Determining the Training Needs of Personal Excellence among Undergraduate Tourism Students

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ABSTRACT Taiwan's government has recently begun making efforts to develop a more diverse travel environment and attract more inbound tourists and domestic travellers. As a result, tourism colleges and institutes have grown rapidly to meet the significantly mounting job demands. In response to these developments, many academic authorities in Taiwan have recently made efforts to promote students' personal excellence. Given the scarcity of literature concerning issues related to personal excellence, this study aims to empirically detect areas of personal excellence that can be improved upon in further trainings of undergraduate tourism students. The method of fuzzy entropy based VIKOR, a multi-criteria decision analysis method, is performed to prioritize training needs for enhancing levels of personal excellence among tourism students. The results are used to develop personal excellence training programs aimed at improving students' weaknesses in personal excellence, which can benefit them in their professional lives as well as their personal lives.

INTRODUCTION

In recent years, many scholars and policy-makers have drawn attention to the problems and challenges associated with modern higher education. For example, during the presidency of Barack Obama, the government set a goal for the US regaining its worldwide pre-eminence in the percentage of citizens with a college degree by the year 2020 through reforms in higher education (Wyner 2012). This issue is not, however, unique to the US education system. In order to upgrade its international competitiveness in the global marketplace, Taiwan's government, therefore, has reformed its higher education landscape by following the US model. In the last two decades, several new universities were established in Taiwan, and there are currently nearly 160 national or private universities in the coun-

try, resulting in an increased enrolment rate of almost hundred percent. However, the goals of these efforts are not only to increase enrolment rates but also to improve educational quality (Liu and Cheng 2012). Excellence programs are thus included as one item on a national agenda aimed at assuring academic accountability and international competitiveness of Taiwan's higher education (Hou 2012).

In recent years, Taiwan's government has ushered in national policies to create a more diverse travel environment and enhance competition to attract more inbound tourists and domestic travellers. As a result of these efforts, the number of students studying in tourism-related departments increased from 11,393 in 1998 to 94,729 in 2015, representing eight-fold growth. Over a ten-year period, there has been an average yearly growth in student volume of nearly fifteen percent (Ministry of Education 2016).

While the government has devoted considerable efforts and funding to educational institutions through different academic excellence plans, little attention has been paid to the pur-

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suit of excellence among tourism students, nor has there been any curriculum or training program design for tourism students to improve their personal excellence. This research gap may be due to an absence of models to explain how tourism students work and how to measure their pursuits of personal excellence. This is a worthwhile area of research, because a significant number of tourism graduates entering the industry are emotionally unprepared for the challenges of their chosen career, which leads to reduced service quality, high turnover and absenteeism (Min et al. 2011). Education is the key to developing the competencies needed in the workplace. In particular, tourism students need different skills, aptitudes, and knowledge than previous educational programs provided (Sheldon et al. 2008). Thus, it may be useful for educators to include the skill-sets of personal excellence in tourism school curricula or training activities.

Although efforts to promote students' personal excellence have attracted the attention of many academic authorities in recent years, there remains a scarcity of literature concerning personal excellence related issues. Nelson and Low (2003a) describe self-renewal as a process of applying the Emotional Learning System on a continual and daily basis with the goal of thinking more constructively and being more confident in one's ability to identify and express emotions. Those who follow this process tend to have more energy, excitement, interest, and vitality, along with the ability to more effectively manage the stress and difficulties that arise in work and daily life. The authors stated that "personal excellence is the process of developing yourself into the best person you can be, and self-renewal is the self-directed personal change process that allows you to maintain high levels of achievement, happiness, and physical health" (pp. 137-138). Recently, the Personal Excellence Map (PEM) was developed based on nearly three decades of research concerning how emotional capacities can impact cognitive functions. The PEM is an instrument for measuring one's best self, and it pioneers the a priori theory of transformational learning to enhance individuals' emotional intelligence through the pursuit of self wellness, excellence and renewal (Hammett 2007, 2008; Nelson and Low 2003a,b; Sen et al. 2010). The PEM can thus be seen as a personal excellence model that is EI-centric and which serves to assess an individual's thoughts, feeling and values. This model is targeted at defining self strengths and areas that need improvement through self-directed and transformational learning. (Hammett 2007; Sen et al. 2010; Tang et al. 2016).

Although the importance of improving students' competencies of personal excellence has been widely noticed, personal well-being and excellence is seldom evaluated in studies on planning personal excellence training interventions. Highly relevant to the present undertaking, the PEM was applied in two recent studies on detecting personal excellence trainings by grey relational analysis and analytic hierarchy process for undergraduate tourism students and junior high school principals (Min et al. 2016; Tang et al. 2016). This research is conducted with the objective of providing personal excellence training for tourism undergraduate students based on the technique of fuzzy entropy VIKOR, which combines qualitative investigations and quantitative analytic techniques. The empirical analysis, therefore, is divided into three stages. First, the personal excellence assessment developed by Hammett (2007) and translated into Chinese by Tang et al. (2012) is used to assess tourism students' personal excellence levels. Second, Fuzzy entropy based VIKOR, a multi-criteria decision analysis method, is used to prioritize tourism students' personal excellence training needs. Lastly, training programs are developed to improve tourism students' weaknesses in terms of personal excellence competence. By applying these results in training programs, tourism students can hopefully see greater achievements in their professional and personal lives.

Literature Review

The literature review section presents the theoretical background of the personal excellence measure introduced by Nelson and Low (2003a, b) and Hammett (2007). Another part of the literature review section discusses the linkage between tourism education and the pursuit of personal excellence.

Emotional Intelligence and the EI-Centric Model of Personal Excellence

Research over the past twenty years has produced two key models of EI. The first of these is

the skill-based EI model of Mayer and Salovey (1993), in which EI is seen as a person's ability to reason with and process their emotions in order to improve their cognitive processes and regulate their behavior. The second model, introduced by Goleman (1995) and Bar-On (1997) is a mix or trait-based model in which EI is defined as a generic set of competencies, skills, and personality traits pertaining to a person's capabilities to cope with pressures and reduce stress from the environment. A third EI model was developed by Nelson and Low; in this model EI is seen as the abilities needed to identify experience and express emotions in productive, healthy ways (Nelson and Low 2003a). A number of studies have drawn on these three EI models in explaining how EI relates to factors such as self-efficiency, occupational stress resistance, life satisfaction, sales performance, leadership effectiveness and personal excellence (Ogiñska-Bulik 2005; Austin et al. 2005; Chan 2008; Tang et al. 2010; Lassk 2013; Min 2014; Liu et al. 2013; Ouyang et al. 2015; Cohen and Abedallah 2015; Extremera and Rev 2016; Jung and Yoon 2016). The evidence has also been extended to demonstrate that emotional intelligence can be a positive indicator of students' academic performance and achievement (Costa and Faria 2015; Sanchez-Ruiz et al. 2013; Rene Parrish 2015).

