

Emotional and Cultural Intelligence as Predictors of Collaborative Learning: Evidence from Undergraduate Education in Malaysia

Azzahrah Anuar^{1*}, Edris Aden², Heng Chin Siong³, Mohamad Azhari Abu Bakar⁴

^{1,2}Counselling Programme, Universiti Malaysia Sarawak, Malaysia

³Human Resource Development Programme, Universiti Malaysia Sarawak, Malaysia

⁴Psychology Programme, Universiti Malaysia Sarawak, Malaysia

DOI: <https://dx.doi.org/10.47772/IJRISS.2025.923MIC3ST250019>

Received: 12 August 2025; Accepted: 20 August 2025; Published: 24 October 2025

ABSTRACT

Incorporating team-based assessments is widely regarded as essential for preparing students to navigate the challenges of their future professional careers. While previous studies have examined the role of emotional intelligence or cultural intelligence in collaborative learning, limited research has simultaneously explored how these two competencies interact in shaping students' perceptions of team-based assessments, particularly within the undergraduate context. This study aims to examine the levels of emotional and cultural intelligence among undergraduate students, as well as their general attitudes toward courses that incorporate team-based assessments. A non-experimental, cross-sectional survey design was employed to achieve these objectives. A total of 223 undergraduate students participated in the study. The Schutte Emotional Intelligence and Cultural Intelligence instruments were administered for this study. The study further explores the relationship between emotional and cultural intelligence and students' attitudes towards team-based assessments. The findings reveal significant correlations: emotional intelligence accounted for 32.8% and cultural intelligence accounted for 18.2% of the variance in students' attitudes toward team-based assessments. These results underscore the importance of emotional and cultural competencies in fostering greater student engagement in team-based learning environments.

Keywords: Team-based assessment, Emotional intelligence, Cultural intelligence

INTRODUCTION

Emotional intelligence and cultural intelligence are linked to social cognitive factors (Earley & Mosakowski, 2004) and have been selected as key variables due to growing evidence supporting their impact on individual performance in learning environments with significant peer interaction (Clarke, 2010). Research also highlights that both emotional intelligence (Emmerling & Boyatzis, 2008) and cultural intelligence (MacNab & Worthley, 2012) affect cross-cultural interactions, which are integral to team-based learning settings (Michaelsen & Sweet, 2008). For instance, further analysis of these forms of intelligence in the context of team-based learning could provide valuable insights into optimal team composition and the essential balance of these traits within teams.

Team-based learning offers key benefits, including enhanced critical thinking and improved teamwork skills (Hrynychak & Batty, 2012), which are crucial for modern graduates. Emotional intelligence, a broad concept involving the management of one's own emotions and those of others (Cherniss & Goleman, 2001), is widely studied and applied across various fields (Petrides et al., 2004). Although research on the role of emotional intelligence in team-based learning is mixed, recent findings are promising. Clarke (2010) suggested that exploring emotional intelligence in team-based learning contexts could be valuable.

Cultural intelligence, a newer concept, focuses on fostering effective interactions among diverse groups (Ang et al., 2015). Individuals with high cultural intelligence tend to exhibit better adaptability in cross-cultural

settings (Rose, Ramalu, & Uli, 2010). Although cultural intelligence has not been extensively covered in team-based learning literature, it is designed to enhance team performance. In the health sciences, cultural intelligence could further enhance teamwork benefits (Harris, 2017). The presence of culturally intelligent students aligns with Michaelsen and Sweet's (2008) assertion that team-based learning experiences can improve teamwork skills.

The aim of this study is to assess the levels of emotional and cultural intelligence among undergraduate students and to explore their attitudes toward courses involving team-based assessments. Additionally, the study examines the relationship between emotional and cultural intelligence and students' attitudes toward team-based learning. This research is significant as it provides valuable insights for course instructors into the role of emotional and social competencies in boosting student engagement in collaborative learning and assessments contexts.

Interplay Between Emotional and Cultural Intelligence

The team-based learning framework underscores the crucial role of maintaining effective student engagement across various academic, personal, and social dimensions to ensure high team performance. Cultural intelligence is highlighted as particularly valuable for enhancing social interactions, especially in cross-cultural contexts.

