

Emotion Framework in Leadership Programs for TVET and Higher Education Students

Zaiha Ahmad¹, Zuraeda Ibrahim², Nordiana Ibrahim³, Nur Nafishah Azmi⁴, Anitawati Mohd Lokman^{5*}

¹ Faculty of Communication and Media Studies,
Universiti Teknologi MARA, 40450 Shah Alam, MALAYSIA

² Faculty of Accountancy,
Universiti Teknologi MARA Selangor, 42300 Puncak Alam, MALAYSIA

³ Faculty of Plantation and Agrotechnology,
Universiti Teknologi MARA Melaka, 77300 Jasin MALAYSIA

⁴ College of Creative Arts,
Universiti Teknologi MARA Selangor, 40150 Puncak Perdana, MALAYSIA

⁵ College of Computing, Informatics and Mathematics,
Universiti Teknologi MARA, 40450 Shah Alam, MALAYSIA

*Corresponding Author: anitawati@uitm.edu.my
DOI: <https://doi.org/10.30880/jtet.2024.16.03.001>

Article Info

Received: 28th February 2024
Accepted: 2nd June 2024
Available online: 23rd December 2024

Keywords

Emotion framework, higher education institutions, Kansei, Student Leadership Programme, Technical and Vocational Education and Training (TVET)

Abstract

Recent research has highlighted the significant impact of emotions on learning outcomes, particularly in education. However, discussions on effective student leadership programmes often neglect the emotional dimension, hindering the holistic development of future leaders. To address this gap, this study explores the intricate link between emotions and programme design, focusing on increasing student awareness and sensitivity. Conducted in Malaysian higher education, the research aims to establish an emotion framework for student leadership programme. Using the KJ Method with 30 participants and Quantitative Kansei Engineering involving 120 students, the study identifies 28 emotional clusters, with "excitement" and "confidence" as central structures. The "excitement" cluster encompasses emotions like "motivating," "joyful," and "energetic," while the "confidence" cluster includes emotions such as "confident," "challenging," and "determined." The analysis on factor and principal component loadings results in a Framework of Emotion in Student Leadership Programs. This framework underscores the significance of integrating and nurturing a harmonious interaction between emotional elements in programme design, with "excitement" and "confidence" as fundamental pillars. By incorporating emotional responses into the design process, an environment that elicits excitement and confidence among students can be created. These findings not only contribute to successful leadership program designs but also extend to other educational contexts. In the realm of Technical and Vocational Education and Training (TVET), these insights are particularly relevant. Like student leadership programs, TVET requires a holistic approach that integrates the emotional

dimension of learning. Such a balanced approach fosters emotional intelligence alongside technical skills, thereby enhancing student engagement and learning outcomes.

1. Introduction

In the contemporary landscape of higher education, the responsibility of shaping the leaders of tomorrow rests firmly on the shoulders of Higher Education Institutions (HEIs). Mindful of this imperative, HEIs and Technical and Vocational Education and Training (TVET) institutions are actively involved in not only cultivating academic and technical excellence but also in the holistic development of emotionally intelligent leaders. This initiative aligns closely with the eight Soft Skills characteristics outlined in the Malaysia Education Blueprint 2015-2025 (Higher Education) (MOHE, 2015), reinforcing the broader educational objectives of the nation. These initiatives are supported by substantial financial investments and are directed towards nurturing leaders who embody a strong Malaysian identity, possess a competitive edge, and are poised to lead organizations, industries, and nations into the future.

TVET plays a pivotal role in the landscape of Malaysian higher education, serving as a crucial component in addressing the nation's economic needs and fostering a skilled workforce. Integrated seamlessly into both public and private higher education institutions, TVET programs are designed to provide students with practical skills and hands-on experience, aligning education with the demands of various industries. This strategic integration is underscored by the Malaysian government's commitment to promoting TVET as a respected and viable educational pathway, as outlined in the Education Blueprint. By incorporating TVET into higher education, Malaysia aims to bridge the gap between academic learning and industry requirements, ensuring graduates are well-prepared for the challenges of the workforce, contributing to the nation's economic growth, and fulfilling its broader educational objectives.

Traditionally, the educational paradigm regarded the learning process as a predominantly rational pursuit, assigning a marginal role to emotions. Surprisingly, despite the pivotal significance of student leadership development programmes, empirical research has not extensively explored the quality, determinants, success factors, or deficiencies of these programmes, as indicated by prior studies (Benson & Pittman, 2012; Komives, Owen, Longerbeam, Mainella, & Osteen, 2005; Skalicky et al., 2020). This dearth of comprehensive research raises concerns regarding the absence of effective strategies or interventions to address this issue. Nevertheless, as Hascher's (2010) outlined various emotional categories significantly impacting learning outcomes, emotions undeniably hold a central position in the learning process. However, discussions regarding the development of successful programmes and effective training strategies, equipping graduates with the competencies essential for 21st-century leadership, often overlook the critical emotional quotient factor.

This study aims to address the existing research gaps by thoroughly examining the complex interplay between psychological feelings/emotions and programme design parameters. It places a distinct emphasis on the cultivation of student awareness and sensitivity, recognizing their crucial role in fostering both intellectual and emotional engagement. By delving into this intricate relationship, the study endeavours to contribute to the scholarly discourse by providing a comprehensive understanding of how programme design can effectively integrate and harness emotions to optimize student outcomes. Through an in-depth exploration of this interplay, the research seeks to provide valuable insights and recommendations that can inform the development of student leadership programmes, ultimately shaping the leaders of tomorrow.

2. Literature Review

In this section, the article outlines the key aspects of emotional experiences in leadership programmes at Higher Learning Institutions (HEIs).

3. Leadership

Leadership is characterised by the ability to lead by example, as defined by the Hall Dictionary 2017. According to Northouse (2010), a leader is an individual who possesses the capacity to influence a specific group towards a common goal. Crawford and Kelder (2019) define leaders as subject to tighter parameters for accountability and transparency and higher expectations of performance and outcomes. Furthermore, Komives et al. (2005) underscores the relational aspects of leadership, placing emphasis on process, collaboration, ethical relationships, and social responsibility. Recent research by Dahri et al. (2024) highlights the importance of social-emotional skills in leadership, particularly in the context of Technical and Vocational Education and Training (TVET).

Leaders serve as a key pillar in determining the direction of the organizations they lead. Knowledgeable, dedicated, and committed leaders play a crucial role in strengthening the planning and management of an institution. A leader of high quality can consistently garner support from their followers, navigating challenges with adeptness. A leader's efforts extend to a continual positive impact on himself, his family, society, and the

nation. A leader's comprehensive engagement with diverse stakeholders is imperative to foster the development of future leaders with strong, well-rounded identities—intellectually, spiritually, emotionally, and physically. This aligns with the principles outlined in the Malaysia National Education Philosophy, aspiring for leaders who are knowledgeable, competent, noble, responsible, and capable of fostering personal well-being while contributing to the harmony and prosperity of families, communities, and nations. Ye et al. (2024) emphasize the importance of incorporating vocational psychology in leadership development, particularly in TVET, to ensure sustainability and holistic growth.