Of the three EI models mentioned above, the model developed by Nelson and Low is most consistent with the theories of personal excellence that are based on Maslow's interpersonal delineation for pursuing and individual's best self from within (Maslow 1999), multiple intelligence which allows profound self-reflection on personal strength (Baltes and Strudinger 2000; Gardner 2006; Sternberg 2003), and a balance seeking of individual's rational and emotional minds for attaining better intrapersonal and interpersonal communication skills (Epstein 1998; Nelson and Low 2003a; Ornstein 1997). Regarding researchers' conceptual understanding of personal understanding, there are two studies in particular that have focused on developing tools for measuring personal excellence. Sanghi (2006) developed a training toolkit that outlined six areas of personal growth for assessing managerial competences that comprise the behavior- and cognitive-based functioning of human beings. Moreover, a 2007 study conducted by Hammett sought to build upon Nelson and Low's (2003b) personal excellence model. To accom-

plish this, Hammett devised the PEM and one instrument (Hammett 2007). The PEM, conceptualized on the basis of a decade of research on how the cognitive-affective development of human beings affect a variety of performance, differed fundamentally in its mechanism of uncovering an individual's self-perceived thoughts, feelings and strength for optimizing one's achievements. Essentially, PEM is a model developed based on emotional intelligence theory and practices demonstrable in individuals who are capable of using both their rational and emotional minds and multiple intelligences, and who have a need for self-actualization (Tang et al. 2012; Nelson and Low 2003a, b; Hammett 2007, 2008).

Tourism Education and Pursuits of Personal Excellence

There has been tremendous growth in the tourism industry worldwide. With the traveling industry booming, there has been a significant expansion in tourism-related departments in universities. Not surprisingly, many tourism researchers have begun focusing on different issues related to higher education of tourism, such as the nature of educational investigations (Airey 2005), internship and work experience (Walo 2001), university curriculum development and design (Tribe 2006), the disciplinary dilemma of tourism studies (Echtner and Jamal 1997), learning style preferences of tourism students (Barron and Arcodia 2002), the issue of tourism study motivation (Lee et al. 2008), and the internationalization of tourism education (Cho and Palmer 2013). However, there have also been debates in the literature about whether the tourism human resources nurtured by educational institutes are consistent with the actual demands of the industry (Goodenough and Page 1993), with some researchers pointing out that there is a discrepancy between the available education and the actual needs of the tourism industry (Wallis and Steptoe 2006). Chia (2005) further asserted that educators are responsible for producing graduates with the right confluence of soft skills and solid knowledge needed to function competently in the changing economy. Current education systems, however, tend to focus primarily on cognitive domains, neglecting emotional development. Research has indicated that incorporating focus on developing students'

emotional skills into the curriculum could better cope with the changing landscape of today's public education and produce graduates who are healthy, responsible, and productive in their careers (Ramos-Villarreal and Holland 2011).

By undertaking personal assessment and identifying their core areas, students can become aware of their interpersonal, intrapersonal and management skills, and thus take a proactive step toward becoming effective leaders (Bay and McKeage 2006). Personal excellence skills allow students to do their coursework with a more productive mindset. According to Nelson and Low (2003a, b) and Nelson et al. (2007), personal excellence is a process in which individuals continuously improve at each step of their lives. It involves recognizing behaviors that better assure successful outcomes, with the goal of maximizing one's potential and developing one's talents to the fullest. However, personal excellence should not be viewed as an end-state, but rather a journey of positive development that is manifested in accomplishments contributed by individuals' best efforts. In the personal excellence model based on EI-centric theory, building quality norm through individuals' best efforts is connected with experience gained from lives.

Those who understand their personal excellence skills can put more thought into their continuing efforts to build their core competencies, including leadership skills. Individuals may choose to focus attention on areas where they are perceived as lacking, and they may seek assistance from others in order to overcome their weaknesses. Corporate and non-profit employers are looking for college graduates who have acquired good critical thinking and communication skills, can develop loyal relationships, and show commitment to their responsibilities, all of which are related to personal excellence abilities. Therefore, if students can recognize the importance of assessing their personal excellence skills, they can begin taking steps toward becoming successful leaders in today's society (Nelson et al. 2007; Ramos-Villarreal and Holland 2011).

Despite the fact that theoretical and practical endeavors have been incorporated into higher education programs of tourism, technical skills alone are not sufficient for achieving success as a professional in the tourism industry (Carmeli 2003; Min et al. 2011). Improving personal excel-

lence competency is essential for the substantial improvement of performance on both personal and organizational levels (Ramos-Villarreal and Holland 2011). Therefore, it is crucial to develop personal excellence training courses for undergraduate tourism students, especially given the fact that the current tourism education tends to focus primarily on professional skills and knowledge. In order to deliver the most effective education to tourism students, educators should thus incorporate skills of personal excellence throughout courses in the curriculum, as enhancing these skills can help tourism students in their prospective careers.

Given the relative insufficiency of studies on the shaping of personal excellence training programs for tourism students, this study adopts a two-fold approach:

1. To evaluate the specific strengths and weaknesses of the personal excellence competency of undergraduate students majoring in tourism.
2. To determine training needs of tourism students and inform the development of suitable personal excellence training programs based on the results of self-evaluations.

METHODOLOGY

Sampling and Instrumentation

In the present study, quantitative data is collected and analyzed for the purpose of prioritizing tourism students' personal excellence training needs. Before conducting the current study, it was reviewed and approved by the Institutional Review Board (IRB). The study now meets the requirements of the IRB, one of which requires that all participants of the study should be aged 20 and above. By using a convenience sampling strategy, we recruited 668 undergraduate tourism management students from four universities in northern and southern Taiwan, including one public and three private schools, representing similar proportions of the overall number of tourism schools (9:31) in Taiwan. To guarantee a reasonable response rate of the survey, upon completion of the questionnaires every respondent was given an LED keychain. Students completed the questionnaires in their classes and 580 surveys were returned, for an 86.8 percent response rate. Of those returned, there were 38 incomplete questionnaires which

were eliminated from the final sample, resulting in a total valid sample of 542. Among them, 336 were male (60.2%) and 206 were females (39.8%), reflecting similar gender proportions represented by the current studying tourism department population in Taiwan (41.9%:58.1%) reported in 2016.