Ang, Rockstuhl, and Tan (2015) found that individuals with high cultural intelligence are more likely to trust people from different cultures. This tendency is further strengthened when others in the intercultural setting demonstrate high levels of behavioural cultural intelligence. Research shows a strong correlation between emotional intelligence and cultural intelligence within the realm of social intelligence. It is therefore suggested that these two concepts be examined together when analysing social dynamics in cross-cultural environments (Crowne, 2009).

This study aims to identify which aspects of emotional and cultural intelligence should be considered to address diversity in team-based learning. Clarke (2010) suggested that emotional intelligence is a valuable attribute to explore in team-based learning contexts. Although cultural intelligence has not been extensively discussed in team-based learning literature, it is designed to support effective team performance (Harris, 2017).

Despite the emphasis on teamwork skills for students in the social sciences, there has been limited exploration of the factors influencing students' attitudes towards team-based learning. Additionally, there is a lack of understanding regarding the factors that shape attitudes toward team-based learning among students applying to social science programs, such as counselling, psychology, and human resource development, given that admissions to these programs are managed through the University's Student Admission unit, a centralized platform for public university applications in Malaysia.

The inclusion of team-based learning pedagogy is deemed essential for preparing students for future professional challenges (Sibley & Parmelee, 2008). To address existing gaps in the literature, this study investigates the significance of emotional and cultural intelligence in understanding undergraduate students' attitudes toward team-based assessment courses.

Research Design

This study employed a non-experimental, cross-sectional survey design using questionnaires. The participants were undergraduate students majoring in Counselling, Psychology, Cognitive Science, and Human Resource Development. To be eligible for the study, participants needed to meet the following criteria: 1) They must be enrolled in one of the specified programmes – Counselling, Psychology, Cognitive Science, or Human Resource Development; and 2) They must be taking a course that includes team-based learning assessments. A total of 223 respondents participated in this preliminary study.

The independent variables for this study were:

Emotional Intelligence

Emotional intelligence was measured using a 33-item Schutte emotional intelligence instrument (Jonker & Vosloo, 2009), with responses rated on a five-point Likert scale from (1) “strongly disagree” to (5) “strongly agree” (Nemoto & Beglar, 2014). The Schutte Emotional Intelligence instrument is a valuable tool for assessing emotional intelligence across various contexts which include emotional perception, understanding, regulation, and utilization. The instrument is frequently used in academic studies to explore the relationships between emotional intelligence and various psychological constructs, such as stress management, leadership effectiveness, and interpersonal relationships.

Higher scores on this scale indicate greater emotional intelligence. The scale is structured to encompass various aspects of emotional intelligence, such as self-awareness, self-regulation, motivation, empathy, and social skills. Each item is designed to capture behaviours or attitudes linked to these areas. For instance, some items may evaluate a person's ability to identify their own emotions or their aptitude for empathizing with others.

The criterion validity coefficient of the Schutte Emotional Intelligence Test was determined as 0.87 (Tatar et al., 2017). The internal consistency of the instrument showed Cronbach's alpha of 0.86 (Musa et al., 2022) and it has demonstrated good internal consistency, with coefficient alpha values typically reported in the range of 0.85 to 0.90.

Cultural Intelligence

Cultural intelligence, defined as the capability to adapt successfully to new cultural contexts, was assessed using the Cultural Intelligence Scale. Cultural intelligence instrument is a tool designed to measure an individual's ability to function effectively in culturally diverse settings. This instrument assesses various components of cultural intelligence, which include cognitive, emotional/motivational, and behavioural aspects. This scale includes 20 items which is divided into four subscales: Metacognitive Cultural Intelligence, Cognitive Cultural Intelligence, Motivational Cultural Intelligence, and Behavioural Cultural Intelligence. Responses were recorded on a 5-point Likert scale from (1) “strongly disagree” to (5) “strongly agree”.

Metacognitive intelligence is the ability to make sense of culturally diverse experiences (Ang & Van Dyne, 2008). It involves using mental processes to access existing cultural knowledge, plan for intercultural interactions, challenge cultural assumptions, and adapt mental frameworks when actual experiences differ from expectations. Cognitive intelligence relates to an individual's understanding of how cultures are alike or different (Ang & Van Dyne, 2008). This includes knowledge of cultural norms, values, and practices, gained through both academic learning and personal experiences, as well as an understanding of the rules governing verbal and non-verbal communication. It also involves self-awareness within a cultural context (Ang & Van Dyne, 2008).

