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FEEMCE 2013 received over 350 submissions which were all reviewed by at least two reviewers. As a result of our highly selective review process four hundred papers have been retained for inclusion in the FEEMCE 2013 proceedings, less than 40% of the submitted papers. The program of FEEMCE 2013 consists of invited sessions, and technical workshops and discussions covering a wide range of topics. This rich program provides all attendees with the opportunities to meet and interact with one another. We hope your experience is a fruitful and long lasting one. With your support and participation, the conference will continue its success for a long time.

The conference is supported by many universities and research institutes. Many professors play an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in the review process, and to the authors for contributing their research result to the conference. Special thanks go to our publisher DEStech Publications. At the same time, we also express our sincere thanks for the understanding and support of every author. Owing to time constraints, imperfection is inevitable, and any constructive criticism is welcome.

We hope you will have a technically rewarding experience, and use this occasion to meet old friends and make many new ones. Do not miss the opportunity to explore in Shanghai, China. And do not forget to take a sample of the many and diverse attractions in the rest of China.

We wish all attendees an enjoyable scientific gathering in Shanghai, China. We look forward to seeing all of you next year at the conference.

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# Table of Contents

**Preface**

**Committees**

Discussion of the Axis Magnetic Field of Circular Current Loop and Helmholtz Coil ................................................................. 1  
MING-JI SHI, XIN-FENG GUO and LAN-LI CHEN

Measuring Sound Velocity in Solid Medium with Dual Trace Oscilloscope ................................................................. 7  
MING-JI SHI, TING CAO and SHENG-ZHAO WANG

To Motivate Students’ Interests in Learning by Expanding the Diode Volt-Ampere Characteristics Measurement Experiment ........ 12  
MING-JI SHI, LI-NA ZHANG and SHU-JUAN DING

Developing the Students’ Divergent Thinking in Electric Field Exercise Based Teaching ......................................................... 18  
MING-JI SHI, YING-PENG YIN and LAN-LI CHEN

Designing of Cu-Resistance Digital Thermometer Based on Unbalanced Electric Bridge ......................................................... 25  
PENG-HUI LUO, XIN-LI WU and MING-JI SHI

Intelligent System of Energy-Saving Diagnosis and Energy Audit Based on Dedicated Users .................................................... 30  
BIN ZHOU, JIANFU PENG, YOUXI LI and XIUZHENG HU

Development of Emerging Technologies from an Optimization Processes Perspective ...................................................... 36  
HAIYING REN

Appropriate Indicators to Evaluate the Technology Managed by the Functional Direction G.A.T. of A.O.R.N. “A. Cardarelli” in Naples .... 45  
GIOVANNI IMPROTA, GIOVANNI DE ROSA, CIRO VERDOLIVA, MARIO CESARELLI, ANTONIO FRATINI, GIULIANA FAIELLA, ALESSANDRA ROMANO and MARIA TRIASSI
Survival and Internationalization of Firms: Reliability Analysis Methodology Applied to the Understanding of the Case of Colombian Textile and Clothing Companies ........................................ 52
EVA CRISTINA MANOTAS and MARIA ALEJANDRA GONZALEZ-PEREZ

The Economical Explanation on the Sino-Japan Liner Market—The SCP Approach .................................................. 59
YANG LIU

The Study of the Influence of Internet Public Opinion on College Collective Incident ........................................... 66
XINGQIAO XIAO

Research on Management and Control Mechanism of Internet Public Opinion of College Collective Incident .................. 71
XINGQIAO XIAO

Spatial Econometric Analysis on Industrial Structure and Environmental Pollution .............................................. 76
KANGJUAN LV, YICAI LIN and JIAWEN KANG

Effect of Process Parameters on Dimensional Control of Mild Steel Processed by Surface Grinding Process ............. 90
BALWINDER SINGH and BALWANT SINGH

Solving MCDM Problem Using PROMETHEE with Non Crisp Data .......................................................... 96
RAJESH GUPTA, ANISH SACHDEVA and ARVIND BHARDWAJ

Risk Level Discrimination Model of Wells with Sustained Casing Pressure in HTHP and Sour Gas Contained Field .......... 102
YUN WANG and JUN LI