A Chinese translation of the personal excellence measurement was adopted to carry out the present undertaking. Although previous research has provided evidence of the preliminary construct reliability and validity (Tang et al. 2012), there is a need to further establish both reliability and validity through independent research. The reliability and validity of methods used in this study were achieved through a triangulation of mixed research approaches, including in-depth interviews on the applicability of each item to tourism professionals and the two-stage modified Delphi technique. Regarding each item's applicability to the present investigation, interviews were used to solicit seven expert judgments and opinions: one governmental officer, one practitioner, and five university professors of tourism/education management. Two specific questions were asked of the tourism professionals: (1) Are there any modifications in terms of wording that should be made to fit the tourism profession? (2) Are there any details that should be eliminated or added to items to make them more applicable to tourism culture?

After collecting expert opinions and reaching common agreements, eight revisions were made in order to generate more applicable items to tourism management students. The two-stage modified Delphi technique was then used to determine the content validity and reach a consensus on the questionnaire survey. A 5-point Likert scale and a two-round questionnaire surveys were adopted. This study chose seven expert panelists to conduct the modified Delphi process. Expert panelists included seasoned tourism related workers, a governmental officer, and tourism and education professors. After two rounds of modified Delphi, one question was deleted, resulting in a 76-item measure with five dimensions. In the present study, Cronbach alpha reliability coefficients for *Assertion* (0.843), *Motivation* (0.909), *Efficiency* (0.872), *Dedication* (0.871), and *Change Orientation* (0.845) were considered acceptable. Cronbach alpha reliability coefficients (0.930) for all 76 items were deemed acceptable.

Method

Linguistic Variables and Fuzzy Number Approximation

Zadeh (1975) conceptualized the use of linguistic variables to resolve degrees of composite linguistic values human beings employ to generalize their perceptions. Questionnaires used to collect data for the present undertaking measured the linguistic variables by judging different degrees of perceptions, including "strong disagreement," "disagreement," "normal," "agreement" and "strong agreement" depicting a fuzzy linguistic scale as illustrated in Figure 1. Fuzzy numbers represent a fuzzy subset with a grade of membership ranging from 0 to 1. And α on R denotes a triangular fuzzy number when its membership function $\mu_{\tilde{\alpha}}(x)$: R→[0.1] can also be processed as follows:
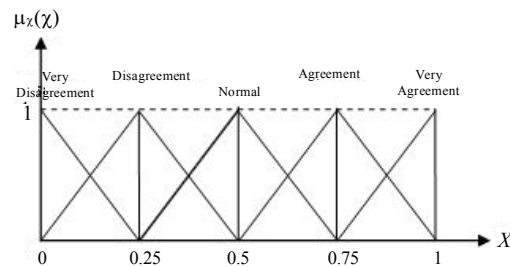

Fig. 1. Membership functions of fuzzy linguistic scale

$$\mu_{\alpha}(x) = \begin{cases} (x-l)/(m-l), & l \leq x \leq m \\ (u-x)/(u-m), & m \leq x \leq u \\ 0 & , \text{ elsewise} \end{cases} \quad (1)$$

Wherein, l and u, respectively, denote the lower and upper bounds of the fuzzy number $\tilde{\alpha}$, and m represents the modal value, as illustrated in Figure 2.
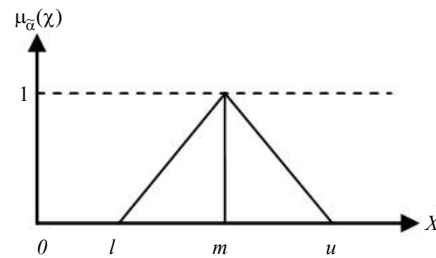

Fig. 2. Membership functions of triangular fuzzy number

The triangular fuzzy number thereby is generated by $\tilde{\alpha} = (l, m, u)$, followed by Eq. (2) as the operational rules to resolve the following triangular fuzzy numbers $\tilde{\alpha}_1 = (l_1, m_1, u_1)$, and $\alpha_2 = (l_2, m_2, u_2)$,

$$
\left.
\begin{array}{l}
\text{Addition}: \alpha_1 \oplus \alpha_2 = (l_1 + l_2, m_1 + m_2, u_1 + u_2) \\
\text{Subtraction}: \alpha_1 \Theta \alpha_2 = (l_1 - u_2, m_1 - m_2, u_1 - l_2) \\
\text{Multiplication}: \alpha_1 \otimes \alpha_2 \cong (l_1 \times l_2, m_1 \times m_2, u_1 \times u_2) \\
\text{Division}: \alpha_1 \oslash \alpha_2 \cong (l_1 / u_2, m_1 / m_2, u_1 / l_2) \\
\text{where } l_2, m_2, u_2 \neq 0 \\
\text{Scalar}: \lambda \square \alpha = \begin{cases} (\lambda l, \lambda m, \lambda u), \lambda \geq 0, \lambda \in R \\ (\lambda u, \lambda m, \lambda l), \lambda < 0, \lambda \in R \end{cases}
\end{array}
\right\} \quad (2)
$$

Fuzzy Entropy Theory

This study evaluates the objective weights of each dimension for each respondent using the fuzzy entropy method, as summarized as follows.

Step 1: The normalization for each criterion

The normalized value r_{ij} is given by Eq. (3), where, $r_{ij} = \left[r_{ij}^l, r_{ij}^m, r_{ij}^u \right]$

$$
r_{ij} = \frac{X_{ij}}{\sum\limits_{i=1}^{m} X_{ij}}, \quad i = 1, 2, \square, m \quad (3)
$$

Step 2: Calculate the fuzzy entropy value for each criterion

$$
e_j = -K \sum\limits_{i=1}^{m} r_{ij} \log r_{ij}, \quad j = 1, 2, \square, n \quad (4)
$$

Where, $K = \dfrac{1}{\log m}$ is a constant that assures $0 \leq e_j \leq 1$, and e_j indicates the fuzzy entropy value corresponding to criterion.