The notion of 'leadership' has been a subject of ongoing discourse to this day. By recognising the constraints of previous methods, this study can leverage them to develop a set of improved organisational tools. To maximise performance, it provides suggestions grounded in contemporary psychometric research. This comprehensive analysis examines over ten years of contemporary leadership scales, offering both an overview and a critical evaluation of the diverse research methodologies and their inherent complexities. While scholars appropriately begin with theoretical foundations, it is crucial that as these theories evolve and are applied to various approaches and methods, they undergo empirical assessment. This study synthesizes current best practices, thereby providing a framework for such evaluation (Crawford & Kelder, 2019). The past two decades have witnessed a significant shift in leadership theory, moving away from the conventional emphasis on developing individual 'leaders' towards a more holistic concept of 'leadership' development (McCauley-Smith et al. (2015) and Rasmussen and Hansen (2016)). This new paradigm adopts a process-oriented perspective, focusing on the dynamic interplay between leaders and their environment, rather than solely on personal skills (Fiedler, 2006). Iles and Preece (2006) highlight that this transition has given rise to more collaborative leadership models, emphasizing the importance of building social networks over nurturing solitary leaders. This evolution is particularly evident in higher education leadership literature, where emerging theories from broader leadership studies are being successfully applied (Kezar, Carducci, & Contreras-McGavin 2006).

Unlike the former, which concentrated on individual and intrapersonal skills, the latter takes a more process-oriented approach, centered on the interaction between the leader and the environment (Fiedler, 2006). This shift, as noted by Iles and Preece (2006), has led to the emergence of more relational models of leadership, prioritizing the construction of social capital over the cultivation of individual heroes. This trend is observable in the realm of higher education literature on leadership, with most new theories in the general leadership literature finding application in the higher education environment (Kezar, Carducci, & Contreras-McGavin 2006).

4. Student Leadership Development Programme at the Higher Learning Institutions

Recent studies have highlighted concerns regarding the leadership capabilities of student leaders. To address these concerns, it is crucial for future leaders to develop a comprehensive understanding of diverse leadership styles and models. Furthermore, exposure to well-designed leadership development programs is essential, as these initiatives can significantly enhance students' knowledge, competencies, skills, and overall leadership potential (Adams et al., 2018). Notably, in recent decades, student leadership development programmes have seen widespread proliferation in universities globally. The interest in student leadership as a priority area in higher education is pervasive, extending from the highest level of institutional priorities and strategies down to individual units, classes, and programmes purporting to deliver leadership outcomes. As a result, student leadership development for higher education students takes various forms, including those specifically designed to develop leadership capabilities within or alongside curricular structures (Skalicky et al., 2020). Research indicates that participation in leadership-related activities offers students a multifaceted opportunity for growth. Such engagement not only enhances their skills and knowledge base but also contributes to their overall development. Specifically, these experiences can foster increased self-efficacy, promote civic engagement, cultivate character, improve academic performance, and facilitate personal growth (Komives et al., 2005; Pascarella & Terenzini, 2005). To meet the increasing expectations of employers for graduate capabilities (Velasco, 2012), attention to the quality of leadership development as an outcome and a clear conceptual and pedagogic approach to intentional leadership development is needed by HEIs purporting to offer it. Nwibe & Ogbuanya (2024) emphasize the importance of emotional intelligence in fostering entrepreneurial intention among university undergraduates, highlighting the need for integrating emotional aspects into leadership development programs.

The Hexagon Theory of Student Leadership Development lists six essential components of students' leadership development programmes, namely factors related to the individual, family, school, friends, university, and society. Robert's (1981), as cited in Amiranzadeh (2012), opined that a comprehensive model for leadership involves the acquisition of knowledge, skills, behaviours, and the development of attitudes and values.

However, leadership development programmes for students at HEIs are sometimes delivered on an ad hoc and unfocused basis under certain circumstances. The contested understanding of the term 'leadership' has resulted in a lack of clarity regarding how leadership may be 'developed' in higher education. While there are many programmes that contribute to developing leadership in students, not all of them do so explicitly. Moreover,

in the absence of clear conceptual underpinnings and pedagogical approaches, it is questionable whether these programmes can deliver the graduate capabilities employers are increasingly expecting (Skalicky et al., 2020).

5. Emotional Experience

Emotions are typically directed towards things, persons, or even other living creatures and involve the representation of values (Tye, 2008). According to Schutz et al. (2006), emotions can be defined as a person's conscious or subconscious recognition of their progress towards goals, adherence to standards, and maintenance of beliefs within social contexts. Emotions play a pivotal role in an individual's life, influencing how they perceive the environment, surroundings, and the people they interact with, thereby affecting their behaviour and actions (Shuhidan et al., 2023). This, in turn, can impact their ability to achieve personal or organizational objectives (McEnrue, Groves & Shen, 2009). To further understand the complexity of emotions, it is essential to consider their multidimensional nature. Harvey, Baumann, and Fredericks (2019) introduced a two-domain emo-cog taxonomy that integrates affective responses alongside cognitive reflections. This taxonomy highlights the significant contribution of emotions to learning processes. Additionally, Omar et al. (2019) emphasized that a comprehensive strategy influenced by cognitive, affective, and conative elements can significantly enhance problem-solving abilities, particularly in educational contexts such as engineering. These perspectives underscore the importance of considering emotional dimensions in leadership development programmes, as they play a crucial role in shaping students' learning experiences and outcomes.

Consistent with the above, Wu and Chen (2018) also asserted that positive emotions would lead to more cognitive strategies during the learning processes. They suggested that the intricate nature of emotions should be considered when developing any course or programme, as it will substantially contribute to the well-being of learning, teaching, students, and teachers. Gruicic and Benton (2015) in their studies, among others, aimed to examine whether managers' positive emotions could improve their performance, and their findings revealed that emotional potential influences competencies. Silva and Almeida (2023) suggested that the approach to training should include social and emotional skills. Yip and Cote (2013) posited that the process of knowledge acquisition mediated by emotions could have a significant impact on the participants. Crossman (2007) highlighted the value students place on expressing their beliefs and emotions during the assessment process and the need for teachers to balance objectivity with empathy. The study highlighted the significant impact of students' emotional responses to assessment on their learning process, as well as the importance of fostering positive teaching and learning relationships. Harvey, Baumann, and Fredericks (2019) introduced a new two-domain emo-cog taxonomy that includes affective responses alongside cognitive reflections, highlighting the significant contribution of emotions to learning. Omar et al. (2019) added that a planned strategy influenced by cognitive, affective, and conative elements can significantly improve problem-solving abilities in engineering education.

In line with the above arguments, and regarding student leadership development programmes at Higher Learning Institutions, the experience of emotion should also be considered as a fundamental aspect when crafting and implementing the training activities. Understanding the emotional elements that arise from students' experiences during their participation in any leadership programme is vital for ensuring that those who are involved can not only increase their skills and knowledge but also enhance their self-efficacy, civic engagement, character development, academic performance, and personal development. Mohamad et al. (2021) argued the importance of emotional intelligence in TVET graduates, emphasizing how it impacts their entrepreneurial abilities. It argues that emotional elements like self-control, self-awareness, and empathy are critical for navigating the challenges of entrepreneurship. The study underscores the need for TVET programs to integrate emotional intelligence training to better prepare graduates for the demands of the business world.