Retardation of Chronic Intake of Methyglyoxal Induced Oxidant Damage in Mice Using Epigallocatechin-3-Gallate ........ 108
MENG MENG ZHAO, ZESHENG ZHANG, NAN ZHANG and JINGYUN LI

Techniques of Installation and Commissioning of Diesel Driven Firewater Pump on the Offshore Platform .............. 112
YONGWEI ZHANG, KUILIANG HAN and CHUNLEI FAN

The Key Technology of High Precision Construction Research the Slide Area ...................................................... 118
YUEXIA SHE, ZHENGHONG SONG, HANG WU, CHAO LIU and LIWEN SUN

Research on Risk Assessment in Project Construction Process .......... 124
YUEXIA SHE, ZHENGHONG SONG, HANG WU, CHAO LIU and LIWEN SUN

The Application of Dielectric Barrier Discharge Plasma in Gas Combustion ................................................. 129
YANYAN TANG, SHI LIU, XIANG BAI and WEI CHEN
Design of Boiler Temperature Measure and Control System Based on Labview and SCM ........................................ 135
JINHAI ZHAI, XIANG YU and RENCAI ZHANG

Dynamic Simulation of Hydraulic System Speed into Switching Based on Power Bond Graph and Matlab/Simulink .............. 141
CONG-GUO XU, YAN-LEI LUO and QIU-YAN ZHANG

Leaching Characterization of Chromite Ore Processing Residue .......... 147
TIANGUI WANG, DONGFANG HU, QIANG LI and QIAN PAN

Preparation of Nano TiO₂/ACF and Its Application in Gas Mask .......... 153
YONG WANG, HAO LIU and YONGMING WANG

Extraction of Hexavalent Chromium from Chromium Ore Processing Residue Using Salted Aqueous Solutions ................. 158
TIANGUI WANG, DONGFANG HU, QIANG LI and QIAN PAN

An Attempt for Introducing Sample Preparation Technique into Chemical Engineering Experiment Teaching .................. 163
YUGAO GUO, SHUAI-SHUAI SUN, SHAN GUAN, XIUJUN LIU, SUMIN LU and QINGYIN ZHANG

Chemical Constituents of Oryza Sativa Japonica Var. Golden ........... 168
YING LIU, TINGJUN MA and JIE CHEN

Comparison Study: Densities of Novel Ammonium and Phosphonium Based Deep Eutectic Solvents ......................... 174
AISSAOUI TAYEB, MAAN HAYYAN and MOHD ALI HASHIM

Electrochemical Behavior and Determination of Carboplatin at GO/MWNTs Modified Glassy Carbon Electrode .................. 179
LICING YE, MINGWU XIANG, YIWEN LU, YUNTAO GAO, YU QI and JIANGHAO MAN

Studies on the Application of Efficient Composite Flocculant in Water Treatment ........................................ 185
JIE LIN, GANG XUE, LIXIA HU, KANZHU LI, BO ZHENG, SHI HE and JUE WANG

Mg Impregnated Molecular Sieves as a Catalyst for Isopropylation of Naphthalene ........................................ 193
XI-DONG LIU and XIN ZHANG

Campus Landscape Environment for Student with Disabilities (SwDs): The Case of the International Islamic University Malaysia (IIUM), Gombak Campus ........................................ 200
MOHD HUSSAIN MOHD RAMZI, TUKIMAN IZAWATI, MOHD SHAHLI FITRYNADIA and ZAININ NURBAZLIAH
Rapid Molecular Detection of the Fungus Esteya Vermicola, Based on the Specific Primers and FTA-DNA Extraction Method .............. 206
KE WEI, QING-HUA WANG, YU-ZHU WANG and LIANG-JIAN QU

Development of a Catalyst for Ethylbenzene Dehydrogenation to Styrene: A Learning Project for Chemical Engineering Students .......... 212
SHAN GUAN, XIUJUN LIU, SUMIN LU, YUGAO GUO and QINGYIN ZHANG

Studies on the Formation of 3-Monochloropropanediols in the Models Consisted of Monoolein, Sodium Chloride and Water ................. 217
MING-QUAN HUANG, JI-HONG WU, PEI-PEI SUN, BAO-GUO SUN and JING-LIN ZHANG