Motivational intelligence is the mental ability to focus and sustain effort in interacting effectively with people from different cultural backgrounds (Ang & Van Dyne, 2008). Motivational CQ also encompasses an individual's confidence to function effectively in culturally diverse settings (Ang et al., 2007). Behavioral intelligence reflects the ability to exhibit contextually appropriate behaviors that meet situational and relational norms when engaging with people from different cultures (Ang & Van Dyne, 2008). This involves the use of verbal and non-verbal socio-linguistic cues, such as selecting the right words, tone, gestures, and facial expressions, all based on the cultural values of both the speaker and listener within a specific situation (Ward et al., 2001). Schutte et al. (2001) reported a reliability rating of 0.90 for their emotional intelligence (EI) scale, indicating strong overall reliability for both adults and adolescents.

Demographic Variables

Demographic variables such as Programme of Study, Year of Study, Gender, Ethnicity, Religion, and Place of Residence were collected through a Demographic Questionnaire.

The dependent variables were the attitudes towards team-based assessment, measured using the Minnesota Satisfaction Questionnaire. This questionnaire comprised 19 statements with responses on a Likert scale from (1) “Strongly Disagree” to (5) “Strongly Agree.” The statements were categorized into five areas: Overall Satisfaction with Team Experience, Team Impact on Quality of Learning, Satisfaction with Peer Evaluation, Team Impact on Clinical Reasoning Ability, and Professional Development. Higher scores reflected a greater perceived value of working in group settings or with peers. The Minnesota Satisfaction Questionnaire yielded good coefficient alpha values ranging from .85 to .91 (Martins & Proença, 2012).

RESULTS

The demographic characteristics of the participants are detailed in Table 1. The study included a total sample of 223 students, the majority of whom were female (79.8%, $n=178$), while male participants comprised 20.2% ($n=45$). The sample exhibited considerable ethnic diversity. The largest ethnic group was Malay, accounting for 33.6% ($n=75$), followed by Iban 20.2% ($n=45$), and Chinese 13.5% ($n=30$). Bidayuh and Melanau participants constituted 9.0% ($n=20$) and 4.9% ($n=11$), respectively. Indian participants made up 2.7% ($n=6$) of the sample.

Dusun participants accounted for 2.2% ($n=5$), followed by Kedayan at 1.8% ($n=4$). Bugis, Kadazan-Dusun, Kenyah and Sama-Bajau each constituted 1.3% ($n=3$) of the sample, while Idahan and Orang Sungai each constituted 0.9% ($n=2$) of the sample. Bisaya, Brunei, Iranun, Javanese, Kayan, Rungus and Siamese were each represented by 0.4% ($n=1$) of the sample.

In terms of religion, majority of participants were Muslim (50.7%, $n=113$), followed by Christians (39.9%, $n=89$), Buddhists (6.3%, $n=14$), and Hindus (2.7%, $n=6$). Most participants were first-year students (46.2%, $n=103$), followed by second-year students (26.9%, $n=60$), third-year students (23.3%, $n=52$), and fourth-year students (3.6%, $n=8$).

Regarding residence, a substantial portion of participants lived in on-campus hostels (69.1%, $n=154$). The remaining participants lived at home with a parent or guardian (14.3%, $n=32$), in shared private housing (13.0%, $n=29$), or in non-shared private housing (3.6%, $n=8$).

Table I Demographic Characteristics of Participants

Characteristics	n (%)
<i>Gender</i>	
Male	45 (20.2)
Female	178 (79.8)
<i>Ethnicity</i>	
Bidayuh	20 (9.0)
Bisaya	1 (0.4)
Brunei	1 (0.4)
Bugis	3 (1.3)
Chinese	30 (13.5)
Dusun	5 (2.2)

Iban	45 (20.2)
Idahan	2 (0.9)
Indian	6 (2.7)
Iranun	1 (0.4)
Javanese	1 (0.4)
Kadazan-Dusun	3 (1.3)
Kayan	1 (0.4)
Kedayan	4 (1.8)
Kelabit	1 (0.4)
Kenyah	3 (1.3)
Malay	75 (33.6)
Melanau	11 (4.9)
Orang Sungai	2 (0.9)
Rungus	1 (0.4)
Sama-Bajau	3 (1.3)
Siamese	1 (0.4)
Other	3 (1.3)
<i>Religion</i>	
Islam	113 (50.7)
Christianity	89 (39.9)
Buddhism	14 (6.3)
Hinduism	6 (2.7)
Others	1 (0.4)
<i>Year of Study</i>	
1 st Year	103 (46.2)
2 nd Year	60 (26.9)
3 rd Year	52 (23.3)
4 th Year	8 (3.6)

