. The massive urbanization and expanded growth of landscape development have increased the opportunity for landscape architecture practical students to gain experience in the landscape architecture industry. An industrial training was perhaps best defined as a "three-way partnership between the educational institution, the student intern, and the organization where the interns take on the challenges of a program of systematic experiential learning" (Inkster and Ross, 1998). Employers, however, have some high or certain expectations in hiring the diploma practical students and expected to perform well at the same level as degree students. There is a breach between what employers seem to want and what higher education provided (Haupt, 2003). Currently, there are growing concerns about a perceived mismatch between industrial needs and demands with the ability of diploma students that are produced by the education institution. Industrial Training is part of the plan Landscape Architecture diploma program at UiTM Perak. Practical training means studying

which takes place in a company of consultant or contractor or even the government or developer in offering the student the opportunity to adapt what she or he has learned in practice and develop professionally. The scope of the practical training is 8 credits, and it is equal to 16 weeks, i.e. 4 months of full-time work.

Industrial Training presents the students with an opportunity to gain invaluable experience and prepare them to enter the job market and enjoy greater job satisfaction (Gault, Redington & Schlager, 2000). Therefore, industrial training for Landscape Architecture diploma students provides direct experience to enhance the application of theoretical knowledge and the process of learning on the job. It gives exposure to various activities in a landscape architecture office from making design proposals to site operations. Students should be able to display working culture and integrity in the landscape industry. Moreover, they should be able to integrate the engagement of autonomous learning in the working environment of the landscape architecture industry.

2.0 LITERATURE REVIEW

2.1 The Expectation

Education looks at the general development of students to give them a wide range of opportunities and choices to prepare them for employment, while industry looks for employees with specific skills who will fit directly into the system (Majunder, 2008). A good academic qualification is not the sole criteria that employers are looking for. According to Azami et al. (2009), beyond good academic qualification, employers also require the employees to be equipped with relevant capabilities, skills, personal qualities and abilities. Furthermore, it was agreed by the Connecticut State Department of Education (n.d.) that employers require entry-level graduates who can read, write and compute; communicate clearly and effectively; have solid work ethic; be technologically literate and be able to work in a team, make decisions, solve problems and manage their work accordingly and efficiently. A survey by the Workforce Solutions Group at St. Louis Community College in the United States found that more than 60% of employers felt that young managers did not have the necessary communication and interpersonal skills which represents an increase of approximately 10% in two years. Mostly from industry, they aspect the industrial training students can help them efficiently and proactively in handling the task given by the staff and work individually. Most of the employers expected the students to grasp sufficient amounts of knowledge before entering the real world of industry. Unfortunately, there are still some loops that need to be tightened by the experience in industrial training that will help students to prepare themselves before entering the real work.

A large majority of employers concede that today's graduates are not able to think critically and creatively, solve problems or write well (White, 2013). Education, therefore, needs to overhaul not only its content and delivery modes, but also the way it is used to promote the knowledge management process in organizations. Cox and King (2006) concluded that preparing students for future careers has become a priority. This paper assesses industrial needs and demands on the ability and skill that is required from the industrial training students relating to the current necessities in enhancing the landscape architecture education and provides better satisfaction to all stakeholders.

3.0 RESEARCH METHODOLOGY

This research was conducted using the qualitative research process. As the study aims to identify the dimensions of themes that are mostly required by industry from the industrial training students, there are three concern groups and samples of respondents were selected from these groups. As the university landscape department is responsible for preparing students for industrial training, seeking their attitudes regarding the present situation is also needed. This study categorizes three main groups based on scope of business from industry, namely: (i) Consultant area; (ii) Contractor area and (iii) Government Sector area. The

information was gathered from the questionnaires that were distributed to the employers that employed industrial training students from Landscape architecture department University Teknologi Mara from year 2017 to 2019. The information was validated for the code LAA 300 (Industrial Training). The questionnaires were distributed to more than 100 employers of different categorized companies but only 87 were deemed usable for further analysis. Questionnaires were developed to gather information, perception and fundamentals of diverse groups to classify the dimension that is required in current situations. The research design framework was carefully designed to develop an emergent theme model proposal Figure 1.