Research of the Wind Power System at the Contact Line of Single-Phase Fault Reclosing Impact on the System ...................... 225
YIN-PING WANG, WEI-QING WANG and HAI-YUN WANG

Preparation of RuRh@Pt/C Core-Shell Nanoparticles and Its Catalytic Properties for Methanol Electro-Oxidation ....................... 232
LI FANG, GUANGYING WANG, FEIFEI LI and SURIN SAIPANYA

Modeling of Ethyl Acetate Hydrogenation Reactor .................. 238
FAN SUN, SHUANG CHENG, XIAOFANG YU, XINPING ZHANG, CHUNLEI ZHANG and XINGGUI ZHOU

Thermal Degradation of Reed Black Liquor in Nitrogen Atmosphere ................................................................. 244
XINGFEI SONG, RUSHAN BIE, XIAOYU JI, QIANQIAN LIU and PEI CHEN

Enzymatic Synthesis of 1,3-DAG Using 1,3-Regiospecific Lipase and the Study of the Mechanism ................................. 250
CHUNHUA YIN, GUOFENG LI and HAI YAN

Dynamics of Rigid Multibody System that Contains Force Elements Exerting on Bodies with Inboard Prismatic Joints ............. 256
CHEN GUILIANG, ZHAO JI and LIU GENGQIAN

Calculation Model of Temperature in a Dust Particle After Shock Wave ............................................................. 262
BO ZHENG

2-Hued Coloring of Double Graph of Some Graphs .................. 268
QIAOLING MA, JIHUI WANG and FANG XU

Spline Method for Solving a Kind of Parabolic PDE ..................... 273
KAI QU, BO JIANG and ENXI ZHENG
Campus Landscape Environment for Student With Disabilities (SwDs): The Case of the International Islamic University Malaysia (IIUM), Gombak Campus

MOHD HUSSAIN MOHD RAMZI, TUKIMAN IZAWATI, MOHD SHAHLI FITRYNADIA and ZAIDIN NURBAZLIAH

ABSTRACT

The awareness regarding students with disabilities (SwDs) in campus of higher educational institutions has been increasing. This paper investigates the planning and design of campus landscape environment which facilitates both able-bodied and disabled students. This paper aims to identify conditions of the campus landscape and their suitability for the disabled students. One issue identified is that some registered disabled students could not properly access the provided facilities, such as the library and the cafeteria, due to physical restrictions including the existence of stairs. Preliminary studies have identified challenges in providing accessible built environment in higher educational institutions. The analyzed reviews comprising of design guidelines and suitable landscape designs have been applied to suit the needs of SwDs in the campus landscape environment. The paper provides a platform to discover the needs of SwDs, especially in campus environment, based on the type of disabilities and it is important to understand the needs of SwDs before making any decisions. The method of data collection used in this study is the qualitative approach based on case studies, semi-structured interviews, focus group discussions and access audit simulations. The expected outcomes of this study will contribute to design guidelines for outdoor campus landscape, thus allowing the management of universities in Malaysia to upgrade outdoor campus facilities as a whole. The findings also provide a platform for the related organizations to identify the needs of the disabled students so that better planned and designed facilities and services will ensure the survival and independence of these students during their campus life.

INTRODUCTION

Generalizations about “disability” or “people with disabilities” (PwDs) can be
misleading. It is stated in the World Health Organization (WHO), that disability is a term to describe ‘any restriction or lack (resulting from any impairment) of ability to perform an activity in the manner or within the range considered normal for a human being’ [1]. The definition covers physical and mental impairments which include physical impairments affecting the senses such as sight and hearing, heart disease, diabetes, epilepsy. Moreover, mental impairments cover learning disabilities and mental ill health. Basically, PwDs have diverse personal factors with differences in gender, age, socioeconomic status, sexuality, ethnicity, or cultural heritage. Each has his or her personal preferences and responses to disability.

Governments are increasingly looking to universities to produce human resources that have the capacities, skills and knowledge in order to meet 21st century needs. They also call on universities to facilitate the shift to knowledge-based economy and high-technology through effective linkages between research and industry in order to ensure that their countries have a competitive edge in the global market. Preparing young people to enter the labor market has therefore become a critical responsibility for universities. Unfortunately, chances for them to pursue their studies in higher education have become smaller due to the existing limitations. This is believed to have occurred due to a lack of enforcement by the higher education authorities who had neglected the needs of SwDs since the stage of planning [2]. Thus, they have not received the same chance like other students since the institutions do not have the proper facilities for them to further their studies.