<i>Programme of Study</i>	
Psychology	70 (31.4)
Counselling	52 (23.3)
Human Resource Development	36 (16.1)
Cognitive Science	65 (29.1)
<i>Place of Residence</i>	
On-campus hostel	154 (69.1)
Home with parent/guardian	32 (15.8)
Private housing (individual)	8 (3.6)
Private housing (share)	29 (13.0)

In general, the mean score of the emotional intelligence was 124.54 ($M=124.54$, $SD=16.28$) and the mean score of the cultural intelligence was 62.26 ($M=62.26$, $SD=9.59$) as presented in Table 2. The total score for emotional intelligence ranged from 5-165 and the total score for cultural intelligence ranged from 4-80. Therefore, these results signify that the respondents have a moderate level of both emotional and cultural intelligence. The mean score of 73.12 signifies a favourable attitude toward team-based assessment among the respondents.

Table II Means and Standard Deviations of Emotional Intelligence, Cultural Intelligence, and Attitudes Toward Team-Based Assessment Scores of the Study Participants

Variables	M	SD
Emotional Intelligence	124.54	16.28
Cultural Intelligence	62.26	9.59
Attitudes toward Team-Based Assessment	73.12	12.46

There were four subscales in the Cultural Intelligence instrument: metacognitive, cognitive, motivational, and behavioural. The highest mean score was found on the motivational scale ($M=19.50$) followed by the cognitive scale ($M=18.32$). The mean of the behavioural scale was intermediate ($M=16.66$) and the lowest mean was on the metacognitive scale ($M=13.84$). It can be inferred that the respondents are drawn to intercultural experience and have some foundational level of cultural knowledge. However, with the lowest mean score in the metacognitive dimension (see Table 3) may indicate a relative weakness in the participants' capacity for evaluation of intercultural experiences.

Table III Means and Standard Deviations of Sub-Scales of Cultural Intelligence of the Study Participants

Variables	M	SD
<i>Cultural Intelligence</i>		
Metacognitive	13.84	2.06

Cognitive	18.32	4.05
Motivational	19.50	3.62
Behavioural	16.66	2.77

In terms of cultural intelligence (see Table 4), female students ($M=62.39$, $SD=9.51$) reported to have slightly higher scores than male students ($M=61.72$, $SD=9.95$). Christian students ($M=64.01$, $SD=9.34$) and Muslim students ($M= 61.34$, $SD=9.40$) had higher scores than students from other religions. Among the ethnic groups, Iban students had the highest mean score ($M= 65.97$, $SD=8.79$) in terms of cultural intelligence, followed by Dusun ($M= 64.95$, $SD=9.48$), Bidayuh ($M= 63.67$, $SD=8.31$), and Malay ($M= 61.174$, $SD=9.77$) students. Chinese students had a mean score of 59.36 and followed by other ethnic groups including Melanau and Indian students (see Table 4).

Table IV Means and Standard Deviations of Cultural Intelligence Scores by Gender, Religion, and Ethnicity

Variables	M	SD
<i>Gender</i>		
Male	61.72	9.95
Female	62.39	9.51
<i>Religion</i>		
Islam	61.34	9.40
Christianity	64.01	9.34
Buddhism	59.16	10.29
Hinduism	58.51	11.60
<i>Ethnicity</i>		
Malay	61.17	9.77
Iban	65.97	8.79
Chinese	59.36	9.39
Bidayuh	63.67	8.31
Melanau	57.52	9.18
Indian	58.51	11.06
Dusun	64.95	9.49

Note: The score for the Cultural Intelligence ranges from 4 – 80.

In terms of cultural intelligence by programme of study (see Table 5), results revealed that Counselling students ($M=63.61$, $SD=9.04$) and Cognitive Science students ($M=63.52$, $SD=8.72$) scored higher than Human Resources Development ($M=62.10$, $SD=10.98$) and Psychology ($M=60.16$, $SD=9.81$) students.