Emotions play a significant role in individuals' lives, influencing how they perceive their environment, interact with others, and ultimately shape their behaviour and actions (Lokman et al., 2019). Therefore, when designing leadership training activities, it is essential to take into account the intricate nature of emotions and their potential impact on the learning process. By creating a supportive and emotionally engaging learning environment, students are more likely to be motivated, actively participate, and effectively apply the knowledge and skills gained from the programme (Redzuan et al., 2011). Research has shown that positive emotions can contribute to cognitive strategies, overall well-being, and the development of important social and emotional skills. When students experience positive emotions during their leadership development journey, they are more likely to engage in deep learning, critical thinking, and problem-solving. This, in turn, can lead to a more comprehensive understanding of leadership concepts and the ability to apply them effectively in real-world situations. Furthermore, acknowledging and addressing negative emotions that students may encounter during the programme is equally important. Leadership development can be challenging, and individuals may experience feelings of self-doubt, anxiety, or frustration. By creating a safe and supportive space for students to express and process their emotions, the programme can help them develop resilience, emotional intelligence, and the ability to navigate difficult situations effectively.

In addition to the individual benefits, addressing emotions in leadership development programmes also has broader societal implications. Leaders who have a deep understanding of their own emotions and can effectively manage the emotions of others are more likely to create positive and inclusive work environments, foster collaboration, and inspire others to achieve common goals (McEnrue, Groves & Shen, 2009). By nurturing emotionally intelligent leaders, Higher Learning Institutions contribute to the development of future leaders who can make a positive impact on their organizations, communities, and society as a whole (Komives et al., 2005; Pascarella & Terenzini, 2005).

Based on past literature, it is crucial to consider the emotional experiences of participants when designing student leadership development programmes. By creating a supportive and engaging learning environment, students can improve their skills, knowledge, self-efficacy, civic engagement, character development, academic performance, and personal growth. Additionally, addressing emotions in leadership development programmes fosters the development of emotionally intelligent leaders who can positively impact their organizations and society. Therefore, Higher Learning Institutions should prioritize the integration of emotional elements into their leadership development programmes to ensure the holistic development of future leaders.

6. Technical Vocational Education and Training (TVET)

Technical Vocational Education and Training (TVET) is an education and training process that is career-focused with a primary emphasis on industrial practices (<https://www.moe.gov.my/maklumat-umum-tvet>). Collaborative efforts between Higher Learning Institutions (HEIs) and industries are vital to accomplish the TVET objectives. Graduates need real-life experiences which could improve their critical thinking, technical skills, problem-solving ability, and soft skills; hence they are more competent and confident to perform their tasks when joining the industry after graduating (Bassah, 2022; Legg-Jack & Ndebele, 2023; Salleh & Sulaiman, 2016; Salleh et al., 2016). All these skills can be acquired through leadership development programmes organized by the HEIs, as mentioned in sections 2.1 and 2.2 above prior to joining the industrial training.

The ongoing transformation of Malaysian TVET aims to equip graduates with industry-relevant skills, fostering economic growth and potentially positioning Malaysia as a high-income, developed nation in the near future. In Nigeria, their TVET policy aims for greater social inclusion; with TVET - their human capital equipped with sufficient knowledge, respectable attitudes, and practical skills where these could indirectly reduce the unemployment rate and poverty level (Okolie et al., 2023; Lai et al., 2019).

The Malaysian Education Blueprint 2015-2025 (Higher Education) (MOHE, 2015) has laid out the foundations for TVET to achieve prominence in education pathways that provide employment opportunities and attractive career choices and further education prospects. The Blueprint also stated that one of the six key attributes needed by every student to be globally competitive and accepted is Leadership skills.

Literature has debated various topics on TVET, including the issues and challenges, curriculum design, teaching pedagogies, to name a few. This article highlights the importance of addressing emotions in leadership development programmes at HEIs, within the TVET ecosystem so that the graduates shaped by the HEIs are more relevant to the industry needs and consistent with the aim of education sectors in developing the people, nation and industry.

7. The Methodology

This study employs a mixed-method approach, incorporating both qualitative and quantitative methodologies. It consists of three distinct research phases: Phase I is dedicated to the identification of emotional elements, Phase II aims to evaluate the emotional experience, and Phase III focuses on the conceptualization of emotions. By utilizing this comprehensive methodology, the study ensures a rigorous and holistic examination of the emotional dimension within the context of student leadership programmes.

7.1 Phase I: Identify Emotional Elements

In Phase 1, the study aims to identify the emotional elements that represent students' experiences when attending a specific Leadership Programme. To achieve this, the study adopts the KJ Method (Lokman, 2018), involving students and field experts from 3 different modules, namely Professional Management Module (MKP), Institutional Management Module (MKI), and Survival Management Module (MKSB), as participants. MKP, MKI and MKSB are three leadership modules aimed to cultivate future national leaders by focusing on leadership development, critical thinking, and professional skills. MKSB develops students' personal and leadership skills, emphasizing courtesy, effective communication, and teamwork through various interactive methods. MKI shapes students into icons by teaching them high-impact program planning, proposal preparation, and presentation skills. MKP specializes in training student leaders from associations and clubs, enhancing their management and problem-solving skills through group discussions and field studies. A total of 28 subjects participated in this phase, engaging in specific activities designed to maximize collaboration and engagement.