METHODOLOGY

This study employed qualitative approaches which includes a semi-structured interview and a focus group discussion. In total five respondents were selected for the interview. They were officers from the office of Students Affairs and Development Division (STADD), IIUM. They were selected based on their involvement and experience in handling SwDs in IIUM. The interview is simply defined as a conversation with a purpose. The goal of conducting the semi-structured interview is to know the perceptions of administrative officers and professionals towards SwDs. Besides that, a focus group discussion (FGD) was carried out in order to know the SwDs perceptions on existing campus environment. The discussion sessions were conducted with a group of SwDs at the IIUM Gombak campus. It included SwDs comprising wheelchair users, as well as those with physical disabilities, who are visually impaired, who are hearing impaired, and have learning disabilities. The interviewee data were collected from the Student Affairs and Development Division (STAD), IIUM. It included SwDs of wheelchair user, physical disability, visual impaired, and hearing impaired. Thus, they were asked to share their experience using the facilities and services in campus area. The data were record in audio and video. FGD is ‘a rapid assessment, semi-structured data gathering method in which a purposively selected set of participants gather to discuss issues and concerns based on a list of key themes drawn up by the researcher.'
ANALYSIS AND FINDINGS

1. Perception of Management Officers

AWARENESS AND UNDERSTANDING OF SWDS IN HIGHER EDUCATION INSTITUTIONS

The five officers interviewed include four STADD officers (IN1-IN4) and one lecturer (IN5). Each respondent was given a code accordingly. The respondents believed that awareness and understanding of the needs of SwDs is very important aspect that influences the campus landscape planning. Most of them responded that they are aware of SwDs.

“...IIUM will try to accommodate the needs of students with disabilities by providing facilities for them...” (IN1)

Unfortunately, most respondents only viewed wheelchair users as SwDs compared to other disabilities. This shows that respondents lack understanding on the needs of SwDs in higher educations. So, this can affect the decision of SwDs enrolled at IIUM.

“...priority will be more focused on wheelchair bound users because they really need special attention, especially in terms of providing ramps and routes that can be accessed by their wheelchairs...” (IN2)

“The facilities are more focused on wheelchair users. Facilities provided included accommodations of room spaces and bathrooms and transportations, such as special vans...” (IN3)

Apart from that, respondents also agreed that they lack understanding on the need of SwDs especially in providing accessibilities and mobility. This results on SwDs orientation within campus area since the administrative officer cannot decide on the facilities that need to be upgraded in order to ease SwDs at campus area.

“...we lack in term of understanding regarding their needs especially in movements and accessibility...” (IN3)

“...I must admit that I lack understanding on the needs of SwDs...” (IN4)

KNOWLEDGE ON THE BASIC NEED OF SWDS IN CAMPUS LANDSCAPE ENVIRONMENT

All the interviewees gave different views on the basic needs for SwDs when they were asked their understandings of a barrier-free concept, disabled friendly environment and universal design related to SwDs.

“...universal design is a very good method because it is not only a design concept for SwDs but also include for everybody in built environment....” (IN5)

Furthermore, there was not much feedback regarding some basic knowledge on the needs of SwDs in campus areas except by those who are connected to the built environment field.

“...they (administrative staff) do not really understand what universal design is all about...” (IN5)

“...I do not really understand the concept of universal design but, as far as I am concerned it is meant to create an accessible place...” (IN4)
Thus, knowledge on the needs of SwDs is very important to ensure that officers do not have any negative attitudes towards SwDs. This is in line with preliminary studies which state that lack of understanding and knowledge about SwDs will lead to negatives attitudes among the administrative officers towards SwDs. These attitudes influence the success or failure of SwDs at the higher education level.