Step 3: Determine the objective fuzzy weight for each criterion

$$
w_j = \frac{1 - e_j}{\sum\limits_{i}^{n}(1 - e_i)}, \quad j = 1, 2, \square, n \quad (5)
$$

Where, $w_j = \left[w_j^l, w_j^m, w_j^u \right]$ indicates the objective fuzzy weight for criterion.

The Fuzzy VIKOR Method

The procedural rationale for assessing the ranking of each dimension when employing the fuzzy VIKOR method is given below. The L_i metric:

$$
L_i = \left\{ \sum\limits_{j=1}^{n} \left[w_j \otimes \left(\frac{\left| f_j^* \Theta f_{ij} \right|}{\left| f_j^* \Theta f_j^- \right|} \right) \right] \right\} \quad (6)
$$

$$
\alpha_{ij} = \frac{\left| f_j^* \Theta f_{ij} \right|}{\left| f_j^* \Theta f_j^- \right|} \quad (7)
$$

Where, the gap $\tilde{\alpha}$, is of the jth criterion's degrees of regret found in the ith alternative, whereas $\tilde{w}$ denotes the jth criterion's influential weight, and f_{ij} is the jth criterion's agreement score extracted from i^{th} alternative. , therefore, is the best value to the aspiration level, and can be defined as the worst level. The calculation procedure is detailed as follows:

Step 1: Determine the aspiration and worst levels

Eqs. (8) and (9) below are calculated to determine the aspiration and worst levels:

The aspiration levels: $f_j^* = (f_1^*, ..., f_j^*, ..., f_n^*)$ (8)

The worst levels: $f_j^- = (f_1^-, ..., f_j^-, ..., f_n^-)$ (9)

Linguistic variables to evaluate the agreement score were given by fuzzy VIKOR questionnaires using fuzzy linguistics, as "strong disagreement," "disagreement," "normal," "agreement" and "strong agreement". Therefore, f_{ij} is the jth criterion's agreement score in i^{th} alternative, f_j^* refers to the the aspiration level, f_j^- represents the worst level, $j = 1, 2, ..., n$, and $i = 1, 2, ..., m$. Additionally, the aspiration level can be set $f_j^* = (f_j^{*l}, f_j^{*m}, f_j^{*u}) = (1,1,1)$ and the worst level set as score $f_j^- = (f_j^{-l}, f_j^{-m}, f_j^{-u}) = (0,0,0)$.

Step 2: Compute the group utility together with individual maximum regret

The group utility, denoted to as, and individual maximum regret, shown as, for gap measures is then computed by Eqs. (10) and (11).

$$
G_i = \sum\limits_{j=1}^{n} w_j \otimes \alpha_{ij} = \sum\limits_{j=1}^{n} w_j \otimes \left(\frac{\left| f_j^* \Theta f_{ij} \right|}{\left| f_j^* \Theta f_j^- \right|} \right) \quad (10)
$$

$$
S_i = \max\limits_{j} \left\{ \alpha_{ij} \mid j = 1, 2, ..., n \right\}
$$

$$
= \max\limits_{j} \left\{ \frac{\left| f_j^* \Theta f_{ij} \right|}{\left| f_j^* \Theta f_j^- \right|} \mid j = 1, 2, ..., n \right\} \quad (11)
$$

Where $\tilde{\alpha}_{ij}$, is the gap (that is, degrees of regret) of jth criterion in i^{th} alternative, and is the influential weight of the ith criterion.

Step 3: Obtaining the comprehensive indicators

For the purpose of ranking, the comprehensive indicators R_i can be retrieved by Eq. (12). as the foundation for further ranking/improving alternative when R_i is approaching zero, referring to the aspiration level.

$$\tilde{R}_i = v \square \left(\tilde{G}_i \ominus \tilde{G}^*\right)/\left(\tilde{G}^- \ominus \tilde{G}^*\right) \oplus (1-v) \square \left(\tilde{S}_i \ominus \tilde{S}^*\right)/\left(\tilde{S}^- \ominus \tilde{S}^*\right), \ v \in [0,1] \ \ (12)$$

Where, v denotes the strategy's weighted values. As the rule of thumb, $v=0.5$ and this can be modified subject to alternative options. When, $v=1$ only the average gap is taken into consideration, whereas when, $v=0$ the individual regret/gap can be maximized for improvement purposes. Eq. (12) could be reformulated as, $\tilde{R}_i^o = v \square \ \tilde{G}_i^o \oplus (1-v) \square \ \tilde{S}_i^o$, wherein the best gap is written as $G^*=0,0,0)$ and the worst gap $G^*=1,1,1)$ in average gap, and the best gap $S^*=0,0,0)$ and the worst gap $S^*=1,1,1)$ in the individual maximum gap.

Defuzzification as a Means for Ranking and Selection

Fuzzy numbers result from the fuzzy comprehensive decisions retrieved from distinct alternatives. For simple and practical implications, this study used the defuzzified method of the center of area method (COA) to determine the best non-fuzzy performance (BNP) value of fuzzy numbers. The BNP value of the triangular fuzzy number $R_i=(R_i, R_i, R_i)$ for i alternative can be obtained by Eq. (13).

$$BNP_i = \frac{\left[(R_i^U - R_i^L) + (R_i^M - R_i^L)\right]}{3} + R_i^L \ \ (13)$$

RESULTS

This study proposed a systematic approach toward prioritizing the personal excellence of tourism undergraduate students using fuzzy entropy based VIKOR. Five types of personal excellence dimensions are considered as alternatives: (1) Assertion (D_1), (2) Motivation (D_2), (3) Efficiency (D_3), (4) Dedication (D_4), and (5) Change Orientation (D_5). This study uses

the measuring scale 1 to 5 as linguistic perception shown by natural language to measure the questionnaires, including "strong disagreement $(\tilde{1})$", "disagreement $(\tilde{2})$", "high normal $(\tilde{3})$", "agreement $(\tilde{4})$" and "strong agreement $(\tilde{5})$" as shown in Figure 1. Based on the questionnaires, the average fuzzy agreement score of five dimensions for 542 respondents can be obtained, as shown in Table 1.