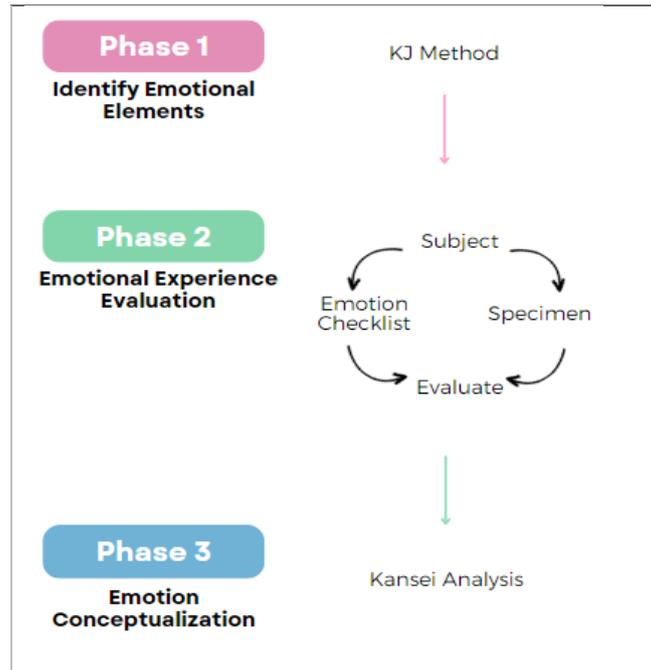


Fig. 1 The research process

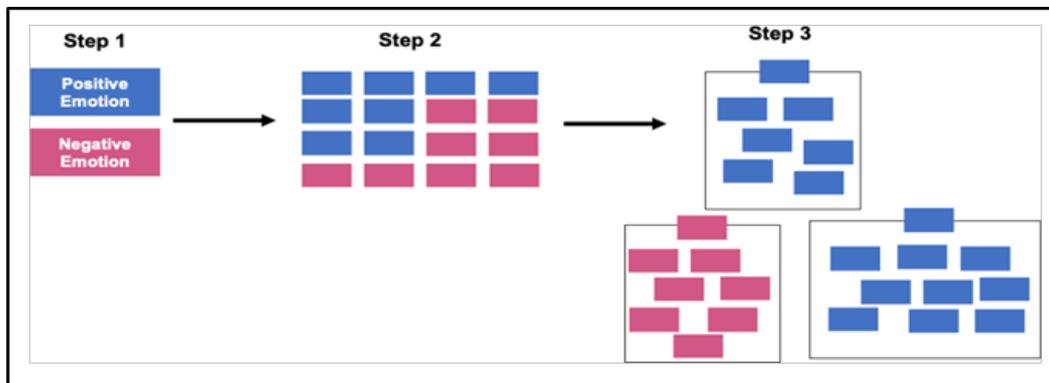


Fig. 2 The process of KJ Method in the study

The KJ method, also known as the 'affinity diagram,' facilitates quick group consensus on the classification of subjective (qualitative) data. This method functions as a means to collect and categorize extensive linguistic data, including concepts, viewpoints, and concerns, into groups based on their inherent connections. Fig. 1 illustrates the research method involving the adoption of the KJ Method in this study. Illustrated in Fig. 2 are the steps followed to explore participants' positive and negative experiences. A focus group study using the KJ method was conducted to explore students' psychological feelings and emotions when attending the Leadership programmes. In step 1, participants were given blue and pink cards and briefed on the concept of emotion in the domain. In step 2, participants were individually asked to express their opinions on blue and pink cards. During the session, each participant brainwrite their positive emotional experiences when engaging with the programmes onto blue cards, and their negative emotional experiences onto pink cards. In step 3, participants collaborated in a group, comparing their cards (adding more cards when necessary). After an exhaustive discussion, participants were tasked with finding similarities and organizing all cards into groups that made sense to classify their characteristics based on what and why they had written about the emotions. The process is done iteratively with the assistance of an expert facilitator to validate the classification. Once all cards were grouped, participants were asked to assign a theme name that best represented the classification. The expected deliverable from the KJ session is a set of psychological feelings/emotions, which represent the Kansei Words (KWs) in the Kansei Engineering methodology. The findings from Phase 1 were subsequently utilized to create instruments for evaluating emotional experiences in Phase 2. The instrument took the form of a 5-point Kansei checklist based on the quantitative Kansei Engineering methodology.

7.2 Phase II: Emotional Experience Evaluation

This study adopted the Kansei Engineering Type I (KEPack) method (Lokman, 2013) to evaluate subjects' emotional experience towards the leadership programmes. The method involves the evaluation of subject's emotional experience when interacting with certain product, service, or surroundings. A pilot study was conducted with 15 participants, which meets the minimum no. of participation in KE evaluation (Lokman, 2013). The participants were among students who have attended the Leadership Module. Then, the research proceeded with the actual evaluation. Three leadership programmes were used as the specimens, with 150 students as the subject, evaluating the emotional user experience using Kansei checklist. The Kansei checklist is a 5-point scale evaluation tool used to assess students' emotional experiences during leadership programmes, for instance ranging from "Not at all exciting" to "Very much exciting," for each identified emotion. This approach is useful in gaining insights into the emotional experiences of the target audience, which can inform the future development of programmes that better meet their needs and preferences. During the evaluation process, the students were asked to recall their experience with the programmes, module by module. The resulting data was then processed, and the average was calculated. This dataset was the input for the following phase.

7.3 Phase III: Emotion Conceptualization

After the completion of the KEPack, the dataset was then analysed using a multivariate statistical procedure. i) Factor Analysis (FA) was employed to determine the significant concept of emotion in the leadership programme that formed from the dataset. ii) Principal Component Analysis (PCA) was used to determine the structure that formed from the dataset. FA is a statistical analysis that breaks down the number of emotional dimensions into a smaller number of axes, revealing key aspects of emotional significance. PCA identifies key patterns in the data by determining the principal directions (components) that account for the greatest variance, allowing for a more efficient representation of the dataset's information.

8. Results and Discussion

In order to gain a comprehensive understanding of emotional experiences towards leadership programmes among higher education students, it is essential to prioritize the identification and classification of these experiences. This will contribute to the development and enhancement of the concept of emotional experience in the context of leadership programmes for students in higher education institutions. The following subsections provide a detailed description of the results obtained from each phase of the studies conducted.

9. Identification of Emotional Elements Using KJ Method

Firstly, a comprehensive and in-depth study was conducted with a diverse group of 28 participants, which consisted of facilitators who have extensive experience in leadership programmes and students who have actively participated in these programmes. The main objective of the study was to carefully analyse and understand the range of emotional experiences that the participants encountered throughout their involvement in the leadership programmes.

To ensure a systematic and organized approach, the researchers employed the well-established KJ Method to identify and classify the various emotional experiences reported by the participants. The participants were divided into 5 distinct groups, each representing a different set of emotional experiences. This categorization allowed for a more nuanced understanding of the diverse range of emotions that emerged from the leadership programmes. In Fig. 2, a visual representation of the KJ Method implementation session is provided, showcasing the collaborative and interactive nature of the process. This session served as a crucial platform for participants to openly express their emotions and reflect on their experiences within the leadership programmes. Additionally,

Table 1 Student's leadership emotion cluster

Angry	Confusing	Joyful	Shy
Anxious	Determined	Motivating	Spirited
Awkward	Energetic	Optimistic	Stressful
Bitter	Exciting	Overwhelming	Sympathetic
Challenging	Grateful	Pleasant	Tested
Confident	Happy	Sad	Tired
Confused	Hurtful	Satisfying	Uncomfortable

The study conducted an extensive analysis and identified a remarkable total of 134 different emotions, carefully categorized into two groups: positive experiences (represented by blue cards) and negative experiences (represented by red cards). These emotions were then further examined and grouped into 32 distinct emotional clusters, allowing for a more comprehensive understanding of the emotional landscape. To ensure accuracy and clarity, the researchers meticulously reviewed and synthesized the clusters, eliminating any redundancy and correcting typographical errors. As a result, a refined set of 28 emotion clusters emerged, collectively encapsulating a wide range of 118 unique emotions. Table 1 displays the emotion clusters, named Student's Leadership Emotion Cluster.

10. The Emotion Conceptualization

The resulting cluster of emotions was employed to formulate a Kansei checklist for evaluating the emotional experiences of students participating in a leadership programme. The data obtained from the evaluation phase were then processed, and the average evaluation result was calculated. Multivariate analysis was then conducted emotion conceptualization in student's leadership programmes. Multivariate Analysis is a statistical method that enables the understanding of patterns and relationships among variables. In the context of emotions, Multivariate Analysis can assist in identifying the emotions that arise from a set of responses and how they are related to each other, thereby providing a more comprehensive understanding of the structure of emotions. In this study, Multivariate Analysis was used to comprehend the concept of emotions that form from the responses of students who attended a leadership programme. Two descriptive multivariate techniques, namely Principal Component Analysis (PCA) and Factor Analysis (FA), were calculated using the average evaluation dataset. These analyses contributed to the research's objective of developing the concept of emotion in student leadership programmes.

11. Understanding the Semantic Structure of Emotion

Principal component analysis was used to examine the semantic space of a student's leadership programme. The results indicate that the first and second principal components had eigenvalues of 19.56 and 8.44 (Fig. 4) respectively, cumulatively contributing to 77.9% of the total variability, with PC1 accounting for 69.8% and PC2 for 30.2%. It's important to recognize that interpreting Principal Components (PCs) involves a degree of subjectivity, as noted by Bartholomew (2002). Different researchers might interpret the first PC in various ways; some may view it as representing the overall emotional structure, while others might advocate for the inclusion of additional PCs in their analysis. In this research case, the two dimensions were deemed capable of capturing most of the data structure (77.9%), indicating that the first two principal components had a significant influence on the structure of the programme's content. The remaining principal components had little effect on the programme's structure and could be ignored, as they accounted for only a small part of the variability. Overall, the structure of the programme's content was greatly influenced by the first two principal components, while the other components had a negligible influence.