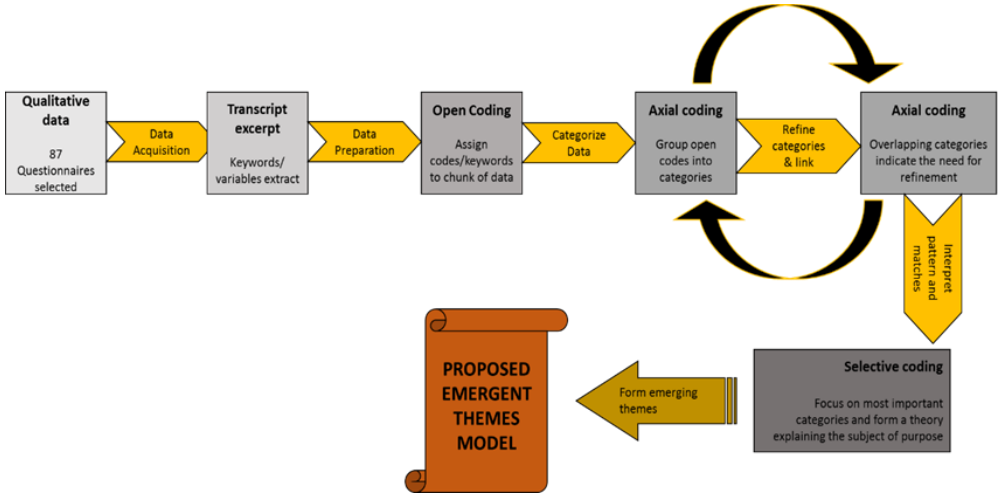

Figure 1: Research design framework

The early stage data was collected via questionnaire (Borang B6) with the sample 115 employers over a period of six semesters of practical Training from year 2017 until 2019. Thus, 87 employers were selected and deemed usable for data analysis. Each of the transcript answers involved exploring and identifying all the keywords (variables) at each stage. Keyword exploration was done using a content analysis method. The questionnaire was developed with the aim of getting insights into the details of demands and needs from employers towards the expectation skill of the students. The next steps about the data preparation and analysis involve using grounded theory techniques and procedures according to Strauss and Corbin (1990) to develop the new themes model. Coding in grounded theory methodology is a process of conceptual abstraction by assigning general concepts (codes) to singular incidents in the data.

The variables were carried out after a substantial data corpus had been accumulated. Open-coding was used on every section of data with potential interest, identifying 'variables keywords' through a line by line reading and reading an answer transcript to seize the essence and richness in the employers' comments. Specific comments to the question on the matters that need to be improved by the student and institution to prepare the students to be involved in the industry were highlighted and noted. Capabilities mentioned as significant to the advantages, or disadvantages, were identified as codable. Any statement mentioned as an important breakthrough was treated as codable. The coding process continued until theoretical saturation was reached and no new categories emerged (Corbin & Strauss, 2008).

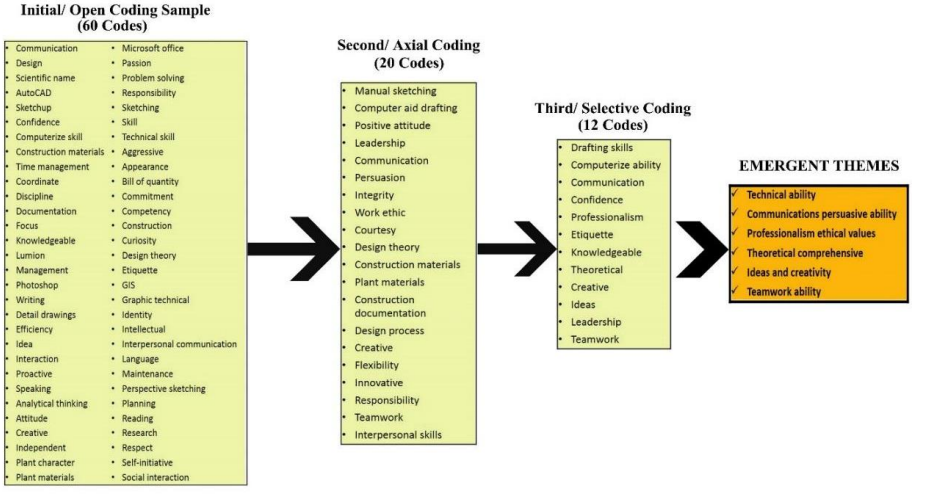

Figure 2: Coding summary chart

All codable moments were entered in a spreadsheet while assigning the first level initial coded. Axial coding was carried out to further refine the categories of codes leading to the emergence of patterns and themes. During selective coding, we reduced categories into major themes. As summarized in Figure 2, a total of 60 codable keywords with 35 distinct codes in the open coding phase were refined into 20 categories in the axial coding phase, which were further reduced to 12 main selective categories yielding the 6 main themes discussed next as findings.