Then, the aspiration level score is set as $\tilde{f}_j^o = (f_j^{*l}, f_j^{*m}, f_j^{*u}) = (1,1,1)$ and the worst level aspiration level score as $\tilde{f}_j^o = (f_j^{-l}, f_j^{-m}, f_j^{-u}) = (0,0,0)$. Moreover, this study used Eq. (7) to obtain $\tilde{\alpha}_{ij}$, where $\tilde{\alpha}_{ij}$ denotes degrees of regret of jth respondents in the ith dimension (the alternative), and Eq. (11) was also used to determine individual maximum regret $\tilde{S}_i$ for gap measures, as shown in Table 2. Also, this study used Eqs. (3)-(5) to determine the objective fuzzy weights of each respondent, as shown in Table 2. Additionally, the group utility G_i for measuring the gap can be done by utilizing the objective fuzzy weights from Fuzzy Entropy to multiply the gap α_{ij}, as shown in Table 3.

Furthermore, the comprehensive indicators $\tilde{R}_i$ can be obtained with Eq. (12), in which the value of v can make decisions by the expert that is defined and named, $v=1$, $v=0.5$, and $v=0$ in this paper. Additionally, results of the defuzzified, comprehensive indicators by using Eq. (13) are 0.5278 (D_1), 0.4951 (D_2), 0.5745 (D_3), 0.4933 (D_4) and 0.4412 (D_5). Table 4 lists the ranking of each dimension, from highest to lowest, as follows: Efficiency (D_3), Assertion (D_1), Motivation (D_2), Dedication (D_4) and Change Orientation (D_5).

DISCUSSION

Recent studies give support to the idea that employees with high excellence competencies are able to add substantial value to their respective organizations (Ramos-Villarreal and Holland 2011). In addition, interventions or trainings to enhance levels of emotional intelligence and personal excellence are capable of increasing individuals' success and well-being (Joyner and Mann 2011; Görgens-Ekermans 2015; Tang 2016; Jaeger 2017). As a continuing effort to verify educational significance of the personal excellence model developed based on emotional intelligence theory and practices, the present study marks the first attempt to explicitly identify the deficit personal excellence areas to be included

Table 1: The average fuzzy agreement score of five dimensions for 542 respondents

Respondents	D_1	D_2	D_3	D_4	D_5
1	(0.3194,0.5694,0.8194)	(0.2500,0.5000,0.7500)	(0.3333,0.5833,0.7917)	(0.2917,0.5417,0.7917)	(0.1500,0.3500,0.6000)
2	(0.4306,0.6806,0.8889)	(0.3229,0.5521,0.7708)	(0.1875,0.4375,0.6875)	(0.4167,0.6667,0.8333)	(0.1500,0.3750,0.6250)
3	(0.4028,0.6528,0.9028)	(0.4375,0.6875,0.9375)	(0.4375,0.6875,0.9167)	(0.5000,0.7500,1.0000)	(0.1250,0.3750,0.6250)
4	(0.4583,0.7083,0.9444)	(0.4583,0.7083,0.9583)	(0.3750,0.6250,0.8750)	(0.2708,0.5208,0.7708)	(0.6500,0.9000,0.9500)
5	(0.3194,0.5556,0.7778)	(0.2396,0.4896,0.7396)	(0.2708,0.5208,0.7708)	(0.5208,0.7708,0.9167)	(0.2000,0.4000,0.6500)
-	-	-	-	-	-
-	-	-	-	-	-
538	(0.1806,0.6389,0.8750)	(0.1875,0.6146,0.8021)	(0.4792,0.5208,0.7500)	(0.3750,0.7917,0.9792)	(0.5500,0.4250,0.6500)
539	(0.3194,0.5972,0.8472)	(0.3229,0.6354,0.8854)	(0.2917,0.5625,0.8125)	(0.3958,0.6667,0.8958)	(0.2500,0.5250,0.7750)
540	(0.3889,0.5972,0.8333)	(0.3958,0.5417,0.7917)	(0.2708,0.5208,0.7500)	(0.5417,0.5625,0.8125)	(0.2250,0.4000,0.6500)
541	(0.3472,0.7222,0.8889)	(0.3854,0.6250,0.8333)	(0.3125,0.4583,0.7083)	(0.4167,0.5833,0.8125)	(0.2750,0.4250,0.6500)
542	(0.3472,0.5000,0.7222)	(0.2917,0.3438,0.5625)	(0.2708,0.3125,0.5625)	(0.3125,0.3125,0.5417)	(0.2000,0.9250,0.9750)

Table 2: The gap $\widetilde{\alpha}_{ij}$, individual maximum regret $\widetilde{S}_i$ and the objective fuzzy weights

Respondents	Objective fuzzy weights	D_1	D_2	D_3	D_4	D_5
1	(0.001198,0.000534,0.000207)	(0.1806,0.4306,0.6806)	(0.2500,0.5000,0.7500)	(0.2083,0.4167,0.6667)	(0.2083,0.4583,0.7083)	(0.4000,0.6500,0.4000)
2	(0.002788,0.000925,0.000287)	(0.1111,0.3194,0.5694)	(0.2292,0.4479,0.6771)	(0.3125,0.5625,0.8125)	(0.1667,0.3333,0.5833)	(0.3750,0.6250,0.3750)
3	(0.002698,0.000878,0.000427)	(0.0972,0.3472,0.5972)	(0.0625,0.3125,0.5625)	(0.0833,0.3125,0.5625)	(0.0000,0.2500,0.5000)	(0.3750,0.6250,0.3750)
4	(0.001422,0.000578,0.000115)	(0.0556,0.2917,0.5417)	(0.0417,0.2917,0.5417)	(0.1250,0.3750,0.6250)	(0.2292,0.4792,0.7292)	(0.0500,0.1000,0.0500)
5	(0.002169,0.000873,0.000222)	(0.2222,0.4444,0.6806)	(0.2604,0.5104,0.7604)	(0.2292,0.4792,0.7292)	(0.0833,0.2292,0.4792)	(0.3500,0.6000,0.3500)
538	(0.001658,0.000762,0.000341)	(0.1250,0.3611,0.8194)	(0.1979,0.3854,0.8125)	(0.2500,0.4792,0.5208)	(0.0208,0.2083,0.6250)	(0.3500,0.5750,0.3500)
539	(0.000383,0.000129,0.000052)	(0.1528,0.4028,0.6806)	(0.1146,0.3646,0.6771)	(0.1875,0.4375,0.7083)	(0.1042,0.3333,0.6042)	(0.2250,0.4750,0.2250)
540	(0.000564,0.000311,0.000133)	(0.1667,0.4028,0.6111)	(0.2083,0.4583,0.6042)	(0.2500,0.4792,0.7292)	(0.1875,0.4375,0.4583)	(0.3500,0.6000,0.3500)
541	(0.001949,0.000682,0.000228)	(0.1111,0.2778,0.6528)	(0.1667,0.3750,0.6528)	(0.2917,0.5417,0.6875)	(0.1875,0.4167,0.5833)	(0.3500,0.5750,0.3500)
542	(0.008791,0.003777,0.001010)	(0.2778,0.5000,0.6528)	(0.4375,0.6563,0.7083)	(0.4375,0.6875,0.7292)	(0.4583,0.6875,0.6875)	(0.0250,0.0750,0.0250)
$\widetilde{S}_i$		(0.58333,0.94444,0.81944)	(0.51042,0.94792,0.76042)	(0.68750,0.97917,0.93750)	(0.50000,0.97917,0.75000)	(0.62500,0.62500,0.87500)