Table V Means and Standard Deviations of Cultural Intelligence Scores by Programme of Study

Variables	M	SD
<i>Programme of Study</i>		
Psychology	60.16	9.81
Counselling	63.61	9.04
Human Resource Development	62.10	10.98
Cognitive Science	63.52	8.72

Results on emotional intelligence (see Table 6) revealed that female students ($M=125.07$, $SD=14.70$) had higher scores than male students ($M=122.44$, $SD=21.49$). Muslim students ($M=125.89$, $SD=16.21$) scored higher than Christian students ($M=123.66$, $SD=16.45$) and followed by Buddhist ($M=119.88$, $SD=15.98$) and Hindu students ($M=119.25$, $SD=13.65$). Dusun students had the highest emotional intelligence score ($M=130.28$, $SD=12.62$) than those from other ethnicities. The second highest emotional intelligence score reported was Iban ($M=126.64$, $SD=14.93$) students, followed by Malay ($M=125.35$, $SD=16.82$), Melanau ($M=122.64$, $SD=20.41$), Bidayuh ($M=120.84$, $SD=18.52$), Chinese ($M=119.86$, $SD=17.72$) and Indian students ($M=119.25$, $SD=13.65$).

Table VI Means and Standard Deviations of Emotional Intelligence Scores by Gender, Religion, and Ethnicity

Variables	M	SD
<i>Gender</i>		
Male	122.44	21.49
Female	125.07	14.70
<i>Religion</i>		
Islam	125.89	16.21
Christianity	123.66	16.45
Buddhism	119.88	15.98
Hinduism	119.25	13.65
<i>Ethnicity</i>		
Malay	125.35	16.82
Iban	126.64	14.93
Chinese	119.86	17.72
Bidayuh	120.84	18.52
Melanau	122.64	20.41

India	119.25	13.65
Dusun	130.28	12.62

Note: The score for the Emotional Intelligence ranges from 5 – 165.

Out of a maximum score of 165, measuring the emotional intelligence level, the highest mean score value was recorded among Counselling students (M=126.80, SD=15.34) students, followed by Psychology (M=124.11, SD=16.68), Human Resource Development (M=123.89, SD=18.25), and Cognitive Science (M=123.57, SD=15.62) students (See Table 7).

Table VII Means and Standard Deviations of Emotional Intelligence Scores by Programme of Study

Variables	M	SD
<i>Programme of Study</i>		
Psychology	124.11	16.68
Counselling	126.80	15.34
Human Resource Development	123.89	18.25
Cognitive Science	123.57	15.62

When respondents' level of attitudes toward team-based assessment were measured, out of a maximum score of 95, female (M=73.41, SD=12.20) had higher scores than male (M=71.97, SD= 13.54) students. Among religious groups, Christian students reported the highest mean score (M= 73.66, SD=10.56), followed closely by Muslim students (M=73.01, SD=13.86), with Buddhist (M=70.70, SD=9.64) and Hindu (M=69.87, SD=17.15) students scoring slightly lower.

The scores indicated that Dusun students (M=79.03, SD=10.06) had the most favourable attitudes toward team-based assessment whereas Iban (M=74.91, SD=9.21), and Bidayuh (M=74.42, SD=10.87) students had slightly lower scores in terms of their attitudes toward team-based assessment. Malay (M=72.74, SD=13.40) and Melanau (M=72.48, SD=16.49) students were generally fair while Indian students reported a slightly lower mean score of 69.87 (SD=17.15). Chinese students (M=68.43, SD=12.05) showed the least favourable attitudes toward team-based assessment (see Table 8).

Table VIII Means and Standard Deviations of Attitudes Toward Team-Based Assessment Scores by Gender, Religion, and Ethnicity

Variables	M	SD
<i>Gender</i>		
Male	71.97	13.54
Female	73.41	12.20
<i>Religion</i>		
Islam	73.01	13.86
Christianity	73.66	10.56

Buddhism	70.70	9.64
Hinduism	69.87	17.15
<i>Ethnicity</i>		
Malay	72.74	13.40
Iban	74.91	9.21
Chinese	68.43	12.05
Bidayuh	74.42	10.87
Melanau	72.48	16.49
India	69.87	17.15
Dusun	79.03	10.06

Note: *The score for the Team-Based Assessment ranges from 5 – 95.