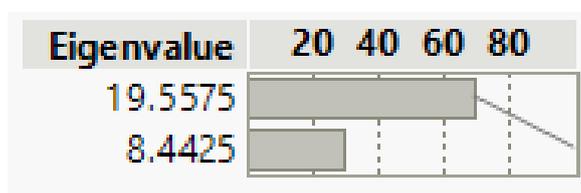


Fig. 4 Eigenvalues

Table 2 shows the partial contribution of variables, with each variable having two percentages: one for its positive contribution and one for its negative contribution. For example, "Motivating" has a partial contribution of 96.04% towards positive feelings and 3.96% towards negative feelings. Similarly, "Determined" has a partial contribution of 54.37% towards positive feelings and 45.63% towards negative feelings. This interpretation helps in understanding the impact of different variables on overall emotions or sentiments.

Table 2 *Partial contribution table*

Variable	Positive Partial Contribution (%)	Negative Partial Contribution (%)
Motivating	96.04	3.96
Determined	54.37	45.63
Pleasant	14.91	85.09
Satisfying	95.32	4.68
Confident	34.50	65.50
Optimistic	22.20	77.80
Shy	98.39	1.61
Energetic	91.87	8.13
Challenging	49.13	50.87
Happy	96.87	3.13
Exciting	99.64	0.36
Joyful	92.06	7.94
Spirited	83.65	16.35
Confusing	25.09	74.91
Stressful	85.09	14.91
Angry	29.63	70.37
Hurtful	1.40	98.60
Sad	61.55	38.45
Anxious	50.87	49.13
Bitter	96.87	3.13
Tested	99.91	0.09
Overwhelming	99.06	0.94
Tired	74.71	25.29
Uncomfortable	63.30	36.70
Confused	69.36	30.64
Sympathetic	66.54	33.46
Grateful	88.86	11.14
Awkward	99.60	0.40

The primary objective of this study is to conduct emotion evaluation in order to identify the emotional responses that a product evokes in users. These emotional responses are then incorporated into the design process of the leadership programme. To achieve this, the study utilizes the semantic structure of emotion, which describes the emotional responses within a specific vector space defined by semantic expressions.

Fig. 5 show the emotion structure that formed from the dataset. The figure provides valuable insights into the impact of the evaluation on the variables used to determine the semantic space of emotion. By analysing the PC loadings, it becomes apparent how much the evaluation affects these variables. For instance, the words "awkward" and "bitter" exhibit low loading values along the first principal component, indicating a lack of excitement. On the other hand, words such as "energetic," "spirited," "exciting," and "motivating" demonstrate the highest loadings, suggesting a high level of excitement.

Furthermore, when examining the second principal component, the words "confusing" and "hurtful" emerge with the highest loading values. This implies that these words are strongly associated with the axis of confidence. Additionally, the words "pleasant" and "optimistic" show considerable loading values in relation to confidence. Notably, the word with the most negative value in this analysis is "hurtful."

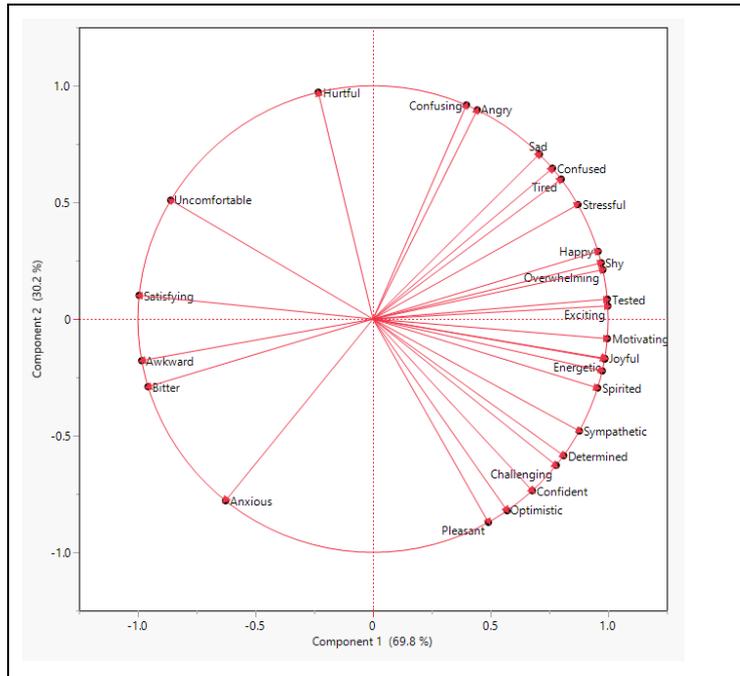


Fig. 5 The emotion structure

Based on these findings, it can be inferred that the emotional semantic space in leadership programme design consists of two key components: excitement and confidence. The blending and balancing of these two components are crucial determinants in the development of new leadership programme designs. As depicted in Fig. 5, the PC loadings for the first and second principal components, derived from the Kansei evaluation results, signify that words with high loadings indicate elevated levels of excitement and confidence, respectively. These insights provide valuable clues for future leadership programme designs. It is evident that a successful programme should strive to strike a balance and blend these two emotional components in order to evoke a sense of excitement and confidence among students. By carefully considering the emotional semantic space, programme designers can create an environment that fosters emotional connectivity and engagement, ultimately contributing to the overall success of the programme.

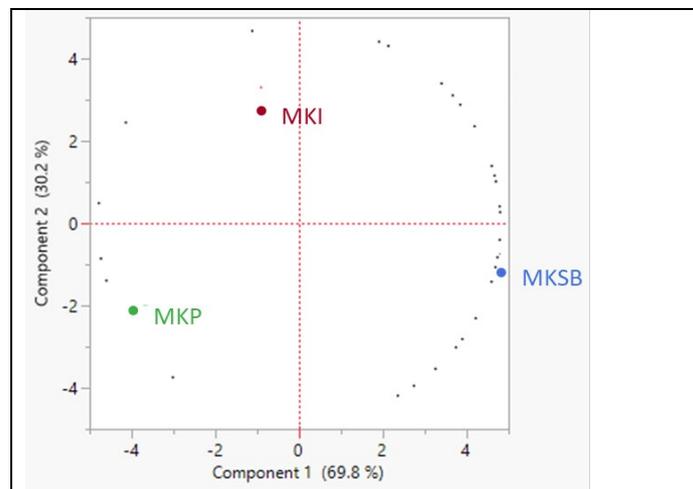


Fig. 6 Programme structure in the semantic space

Fig. 6 plots the principal scores of the specimens, determining their respective emotional space in this study. Strong significance was found to be linked with leadership programmes positioned near the edges of the emotion space. Specifically, leadership programme MKP, situated at the left and halfway bottom space, corresponds to a lower excitement but higher confidence emotional space. Conversely, leadership programme MKSB, positioned at the far-right edge and bottom space, indicates a correlation with high excitement and leaning towards less

confidence in the emotional space. Leadership programme MKI, located in the upper space and more to the left, indicates less excitement and confidence.

12. The Concept of Emotion

Factor Analysis (FA) is a statistical technique employed to discern the inherent structure or dimensionality of observed data and unveil the latent constructs that contribute to observable phenomena. In the context of leadership programmes, FA can be used to pinpoint significant emotional factors that help determine the concept of emotion in the programme's participants. This analysis provides valuable insights into the emotional aspects of the programme, allowing for a deeper understanding of the participants' experiences and the impact of emotions on their leadership skills.