Table 3: The group utility $\tilde{G}_i$

Respondents	D_1	D_2	D_3	D_4	D_5
1	(0.00004, 0.00023, 0.00082)	(0.00005, 0.00027, 0.00090)	(0.00004, 0.00022, 0.00080)	(0.00004, 0.00024, 0.00085)	(0.00008, 0.00035, 0.00048)
2	(0.00003, 0.00030, 0.00159)	(0.00007, 0.00041, 0.00189)	(0.00009, 0.00052, 0.00227)	(0.00005, 0.00031, 0.00163)	(0.00011, 0.00058, 0.00105)
3	(0.00004, 0.00031, 0.00161)	(0.00003, 0.00027, 0.00152)	(0.00004, 0.00027, 0.00152)	(0.00000, 0.00022, 0.00135)	(0.00016, 0.00055, 0.00101)
4	(0.00001, 0.00017, 0.00077)	(0.00000, 0.00017, 0.00077)	(0.00001, 0.00022, 0.00089)	(0.00003, 0.00028, 0.00104)	(0.00001, 0.00006, 0.00007)
5	(0.00005, 0.00039, 0.00148)	(0.00006, 0.00045, 0.00165)	(0.00005, 0.00042, 0.00158)	(0.00002, 0.00020, 0.00104)	(0.00008, 0.00052, 0.00076)
...					
538	(0.00001, 0.00005, 0.00028)	(0.00001, 0.00005, 0.00028)	(0.00002, 0.00006, 0.00029)	(0.00001, 0.00004, 0.00025)	(0.00002, 0.00006, 0.00009)
539	(0.00006, 0.00013, 0.00101)	(0.00007, 0.00014, 0.00100)	(0.00009, 0.00015, 0.00121)	(0.00006, 0.00014, 0.00076)	(0.00012, 0.00019, 0.00058)
540	(0.00001, 0.00019, 0.00025)	(0.00001, 0.00026, 0.00024)	(0.00002, 0.00037, 0.00026)	(0.00001, 0.00028, 0.00022)	(0.00002, 0.00039, 0.00013)
541	(0.00004, 0.00189, 0.00037)	(0.00006, 0.00248, 0.00040)	(0.00006, 0.00260, 0.00041)	(0.00006, 0.00260, 0.00039)	(0.00000, 0.00028, 0.00001)
542	(0.02742, 0.15687, 0.63507)	(0.02173, 0.13610, 0.59402)	(0.02933, 0.16091, 0.65289)	(0.02012, 0.12772, 0.58269)	(0.04295, 0.22170, 0.25730)
$\tilde{G}_i$	(0.02742, 0.15687, 0.63507)	(0.02173, 0.13610, 0.59402)	(0.02933, 0.16091, 0.65289)	(0.02012, 0.12772, 0.58269)	(0.04295, 0.22170, 0.25730)

in a training program for undergraduate students of tourism. It is important to develop such programs, as there may otherwise be few opportunities for these students to learn these valuable interpersonal and conceptual skills. The findings of this study contribute to the existing literature by identifying tourism students' current levels of personal excellence and by helping departments of tourism to prioritize training needs by taking budget and credit hour constraints into consideration.

A plethora of educational research has shown that demographic variables, such as socio-cultural background, gender, age and fields of disciplines, may affect how individuals perceive needs of any given training program, claiming that one-size-fit-all principles to determine training content might be to some extent arbitrary and idiosyncratic (example, Alqunayeer and Zamir 2016; Guven et al. 2016; Kavgaoglu and Alci 2016). However, there has been a dearth of research on performing contextually-specific need analysis as references to training program planning in the field of tourism. To build a foundation for further research and practices on maximizing training results, fuzzy entropy based VIKOR introduced by the present study would serve as a viable and often superior hybrid metaheuristic to permit scenario-based prioritization and strategic planning in various fields of training program planning.

CONCLUSION

The present study aimed to examine Taiwanese undergraduate tourism students' self-reported strengths and weaknesses in terms of personal excellence abilities, with the goal of ultimately developing training programs that can strengthen their personal excellence competencies and thus better equip them for professional success. To account for peripheral multi-attribute reasoning featured by fuzzy entropy based VIKOR, a scenario-based analysis based on sampling a group of tourism management undergraduates was adopted to assess pursuits of excellence competencies, targeting at detecting perceived strengths and weaknesses as a pathway to inform their developmental needs. The results indicate that the ranking of competencies among tourism management students from the best to the least are: *Efficiency, Assertion, Motivation, Dedication* and *Change Orientation*.

Table 4: The ranking of five dimensions using the fuzzy VIKOR

Dimensions	Comprehensive indicators $\widetilde{R}_i$	BNP values	Rank
D_1	(0.30538 ,0.48816 ,0.78976)	0.5278	2
D_2	(0.26608 ,0.44826 ,0.77097)	0.4951	3
D_3	(0.35842 ,0.54920 ,0.81603)	0.5745	1
D_4	(0.26006 ,0.43886 ,0.78093)	0.4933	4
D_5	(0.33397 ,0.54835 ,0.44115)	0.4412	5

Results of the present study indicate that *Change Orientation* was found to be among the most deficient skill areas, which suggests that tourism students may not feel a strong need to make personal changes. Making these students more aware of this deficiency could help them achieve greater personal success. Therefore, training sessions could involve peer interviews and focus group discussions in order to enhance self-awareness and nurture students' desires to make changes as necessary. Change processes can only occur if students are able to describe specific behaviours for change and make the necessary changes. Moreover, students must be able to extrapolate personal or situational factors that may result in behavioural changes, and they must recognise and dispute self-defeating and irrational beliefs that may obstruct positive changes.