Human Resource Development (M=75.28, SD=12.83) and Counselling (M=75.17, SD=10.93) students had the most favourable attitudes toward team-based assessment, followed by students from Psychology (M=72.12, SD=12.15) and Cognitive Science (M=71.35, SD=13.58) programmes (See Table 9).

Table IX Means and Standard Deviations of Attitudes Toward Team-Based Assessment Scores by Programme of Study

Variables	M	SD
<i>Programme of Study</i>		
Psychology	72.12	12.15
Counselling	75.17	10.93
Human Resource Development	75.28	12.83
Cognitive Science	71.35	13.58

Table 10 shows the relationship between cultural intelligence and team-based assessment among the participants. The table reveals a moderate, statistically significant positive correlation between cultural intelligence and team-based assessment, with a significance level of 1% and a moderate effect size of 0.43. This suggests that higher levels of cultural intelligence are associated with more positive attitudes towards team-based assessment.

Table X Correlation between Cultural Intelligence and Team-based Assessment

Variables	N	Pearson's R	Sig
Cultural Intelligence and Team-based Assessment	223	.427**	< .001

Note: **Correlation is significant at the 0.01 level (2-tailed).

Table 11 displays the correlation between emotional intelligence and team-based assessment among the participants. The table shows a moderate, statistically significant positive correlation between emotional intelligence and team-based assessment, with a significance level of 1% and a moderate effect size of 0.58. This suggests that students with higher emotional intelligence are likely to have more positive attitudes towards team-based assessment.

Table XI Correlation between Emotional Intelligence and Team-Based Assessment

Variables	N	Pearson's R	Sig
Emotional Intelligence and Team-based Assessment	223	.573**	< .001

Note: **Correlation is significant at the 0.01 level (2-tailed).

Table 12 shows the relationship between emotional and cultural intelligence among the participants. The table reveals a moderate, statistically significant positive correlation between emotional and cultural intelligence, with a significance level of 1% and a moderate effect size of 0.55. This suggests that higher levels of emotional intelligence are associated with higher levels of cultural intelligence among the undergraduate students. Research by Tadmor et al. (2012) demonstrated that individuals with high emotional intelligence are better at forming and maintaining relationships across cultural boundaries. Their study showed that emotional intelligence contributes to deeper understanding and empathy, which are essential for intercultural communication.

Table XII Correlation between Emotional Intelligence and Cultural Intelligence

Variables	N	Pearson's R	Sig
Emotional Intelligence and Cultural Intelligence	223	.551**	< .001

Note: **Correlation is significant at the 0.01 level (2-tailed).

Table 13 indicates that emotional intelligence explains 32.8% of the variance in students' attitudes towards team-based assessment ($F(1,221) = 108.014, p < .001$). This result signifies a statistically significant model, underscoring the considerable impact of emotional intelligence on students' attitudes towards team-based assessment. A meta-analysis by O'Boyle et al. (2011) demonstrated that emotional intelligence is significantly associated with team performance. Teams with emotionally intelligent members show improved conflict resolution, communication, and cooperation.

Table XIII Regression Analysis for Predicting the Students' Attitudes Towards Team-Based Assessment Based on Their Emotional Intelligence

Variable	B	SE B	β	t	P
Emotional Intelligence	.439	.042	.573	10.393	< .001**

Note: ** $p \leq .001$

Table 14 shows that cultural intelligence accounts for 18.2% of the variance in students' attitudes towards team-based assessment ($F(1, 221) = 49.196, p < .001$). This indicates that cultural intelligence is a significant predictor of these attitudes. This finding highlights the importance of cultural intelligence as a key determinant of students' attitudes towards team-based assessment. Research by Ang et al. (2007) found that individuals with high cultural intelligence are more effective in multicultural teams. Their study also indicated that cultural intelligence positively correlates with team performance, particularly in diverse environments.