2. Perceptions of SwDs (FGD Results)

IMPORTANCE OF LANDSCAPE DESIGN IN CAMPUS ENVIRONMENT

Landscape design can ease students in terms of their movement and way finding among others. Landscape design elements include pathways, softscapes and hardscapes, lighting bollards and signage. These guide people to find places.

a) Landscape design help way finding

Way finding is important since it is intended to provide people with information relating to their destination. Most of them agreed that, landscape design in IIUM has help them a lot in way findings. These views are also similar with those in preliminary studies that state how landscape acts as a means of communication to people directly and indirectly.

“IIUM has a lot of elements which have become landmarks for people to refer to. For example, the main roundabout of IIUM. People easily recognized the area…”

“...IIUM uses one way direction which helps people a lot to access the area in IIUM...”FGD 5, Others

“Yes, of course. Landscape design can become a landmark to help people to find the places…”FGD 3, Multi-disabilities

“Landscape design really helps me and others to find places…”FGD 4, Wheelchair user

Apart from that, some landscape designs have also become issues for SwDs, especially to those who are visually impaired.

“...selection of trees at IIUM also are not really suitable since they can give hazard to them due to the characters of the trees…”FGD 5, Others

b) Landscape design influence student learning

Preliminary studies show that landscape design help student learning process directly and indirectly. The respondent agreed that landscape design sometimes helps them during the learning process.

“...there is no doubt that landscapes help me during the learning process…”FGD 5, Others

c) Landscape design vs safety

Safety becomes very crucial when designing the environment since it involves human beings.

“...lack of lighting will lead to other thing which can harm people…”
“Safety has also become a concern since most facilities provided for SwDs was still lacking. So we need to share the roads with other vehicles to go to other places...” FGD 1, Hearing impaired

Thus, in general, landscape design can help in creating a comfortable living campus. This result was in line with preliminary studies that landscape can enhance student living environment in the campus areas.

Results correspond, that lack of the facilities provided in campus area lead to difficulty in terms of mobility, accessibility and also connectivity for SwDs. This create barrier for them to move around in campus area. Some of current situation which need to be improved and upgrade in order to increase level of accessibility:

Figure 1. Condition of pedestrian walkways which very steep, do not suitable for wheelchair user (left), upgrade slope of ramp according to MS 1331:2003 [3].

Figure 2. The presence of step will break the level of accessibility esp. for wheelchair bounded (left), while proposed to install ramp, warning tactile and railing in order to break the barrier.

Figure 3. Pedestrian crossing do not follow the standard guideline (left), proposed install step ramp on both side to ease the movement and lines of raised pavement markers to increase the safety.
DISCUSSION

SwDs must have a proper environment for them to move around since be in the higher educational level, they are requiring being independents. The findings show that the currents situations of campus landscape do not really suit with the needs of SwDs to move around within the campus area. In terms of physical facilities that supports the SwDs mobility, the current situations show that, people were intend to provide the facilities for SwDs, however, they do not follow the guidelines and recommendation provided by authorities which at the end effect SwDs movement. In the context of creating barrier free environment, there are several important factors that can be highlighted throughout this study. They are accessibility, usability and safety. In terms of accessibility that increases the mobility of SwDs, it has been found that most of campuses are lacking in providing the facilities that can support SwDs in their daily life within the campus area. Besides that, as for the factors of usability, based on the findings in earlier chapter, it can be concluded that, lack of usability may hinder SwDs from use the facilities provided by university. This has gives effect to the SwDs to access from one space to another.

There is a relationship between people and the environment which they live in. People have the ability to shape and change their environment while at the same time they are shaped and changed themselves. These means that people are actually influence by environment since it can affect people mood and orientation. Below are some examples of basic physical facilities that can increase the level of accessibility within the campus environment: Therefore, the universities must provide at least, basic facilities which follow the guideline provided by authorities to ensure the level of accessibility within the outdoor campus environment.

CONCLUSION

The study provides a platform to explore the need of SwDs especially in campus environment based on the type of disabilities such as physical impaired, visual impaired, hearing impairment, wheelchair user and learning disability. It is important to understand the need of SwDs before making any decision. Good campus physical environments can be understood better and improved by greater sensitivity to their nonverbal communications, by increasing designs and spaces that give a sense of comfort and security for SwDs. Therefore, findings provide a platform for related organization to identify the needs of student with disabilities in educational institution for their support facilities and services in order to help them survive in higher education level. In addition, student with disabilities will have the same opportunity with others to enter higher educational level.

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