4.0 RESULTS AND DISCUSSION

Keywords (variable) of codable statements that contribute to the emergent themes or findings are summarized in Table 1. As noted earlier, three organization sectors were involved where 50% were from consultant sector area that had their scope of work more on design consultation, 35% were from Contractor sector area which more focusing on the site works and maintenance and the balance were government sector areas that were more on the documentation submission and the design scoping of work. This showed that the demands on the skills vary from the industry due to the significance of the scope of work in the organization. Moreover, the skills that employers are not stagnant in the context of hard skill but soft skill as well are required in becoming a successful landscape architect designer.

Therefore, the aims of this paper have been achieved by developing 6 themes that are most required by the industry from the industrial training students in a way to give contribution in organization of landscape architecture industry. These findings confirm those in literature (Osman et al., 2009; Mihail, 2006; Schuetze and Sweet, 2003; Ballinger and Lalwani, 2000) which concluded that industrial training ensures that students are equipped with working knowledge and skills to cope with their specific job role and enables them appreciate school based education by relating theory to application in the workplace. The respondent-organizations were asked to suggest possible areas of improvement in the students of diploma landscape architecture programmed. The suggestions were subjected to content analysis by grouping them into 6 themes of contents related to the areas of improvement required as follows:

Table 1: Themes development skills and ability in landscape architecture industrial training

No	Themes	Variable
1	**Technical ability**	*1. Drafting skills (sketching, perspective drawings, manual drawings, colouring techniques, graphic technical); 2. Computerize ability (AutoCAD, Microsoft Office, Adobe Photoshop, 3D skills, Lumion, Sketchup, GIS)*
2	**Communications persuasive ability**	*1. Communication (Language, verbal presentation, writing skills, speaking capability, listening); 2. Confidence (knowledgeable, brave, extrovert, optimist) 3. Persuasion (convincing, motivation, interpersonal communication, interaction)*
3	**Professionalism ethical values**	*1. Professionalism (appearance, discipline, identity, attitude) 2. Work Ethic (time management, proactive, self-initiative, etiquette, efficiency, attendance)*
4	**Theoretical comprehensive**	*1. Theoretical (design theory, conceptual, research, analysis) 2. Intellectual (plant materials, construction materials, construction technology, construction documentation, horticulture, intelligent)*
5	**Ideas and creativity**	*1. Ideas (innovative, analytical thinking, creatives, sensitive, concern, awareness, up-to-date)*
6	**Teamwork ability**	*1.Teamwork (supportive, social-interaction, respect, collaborative, responsible cooperative, helpful, commitment) 2. Leadership (focus, coordinate, independent, problem solving, planning)*

Many employers and scholars identify and believe that these skills are necessary for work across most jobs and support education reforms to teach them. Nurita et al. (2007) reported that graduates were currently well equipped with technical skills such as proficiency in technologies computer, management, engineering and marketing. Moreover, the National Research Institute for Higher Education (2007) found that, generally, organizations require their employees to have excellent communication skills and knowledge in technology skills. Changes in the modern technology workplace, brought about by technology and management innovations and by increased global competition, raise many concerns about the adequacy of workforce skills. However, in the context point of view from the academicians, they suggest that the students should focus more on their work quality, communication skills and effort, as they can be of use in the future and can help them be better employees in the future, as well as for their own self-development.

5.0 CONCLUSIONS

The conclusion from this study, where it can begin to recapitulate the findings with a good point in supporting the concrete reason towards the demand from industry towards our future graduate students. The themes and dimensions that evolve from this study will give guidelines especially in the Landscape Architecture Programme where it can assist institutions in focusing and understanding what are the key features of graduation students sought from the industry.

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Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

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