Table XIV Regression Analysis for Predicting the Students' Attitudes Towards Team-Based Assessment Based on Their Cultural Intelligence

Variable	B	SE B	β	t	P
Cultural Intelligence	.555	.079	.427	7.014	< .001**

Note: ** $p \leq .001$

The results of this study align with previous research on the relationships between emotional intelligence, cultural intelligence, and the value students place on group work (Harris, 2017). Emotional intelligence has been consistently identified as a significant predictor of team performance (Jamshed & Majeed, 2019). Additionally, the findings support existing literature on cultural intelligence, which emphasizes its crucial role in enhancing individual and group performance in cross-cultural interactions (Earley & Ang, 2003). These insights suggest that understanding emotional and cultural intelligence can effectively contribute to preparing students for successful performance in team-based learning and assessments.

DISCUSSION

The interplay between emotional intelligence and cultural intelligence is theorized to significantly influence collaborative learning outcomes within team-based contexts. Drawing on social interaction and intercultural competence frameworks, both forms of intelligence contribute uniquely yet complementarily to students' capacity to manage emotions, adapt to cultural diversity, and build effective interpersonal relationships. Emotional intelligence facilitates empathy, regulation of emotions, and conflict resolution, while cultural intelligence enables perspective-taking, adaptation, and respectful engagement across diverse cultural norms. Together, these competencies are hypothesized to strengthen students' attitudes toward team-based learning by enhancing communication, reducing misunderstandings, and promoting inclusive collaboration. This conceptual synthesis provides a foundation for examining the joint impact of emotional and cultural intelligence on collaborative learning processes.

Emotional intelligence plays a crucial role in collaborative learning environments by allowing individuals to recognize, understand, and manage both their own emotions and those of others. According to Järvenoja et al. (2013), effective emotion regulation in challenging social learning situations can enhance group dynamics and lead to improved learning outcomes. Their research emphasized the significance of adaptive emotional regulation strategies, which enabled groups to address conflicts and maintained a positive learning atmosphere. Building on this, Järvenoja et al. (2020) introduce the concept of socially shared regulation of learning, which highlights the collaborative nature of emotional regulation among group members. When applied by undergraduate students, this collective approach may foster the management of emotional states, thereby resulting in heightened motivation and engagement during team-based learning activities.

Cultural intelligence complements emotional intelligence by equipping students with the skills necessary to interact effectively across cultural boundaries. Khani et al. (2011) found a positive relationship between cultural intelligence and group effectiveness, indicating that individuals with higher cultural intelligence are better at adapting to diverse cultural contexts, which is crucial in collaborative learning scenarios. The findings of the current study were aligned in this context. This adaptability is particularly relevant when students come from varied cultural backgrounds, as it fosters an inclusive environment conducive to learning. Baratipour et al. (2022) also support this notion, demonstrating that cultural intelligence can enhance communication skills and social interactions, thereby reducing stress and improving task performance in multicultural settings.

Moreover, the relationship between emotional and cultural intelligence plays a critical role in shaping collaborative learning experiences for the students. Wang et al. (2020) illustrate that emotional intelligence can moderate the relationship between cultural intelligence and increase adaptation, suggesting that individuals

who are emotionally intelligent are better equipped to leverage their cultural intelligence in diverse settings. This interplay is vital for fostering an environment where collaborative learning can thrive, as emotionally intelligent students can navigate cultural differences more effectively, leading to enhanced group performance.

The integration of emotional and cultural intelligence also plays a role in the development of social skills necessary for successful collaboration. Gokalp (2021) highlights that cognitive and motivational aspects of cultural intelligence significantly predict social communication skills, which are essential for effective collaboration. This finding was aligned with the current study in terms of cognitive aspect the cultural intelligence among the undergraduate students. This is particularly essential skill as the work of Törmänen et al. (Törmänen et al., 2021), who explore the affective states of groups during collaborative learning, suggesting that understanding and managing emotions at the group level can enhance the overall learning experience.

In team-based learning settings, individuals often work in diverse groups, requiring high levels of both emotional and cultural intelligence to navigate differences and build a cohesive learning environment (Michaelsen et al., 2004). Based on the results of the study, researchers obtained some insights on certain populations coming from different religious and ethnic backgrounds, particularly in the areas of communication and team dynamics. In terms of communication, emotional intelligence enables students to articulate their thoughts clearly and manage their emotional reactions, while cultural intelligence helps them to communicate in a culturally sensitive and respectful manner. In terms of team dynamics, both emotional and cultural intelligence contribute to better understanding and trust within teams, fostering an environment where all students can contribute and learn from one another.