The training courses for the tourism students could incorporate content detected based on the present undertaking to enhance their *Dedication*, which refers to their conviction to work on what they start to the end and enjoy the sense of accomplishment in personal pursuit. Tourism students can benefit from activities in which they recall their past achievements and set goals for the future. Moreover, they should be given opportunities to talk about past successes and feelings of pride associated with personal excellence, as this helps students dedicate their whole-hearted efforts towards goal fulfillment.

In addition, the content of the course may deal with relatively high skill areas. For example, one of the keys to improving skills of *Efficiency, Assertion* and *Motivation* is to focus on enhancing self-esteem, self-efficacy and self-responsibility. In order to enhance students' *Motivation*, courses can focus on allowing students to identify their past achievements and set goals for the future. To enhance students' *Assertion* skills, courses can be designed to motivate thinking on deferential responses to other people's demands, and situational variables serve to delay decisions and are thus detrimental to everyone involved. For instance, students can experience assertive communication while considering others' feelings and needs. In addition, enhancing students' *Efficiency* skills involves helping them to view time as a valuable resource. Therefore, students should be given opportunities to reflect on the value of time and to discuss how their daily lives can be better planned, as well as setting priorities to fulfil their daily plans while limiting anxiety.

RECOMMENDATIONS

Equally important to note is that the application of the present study's findings may be constrained by certain limitations. First, the use of self-administered data may carry a bias of general method variance, as respondents may answer questionnaires with what they believe is expected rather than what they truly feel. A range of assessment methods, such as self-, peer-rating and the 360 degree survey method, can be employed in future studies to provide evaluations from subjective and objective perspectives to determine an individual's personal excellence level. In addition, there was no comparison of the personal excellence skills of tourism students and the personal excellence skills of the general public. Further studies can also examine whether there are significant differences between tourism students and students in other academic disciplines for differentiating personal excellence traits. Future research can also interview experienced employers or managers in the tourism industry in order to better understand what kind of competencies should be taught in school and which competencies graduates will need to become successful entry-level industry professionals. Further experiments can also be carried out to assess whether training interventions serve to improve tourism students' personal excellence competencies. Lastly, it would be worthwhile for future researchers to conduct longitudinal stud-

ies of students who have graduated in order to examine how they apply the personal excellence skills developed in the workplace.

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REFERENCES

Airey D 2005. United Kingdom. In: D Airey, J Tribe (Eds.): *An International Handbook of Tourism Education.* Oxford: Elsevier, pp. 271-282.

Alqunayeer HS, Zamir S 2016. Needs analysis of Saudi EFL female students: A case study of Qassim University. *Journal of Curriculum and Teaching,* 5(1): 87-104.

Austin EJ, Saklofske DH, Egan V 2005. Personality, well-being and health correlates of trait emotional intelligence. *Pers and Indiv Diff,* 38(3): 547-558.

Baltes P, Staudinger U 2000. Wisdom: A metaheuristic (pragmatic) to orchestrate mind and virtue towards excellence. *Amer Psych,* 55(1): 122-136.

Bar-On R 1997. *The Emotional Quotient Inventory (EQ-i): A Test of Emotional Intelligence.* Toronto: Multi-Health Systems.

Barron, P, Arcodia C 2002. Linking learning style preferences and ethnicity: International students studying hospitality and tourism management in Australia. *J of Hosp, Lei, Sport and Tour Edu,* 1(2): 1-13.

Bay D, McKeage K 2006. Emotional intelligence in undergraduate accounting students: Preliminary assessment. *Acc Edu: An Inter J,* 15(4): 439-454.

Carmeli A 2003. The relationship between emotional intelligence and work attitudes, behavior and outcomes. *J of Manag Psych,* 18(8): 788-813.

Chan DW 2008. Emotional intelligence, self-efficacy, and coping among Chinese prospective and in-service teachers in Hong Kong. *Edu Psych,* 28(4): 397-408.

Chia YM 2005. Job offers of multi-national accounting firms: The effects of emotional intelligence, extra-curricular activities, and academic performance. *Acc Edu: An Inter J,* 14(1): 75-93.

Cho YH, Palmer JD 2013. Stakeholders' views of South Korea's higher education internationalization policy. *Higher Edu,* 65(3): 291-308.

Cohen A, Abedallah M 2015. The mediating role of burnout on the relationship of emotional intelligence and self-efficacy with OCB and performance. *Manag Res Review,* 38(1): 2-28.

Costa A, Faria L 2015. The impact of emotional intelligence on academic achievement: A longitudinal study in Portuguese secondary school. *Lear and Indiv Diff,* 37(1): 38-47.

Echtner CM, Jamal TB 1997. The disciplinary dilemma of tourism studies. *Ann of Tour Res,* 24(4): 868-883.

Epstein S 1998. *Constructive Thinking: The Key to Emotional Intelligence.* Westport, CT: Praeger.

Extremera N, Rev L 2016. Ability emotional intelligence and life satisfaction: Positive and negative affect as mediators. *Pers and Indiv Diff,* 102: 98-101.

Gardner H 2006. *Multiple Intelligences: New Horizons.* Revised Edition. New York: Basic Books.

Goleman D 1995. *Emotional Intelligence.* New York: Bantam Books.

Goodenough RA, Page SJ 1993. Planning for tourism education and training in the 1990s: Bridging the gap between industry and education. *J of Geo in Higher Edu,* 17(1): 57-73.

Görgens-Ekermans G, Delport M, Du Preez R 2015. Developing emotional intelligence as a key psychological resource reservoir for sustained student success. *SA J of Indus Psych,* 41(1): 1-13.

Guven S, Ozturk A, Duman SN 2016. Needs analysis of responsibility curriculum for primary school students. *Edu Res and Reviews,* 11(19): 1831-1840.

Hammett RD 2007. *Personal Excellence: The Development and Validation of a New Measure of Emotional Intelligence.* Doctoral Dissertation, Unpublished. Texas: Texas A&M University-Kingsville.

Hammett RD 2008. *Personal Excellence Map III: A Coaching Resource for Enhancing Personal and Professional Skills [Assessment].* Corpus Christi, TX: EI Learning Systems.

Hou AYC 2012. Impact of excellence programs on Taiwan higher education in terms of quality assurance and academic excellence, examining the conflicting role of Taiwan's accrediting agencies. *Asia Pac Edu Review,* 13(1): 77-88.

Jaeger A 2017. Achieving business excellence through self-assessment for personal and professional excellence. *TQM and Bus Excel,* 1-21.