The findings of this analysis can then be used to refine the results of Principal Component Analysis (PCA), a commonly used method in Kansei Engineering for identifying underlying constructs and streamlining the number of variables employed in the analysis. By incorporating the emotional factors identified through FA into the PCA, a more comprehensive picture of the participants' emotional responses and their relationship to the programme's objectives can be obtained. After conducting Factor Analysis, the resulting groups of correlated variables, known as factors or latent variables, are carefully analyzed to gain deeper insights into the underlying structure of the data. This examination allows for a deeper exploration of the underlying emotional dimensions that influence the participants' experiences in the leadership programme. By analysing these factors, programme designers and facilitators can gain valuable insights into how to better tailor the programme to meet the emotional needs and expectations of the participants.

To simplify the interpretation of variables in FA, the widely used Varimax rotation method was used. This method helps to maximize the variance explained by each factor, making it easier to interpret and understand the relationship between variables. By employing Varimax rotation, the emotional factors identified through FA can be more clearly understood and their impact on the leadership programme can be effectively analysed and communicated. In this study on emotion in leadership programmes,

Table 3 presents the detailed results of the FA, highlighting the significant emotional factors that have been identified. These results serve as a valuable resource for programme designers and researchers, providing them with a comprehensive understanding of the emotional dynamics at play in the programme and guiding future improvements and enhancements. The table displays the factor loadings, which provide valuable insights into the emotional experience of students. The analysis reveals that the students' emotional experience is structured into two distinct factors: Excitement and Confidence. These factors, along with their corresponding observed variables, play a crucial role in programme design. In fact, they account for a significant portion of the variance observed in the data.

The study's findings highlight the importance of excitement in the context of the leadership programme. "Excitement" encompasses a wide range of emotions, including feelings of being "tested," "exciting," "overwhelming," "shy," "happy," "motivating," "joyful," and "energetic." These expressive elements contribute to creating a vibrant and engaging atmosphere within the programme. On the other hand, the concept of confidence is also crucial in the leadership programme. Confidence involves emotions such as feeling "confident," "challenging," "determined," "optimistic," "pleasant," and "sympathetic." Compared to previous research in the field of leadership programmes for higher education students, this study represents a significant advancement in understanding emotional experiences within these educational contexts. Traditionally, empirical investigations in this domain have been limited, with prior studies primarily focusing on programme effectiveness, learning outcomes, and student satisfaction (Limna et al., 2022; Murillo-Zamorano et al., 2022). Although these studies have undoubtedly yielded valuable insights, the emotional dimensions of students' experiences within these programmes have remained relatively uncharted territory. This research addresses a noticeable gap by delving deeply into the emotional landscape, providing a comprehensive understanding of the emotional elements influencing leadership programmes. It builds upon prior works, which often acknowledged the importance of emotional intelligence in leadership development (Wu & Chen, 2018; Silva & Alemdia, 2023; Yip & Gote, 2013), yet did not undertake an in-depth exploration of the specific emotional experiences encountered by students in these programmes. This novel finding provides valuable insights for leadership programme designers who aim to foster a sense of excitement and confidence among participants. By incorporating these emotions into the programme, designers can ensure that participants feel emotionally connected and engaged, ultimately contributing to the programme's overall success. Fig. 7 provides a concise summary of these significant findings, capturing the essence of the study's results and form the Framework of Emotion in Student Leadership Programme.

Table 3 Partial result for factor loadings for emotion

Factor 1	Variable	Factor 2	Variable
<i>Tested</i>	0.99	<i>Confident</i>	0.99
<i>Exciting</i>	0.99	<i>Challenging</i>	0.99
<i>Overwhelming</i>	0.99	<i>Determined</i>	0.99
<i>Shy</i>	0.99	<i>Optimistic</i>	0.98
<i>Happy</i>	0.98	<i>Pleasant</i>	0.96
<i>Motivating</i>	0.98	<i>Sympathetic</i>	0.96
<i>Joyful</i>	0.96	Spirited	0.88
<i>Energetic</i>	0.96	Grateful	0.84
Grateful	0.94	Energetic	0.82
Stressful	0.92	Joyful	0.81
Spirited	0.91	Motivating	0.76
Tired	0.86	Exciting	0.66
Confused	0.83	Tested	0.64
Sympathetic	0.82	Overwhelming	0.54
Sad	0.78	Shy	0.51

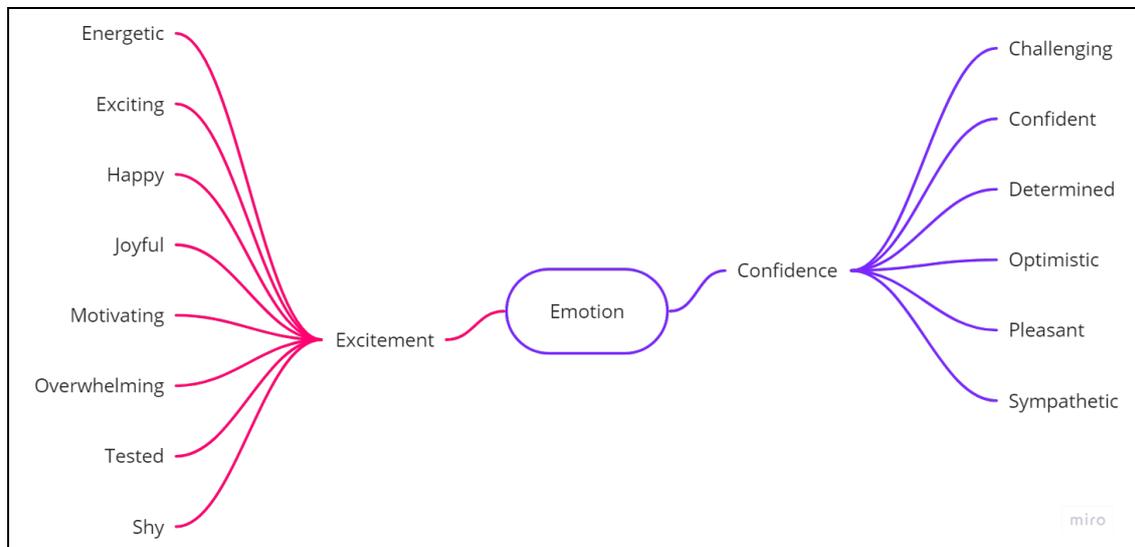


Fig. 7 The framework of emotion in student leadership programme

13. Conclusion

This study centred on the identification and classification of emotional experiences within leadership programmes for higher education students, acknowledging the fundamental role emotions play in shaping educational outcomes. Employing the KJ Method, emotional experiences were explored among a participant group, resulting in the identification of 134 distinct emotions, further categorized into 32 emotional clusters. These clusters underwent meticulous synthesis to eliminate redundancy and typographical errors. After extensive refinement involving experts in leadership programmes, a final set of 28 clusters, representing 118 unique emotions, was obtained. The subsequent phase focused on the conceptualization of emotions within the context of student leadership programmes. A Kansei checklist was developed based on the emotional clusters, enabling the evaluation of students' emotional experiences during programme participation. The collected data underwent meticulous processing, and the average evaluation result was calculated, setting the stage for multivariate analysis. Through Principal Component Analysis (PCA) and Factor Analysis (FA), the study aimed to understand the semantic structure of emotions and the underlying concepts influencing students' emotional responses within leadership programmes. The results provided valuable insights, revealing that the semantic structure of emotion within student leadership programmes was characterised by two primary components: "excitement" and "confidence." These dimensions collectively accounted for a substantial proportion of the emotional landscape,

emphasizing their pivotal role in shaping the programme's content and impacting students. This understanding offers programme designers a critical perspective, underscoring the importance of harmonizing and balancing these emotional elements to create effective leadership programmes.

The framework developed in this study can guide the development of leadership programs, ensuring they not only provide students with the practical skills needed to succeed in their chosen fields but also foster emotional well-being and confidence. The practical implications of these findings extend to the design of curriculum and teaching strategies within Higher Education Institutions, including TVET programs. For instance, activities and tasks that elicit feelings of excitement and confidence could be integrated into the curriculum to enhance student engagement and learning outcomes.

This study's contribution extends beyond the immediate context of student leadership programs, holding significant implications for government policies in the field of higher education. By highlighting the central role of emotions in shaping educational experiences, this research aligns with the broader educational goals outlined in the Malaysia Education Blueprint 2015-2025 (Higher Education) (MOHE, 2015) eight Soft Skills characteristics. These government initiatives have allocated substantial financial investments aimed at nurturing leaders who embody a strong Malaysian identity, possess a competitive edge, and are poised to lead organizations and nations into the future. The findings of this study offer valuable insights for policymakers and educational institutions in Malaysia and beyond. By prioritizing the incorporation of "excitement" and "confidence" as central emotional pillars in leadership programs, policymakers can enhance the emotional dimension of educational initiatives. This, in turn, can contribute to the holistic growth of students and their readiness as effective 21st-century leaders, aligning with the objectives of government policies. Moreover, the study's emphasis on emotions in the educational landscape provides a roadmap for program designers and policymakers, aligning with the government aim to produce graduates who are not only academically proficient but also emotionally competent, underscoring the need for a balanced approach that considers the emotional well-being of students alongside their academic development.

The framework developed in this study can guide the development of leadership programs, ensuring they not only provide students with the practical skills needed to succeed in their chosen fields, but also foster emotional well-being and confidence. The practical implications of these findings extend to the design of curriculum and teaching strategies within Higher Education Institutions, including TVET programs. For instance, activities and tasks that elicit feelings of excitement and confidence could be integrated into the curriculum to enhance student engagement and learning outcomes. To actualize the findings of this study in curriculum and teaching strategies, several approaches can be adopted. Initiating project-based learning and interactive activities such as group discussions and presentations can stimulate feelings of excitement and confidence in students. Implementing personal development workshops and emotional intelligence training within the curriculum can enhance emotional well-being, fostering a more engaging learning environment. Additionally, providing regular feedback and recognition, as well as introducing mentorship programs, can further boost students' confidence and enrich their learning experiences.

Moving forward, there is significant potential for future research to build upon these findings and contribute to the ongoing discourse on emotional experiences within educational settings. One possible avenue is a longitudinal approach, tracking the evolution of emotional experiences throughout a student's participation in a leadership programme, thereby shedding light on the lasting impact of such initiatives. Additionally, investigating the influence of individual differences, including personality traits and cultural backgrounds, on emotional experiences within leadership programmes remains an intriguing area for exploration. Understanding how these factors intersect with the emotional dimensions identified in this study can provide tailored insights for programme design and customization to cater to the diverse needs of students. Furthermore, future research could consider integrating qualitative methods, such as in-depth interviews and focus groups, to provide a more nuanced perspective on emotional experiences, allowing students to articulate their feelings and perceptions in their own words. This qualitative data could complement the quantitative findings, offering a richer narrative surrounding emotional experiences. Moreover, the incorporation of emerging technologies, such as sentiment analysis and physiological measures, could offer innovative ways to capture and analyse emotions in real-time, providing more immediate feedback to programme facilitators and students.

Acknowledgement

Authors acknowledge the Universiti Teknologi MARA for funding under the Geran Penyelidikan MyRA (600-RMC/GPM SS 5/3 (084/2021)). The authors would also like to acknowledge Malaysia Association of Kansei Engineering (MAKE), and RIG Kansei and Design Engineering (RIG EKDE) for the support to the research activities.

Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

All authors have contributed equally to the paper.

References

- Adams, D., Semaadderi, P., & Lok, T. K. (2018). Student leadership and development: a panoramic view of trends and possibilities. *International Online Journal of Educational Leadership*, 2(2), 1-3.
<https://doi.org/10.22452/iojel.vol2no2.1>
- Amiriazadeh, M. (2012). Hexagon theory-student leadership development. *Procedia-Social and Behavioral Sciences*, 31, 333-339.
- Bassah, N. A. S. H. (2022). The issues and challenges of TVET in Malaysia: from the perspective of industry experts. *Online J. Tech. Vocat. Educ. Train. Asia*, 18, 1-15.
- Benson, P. L., & Pittman, K. J. (Eds.). (2012). Trends in youth development: Visions, realities and challenges (Vol. 6). Springer Science & Business Media. 135 - 154.
- Crawford, J. A., & Kelder, J.-A. (2019). Do we measure leadership effectively? Articulating and evaluating scale development psychometrics for best practice. *The Leadership Quarterly*, 30(1), 133-144.
<https://doi.org/10.1016/j.leaqua.2018.07.001>
- Crossman, J. (2007). The role of relationships and emotions in student perceptions of learning and assessment. *Higher Education Research & Development*, 26(3), 313-327.
- Dahri, S., Chinedu, C. C., Gull, M., & Ortiz, R. V. C. (2024). Examining the Social-emotional Skills of TVET Educators and Students: A Dual Perspective Analysis. *Journal of Technical Education and Training*, 16(1), 131-147.
- Fiedler, F. E. (2006). The Contingency Model: A Theory of Leadership Effectiveness. In J. M. Levine & R. L. Moreland (Eds.), *Small groups* (pp. 369-381). Psychology Press.
- Gruicic, D. & Benton, S. (2015). Development of managers' emotional competencies: mind-body training implication. *European Journal of Training and Development*, 39(9), 798-814. DOI: 10.1108/EJTD-04-2015-0026
- Harvey, M., Baumann, C., & Fredericks, V. (2019). A taxonomy of emotion and cognition for student reflection: introducing emo-cog. *Higher Education Research & Development*, 38(6), 1138-1153.
- Hascher, T. (2010). Learning and Emotion: Perspectives for Theory and Research. *European Educational Research Journal*, 9(1), 13-28. <https://doi.org/10.2304/eeerj.2010.9.1.13>
- Iles, P., & Preece, D. (2006). 'Developing leaders or developing leadership? The Academy of Chief Executives' programmes in the North East of England. *Leadership*, 2(3), 317-340.
<https://doi.org/10.1177/1742715006066>
- Kezar, A. J., Carducci, R., & Contreras-McGavin, M. (2006). Rethinking the "L" Word in Higher Education. *ASHE Higher Education Report*, 31(6), 1-218.
- Komives, S. R., Owen, J. E., Longerbeam, S. D., Mainella, F. C., & Osteen, L. (2005). Developing a Leadership Identity: A Grounded Theory. *Journal of College Student Development*, 46(6), 593-611.
<https://doi.org/10.1353/csd.2005.0061>
- Lai, C. S., Hamisu, M. A., & Salleh, K. M. (2019). Development of competency framework for Nigerian TVET teachers in tertiary TVET institutions. *Journal of Technical and Training*, 11(1), 011-018.
- Legg-Jack, D. W., & Ndebele, C. (2023). Digital Competence of TVET Trainers and Technology Acceptance in the Context of Developing Countries. In *Handbook of Research on Establishing Digital Competencies in the Pursuit of Online Learning* (pp. 208-229). IGI Global. <https://doi.org/10.4018/978-1-6684-7010-7.ch011>
- Limna, P., Siripipatthanakul, S., Phayaphrom, B., & Siripipattanakul, S. (2022). The Relationship Between Twenty-First-Century Learning Model (4Cs), Student Satisfaction and Student Performance-Effectiveness. *International Journal of Behavioral Analytics*, 2(1), 1-18.
<https://ssrn.com/abstract=4011953>
- Lokman, A. M. (2013). KE as affective design methodology. In 2013 International Conference on Computer, Control, Informatics and Its Applications (IC3INA) (pp. 7-13). IEEE.
- Lokman, A. M., Kadir, S. A., Noordin, F., & Shariff, S. H. (2018). Modeling factors and importance of happiness using KJ method. In *Proceedings of the 7th International Conference on Kansei Engineering and Emotion Research 2018: KEER 2018*, 19-22 March 2018, Kuching, Sarawak, Malaysia (pp. 870-877). Springer Singapore.
- Lokman, A. M., Kadir, S. A., Hamidi, S. R., & Shuhidan, S. M. (2019). LEIQ™ as an emotion and importance model for QoL: fundamentals and case studies. *Jurnal Komunikasi: Malaysian Journal of Communication*, 35(2), 412-430.
- McCauley-Smith, C., Williams, S., Gillion, A. C., & Braganza, A. (2015). Individual Leader to Interdependent Leadership A Case Study in Leadership Development and Tripartite Evaluation. *Advances in Developing Human Resources*, 15(1), 83-105. DOI: 10.1177/1523422312466982