Joyner FF, Mann DTY 2011. Developing emotional intelligence in MBA students: A case study of one programme's success. *Amer J of Bus Edu,* 4(10): 59-72.

Jung HS, Yoon HH 2016. Why is employees' emotional intelligence important? The effects of EI on stress-coping styles and job satisfaction in the hospitality industry. *Int J of Cont Hosp Manag,* 28(8): 1649-1675.

Kavgaoglu D, Alci B 2016. Application of context input process and product model in curriculum evaluation: Case study of a call centre. *Edu Res and Reviews,* 11(17): 1659-1669.

Lassk FG 2013. Exploring the relationship between emotional intelligence and salesperson creativity. *J of Pers Selling and Sales Manag,* 33(1): 25-37.

Lee M, Kim S, Lo A 2008. Perceptions of hospitality and tourism students towards study motivations and preferences: A study of Hong Kong students. *J of Hosp, Lei, Sport and Tour Edu,* 7(2): 45-58.

Liu CS, Cheng HJ 2012. Education equity in the process of the massification of Taiwan's higher education. *Chinese Edu and Soc,* 45: 99-111.

Liu Y, Wang Z, Lu W 2013. Resilience and affect balance as mediators between trait emotional intelligence and life satisfaction. *Pers and Indiv Diff,* 54(7): 850-855.

Maslow AH 1999. *Toward a Psychology of Being.* 3rd Edition. New York: John Wiley and Sons.

Mayer JD, Salovey P 1993. The intelligence of emotional intelligence. *Intel,* 17(4): 433-442.

Min J 2014. The relationships between emotional intelligence, job stress, and quality of life among tour guides. *Asia Pac J of Tour Res,* 19(10): 1170-1190.

Min J, Tang V, Chen CA 2016. Ranking the personal excellence training needs of undergraduate tourism students. *J of Tour Manag Res,* 3(2): 37-46.

Min J, Tang V, Yin MS 2011. Prioritizing the emotional intelligence (EI) needs of Undergraduates in Taiwan. *J of Hosp, Lei, Sport and Tour Edu,* 10(2): 14-29.

Ministry of Education 2016. Student Volume Studying in Tourism-related Departments in Taiwan, 1998-2015. From <https://stats.moe.gov.tw/files/gender/106-17.xls> (Retrieved on 8 July 2016).

Nelson DB. Low GR 2003a. *Emotional Intelligence: Achieving Academic and Career Excellence.* Upper Saddle River, NJ: Prentice Hall.

Nelson DB, Low GR 2003b. *Personal Excellence: Building Quality from Within [Assessment].* Corpus Christi, TX: EI Learning Systems.

Nelson DB, Low GR, Hammett R 2007. Personal Excellence Map: Personal Skills Assessment and Enhancement Process. From <http://www.tccta.org/events/leading/LFM08/PEMintro.pdf> (Retrieved on 1 June 2015).

Ogiñska-Bulik N 2005. Emotional intelligence in the workplace: Exploring its effects on occupational stress and health outcomes in human service workers. *Inter J of Occupational Med and Envir Health,* 18(2): 167-175.

Ouyang Z, Sang J, Li P, Peng J 2015. Organizational justice and job insecurity as mediators of the effect of emotional intelligence on job satisfaction: A study from China. *Pers and Indiv Diff,* 76: 147-152.

Ornstein R 1997. *The Right Mind: Making Sense of the Hemispheres.* San Diego: Harvest Books.

Ramos-Villarreal J, Holland G 2011. University students' development of emotional intelligence skills for leadership. *Amer J of Bus Edu,* 4(3): 47-54.

Rene Parrish D 2015. The relevance of emotional intelligence for leadership in a higher education context. *Studies in Higher Edu,* 40(5): 821-837.

Sanchez-Ruiz M, Mavroveli S, Poullis J 2013. Trait emotional intelligence and its links to university performance: An examination. *Pers and Indiv Diff,* 10(2): 658-662.

Sanghi S 2006. *Towards Personal Excellence: Psychometric Tests and Self-improvement Techniques for Managers.* New Delhi: Sage Publications Pvt Ltd.

Sen A, Rao S, Nelson D 2010. *Fueling Success: How HPCL used Emotional Intelligence to Help its Employees to Grow.* Mumbai: Book World Enterprise.

Sheldon P, Fesenmaier D, Woeber K, Cooper C, Antonioli M 2008. Tourism education futures, 2010-2030: Building the capacity to lead. *J of Teaching in Travel and Tour,* 7(3): 61-68.

Sternberg RJ 2003. *Wisdom, Intelligence, and Creativity Synthesized.* Cambridge: Cambridge University Press.

Tang HWV, Chang K, Chou TR 2016. Developing a short-form measure of personal excellence for use among university students in Taiwan. *TQM and Bus Excel,* 27(5-6): 560-580.

Tang V, Yin MS, Koa MY 2012. Translation and Validation of the Personal Excellence Map into Chinese. *Proceedings of the 2012 IEEE International Conference on Management and Service Science,* 10-12 August, Shanghai, China.

Tang V, Yin MS, Min J 2010. The Application of GRA to Prioritizing IT Professionals' EI Training Needs. *Proceedings of the ASBBS 17th Annual Conference (American Society of Business and Behavioral Sciences),* 18-21 February, Las Vegas, USA.

Tang HW, Yin MS, Nelson DB 2010. The relationship between emotional intelligence and leadership practices: A cross-cultural study of academic leaders in Taiwan and the USA. *J of Manag Psych,* 25(8): 899-926.

Tribe J 2006. Tourism, knowledge and the curriculum. In: D Airey, J Tribe (Eds.): *An International Handbook of Tourism Education.* Oxford: Elsevier, pp. 47-60.

Wallis C, Steptoe S 2006. How to Bring Our Schools Out of the 20th Century. Time. From <http://www.tourism.wu-wien.ac.at/Summit/Material/How_to_bring_our_schools_out_of_the_20th_Century.pdf> (Retrieved on 3 November 2013).

Walo M 2001. Assessing the contribution of internship in developing Australian tourism and hospitality students' management competencies. *Asia-Pac J of Coop Edu,* 2(1): 12-28.

Wyner J 2012. What is community college excellence-Lessons from the Aspen Prize. *Change: The Magazine of Higher Learning,* 44(3): 14-20.

Zadeh LA 1975.The concept of a linguistic variable and its application to approximate reasoning. *Inform Sci,* 8(3): 199-249.