- McEnrue, M. P., Groves, K. S., & Shen, W. (2009). Emotional intelligence development: Leveraging individual characteristics. *Journal of Management Development*, 28(2), 150-174.
- Ministry of Higher Education (MOHE). (2015). *Malaysia Education Blueprint 2015-2025 (Higher Education)*.
- Mohamad, N. H., Ibrahim, B., Selamat, A., & Ismail, A. (2021). A Protocol for Development of Holistic-Entrepreneur Graduates: Emotional Intelligence Perspectives. *Journal of Technical Education and Training (JTET)*, 13(1), 35-43. <https://doi.org/10.30880/jtet.2021.13.01.004>
- Murillo-Zamorano, L. R., López Sánchez, J. Á., & Godoy-Caballero, A. L. (2022). How the flipped classroom affects knowledge, skills, and engagement in higher education: *Effects on students' satisfaction*. *Computers & Education*, 141, 103608. <https://doi.org/10.1016/j.compedu.2019.103608>
- Nwibe, K. J., & Ogbuanya, T. C. (2024). Emotional intelligence and entrepreneurial intention among university undergraduates in Nigeria: exploring the mediating roles of self-efficacy domains. *Journal of Innovation and Entrepreneurship*, 13(1), 13.
- Northouse, P. G. (2010). *Leadership, Theory and Practice* (5th ed.). Thousand Oaks, CA: Sage.
- Omar, N., Mohamad, M. M., Paimin, A. N., & Ibrahim Mukhtar, M. (2019). Influence of Cognitive Affective and Conative Elements in Promoting Engineering Problem Solving Skills. *Journal of Technical Education and Training (JTET)*, 11(2), 23-31. <https://doi.org/10.30880/jtet.2019.11.02.003>
- Okolie, U. C., Ogwu, E. N., Osuji, C. U., Ogba, F. N., Igwe, P. A., & Obih, S. O. (2023). A critical perspective on TVET teachers' pedagogical practices: insights into the guiding pedagogical principles in practice. *Journal of Vocational Education & Training*, 75(3), 439-458. <https://doi.org/10.1080/13636820-2021-1894221>
- Pascarella, T. & Terenzin, P. (2005). *How College Affects Students, A Third decade of Research* (2nd ed.). *San Francisco: Jossey-Bass*.
- Rasmussen, L. B., & Hansen, M. S. (2016). Learning facilitating leadership. *Studies in Higher Education*, 43(8), 1484-1506. <https://doi.org/10.1080/03075079.2016.1266612>
- Redzuan, F., Mohd. Lokman, A., Ali Othman, Z., & Abdullah, S. (2011). Kansei design model for engagement in online learning: a proposed model. In *Informatics Engineering and Information Science: International Conference, ICIEIS 2011, Kuala Lumpur, Malaysia, November 12-14, 2011. Proceedings, Part I* (pp. 64-78). Springer Berlin Heidelberg.
- Salleh, K. M., Subhi, N. I., Sulaiman, N. L., & Latif, A. A. (2016). Generic skills of technical undergraduates and industrial employers perceptions in Malaysia. *International Journal of Applied Business and Economic Research*, 14(14), 907-919.
- Salleh, K. M., & Sulaiman, N. L. (2016). Malaysian human resource development practitioners competencies in manufacturing and non-manufacturing sector: An application of competency model. *Man In India*, 96(4), 1169-1179.
- Schutz, P.A., Hong, J.Y., Cross, D.I. & Osbon, J. N. (2006). Reflections on Investigating Emotion in Educational Activity Settings. *Educational Psychology Review*, 18(4), 343-360. DOI: 10.1007/s10648-006-9030-3
- Shuhidan, S. M., Lokman, A. M., Hamidi, S. R., Kadir, S. A., Syahirah, S., & Alam, M. M. (2023). Unfolding emotions for creating happiness and quality of life in Malaysia's low-income community using text mining. *Journal of Community & Applied Social Psychology*, 33(5), 1078-1098.
- Silva, A. J. & Almeida, N. (2023). Can engagement and performance be improved through online training on emotional intelligence? A quasi-experimental approach. *International Journal of Educational Management*, 37(2), 449-464. DOI: 10.1108/IJEM-03-2022-0092
- Skalicky, J., Warr Pedersen, K., van der Meer, J., Fuglsang, S., Dawson, P., & Stewart, S. (2020). A framework for developing and supporting student leadership in higher education. *Studies in Higher Education*, 45(1), 100-116. <https://doi.org/10.1080/03075079.2018.1522624>
- Tye, M. (2008). The experience of emotion: An Intentionalist Theory. *Revue Internationale De Philosophie*, p. 25-50. DOI: 10.3971/rip.243.0025
- Velasco, M. S. (2012). More than just good grades: Candidates' perceptions about the skills and attributes employers seek in new graduates. *Journal of Business Economics and Management*, 13(3), 499-517. DOI: 10.3846/16111699.2011.620150
- Wu, Z., & Chen, J. (2018). Teachers' emotional experience: insights from Hong Kong primary schools. *Asia Pacific Educ. Rev.*, 19, 531-541. <https://doi.org/10.1007/s12564-018-9553-6>
- Ye, J. H., He, Z., Bai, B., & Wu, Y. F. (2024). Sustainability of Technical and Vocational Education and Training (TVET) along with Vocational Psychology. *Behavioral Sciences*, 14(10), 859.
- Yip, J. A., & Côté, S. (2013). The emotionally intelligent decision maker: emotion-understanding ability reduces the effect of incidental anxiety on risk taking. *Psychol. Sci.*, 24, 48-55. doi: 10.1177/0956797612450031,1-10.