In this study, females scored higher in the emotional intelligence realm than male students. Previous studies have suggested that women often scored higher on certain dimensions of emotional intelligence, such as empathy and emotional awareness, while men might excel in self-regulation and problem-solving (Joseph & Newman, 2010). These complementary strengths, when leveraged properly, can enhance teamwork in team-based learning environments. Emotional intelligence helps both genders communicate effectively and understand each other's emotional expressions, reducing gender-based communication barriers.

The current study findings revealed that cultural norms surrounding emotional expressiveness vary across racial groups. Students from different racial backgrounds may exhibit diverse comfort levels in showing emotions or may interpret emotional expressions differently. Cultural intelligence helps individuals interact effectively with people from different racial backgrounds (Ang & Van Dyne, 2008). In team-based learning contexts, students with higher cultural intelligence may be better equipped to communicate across racial lines. A study by Liu et al. (2016) showed that students with higher levels of both cultural intelligence and emotional intelligence reported greater satisfaction and engagement in team-based learning. These students felt more comfortable contributing ideas and participating in discussions, regardless of their racial backgrounds.

Different religious beliefs have varying norms around emotional expression. This may explain the observed variation in emotional and cultural intelligence levels among undergraduate students in the study. For example, while some religious traditions emphasize emotional restraint, others encourage more outward displays of emotion. Understanding these differences requires emotional intelligence to interpret emotional cues and cultural intelligence to appreciate the religious context behind them. Research by Ayman et al. (2014) explored how religious diversity affects team dynamics. Their findings suggest that understanding and respecting religious differences can enhance team cohesion and performance.

In team-based learning, members rely on collaboration to solve problems or complete tasks. In diverse teams – across race, gender, and religion – emotional and cultural intelligence play vital roles in fostering an inclusive and effective learning environment. In summary, both emotional and cultural intelligence are pivotal in facilitating effective collaborative learning. Emotional intelligence aids in managing interpersonal dynamics and fostering a supportive learning environment, while cultural intelligence enhances adaptability and communication across diverse cultural contexts. Together, these forms of intelligence create a robust framework for improving group performance in collaborative learning settings.

A study by Kuhlmann et al. (2021) investigated how students from different academic disciplines (e.g., business, engineering, and humanities) exhibit varying levels of emotional intelligence and cultural intelligence. They found that students in humanities fields tended to have higher emotional intelligence, while those in business fields often had higher cultural intelligence. In the current study, counselling students generally had higher score in emotional and cultural intelligence, as well as their attitudes toward team-based assessment, compared to students from the Psychology, Cognitive Science, and Human Resource Development programmes. Understanding these differences can help educators tailor team-based learning experiences to capitalize on the strengths of students from various disciplines, enhancing collaboration and learning.

The implications of these findings suggest that through the interplay between emotional and cultural intelligence in students can lead to significantly enhanced collaboration in team-based assessments. Students who cultivate both emotional and cultural intelligence are more likely to collaborate effectively with peers, leading to improved problem-solving and creativity. When students feel culturally and emotionally supported, their engagement levels rise, resulting in a more productive learning experience. Lastly, cultural intelligence encourages the students to have diverse viewpoints, while emotional intelligence helps manage the emotional dynamics of those interactions – ultimately enriching the overall learning process particularly in team-based learning.

Some of the practical significances derived from the study are as follows:

1. *Curriculum Design* – Universities can design courses that explicitly integrate emotional intelligence development (e.g., communication skills, empathy-building, and emotional regulation) to improve students' engagement and acceptance of team-based assessments.
2. *Teamwork Readiness* – Since higher emotional intelligence is linked to better attitudes toward collaboration, educators can use EI-focused interventions (training, coaching, reflective exercises) as a preparatory tool to ensure students are more receptive to group projects.
3. *Assessment Acceptance* – Students with greater emotional intelligence are less likely to resist or disengage from team-based assessments, suggesting that enhancing EI may reduce common challenges in group work, such as conflict or unequal participation.
4. *Employability Skills* – The correlation highlights that emotional intelligence not only benefits academic teamwork but also mirrors workplace demands. Embedding EI development into education can therefore serve a dual purpose: improving learning outcomes while preparing students for professional collaboration.
5. *Faculty Practice* – Instructors can adopt pedagogical approaches that recognize and foster EI (e.g., structured peer feedback, reflective journaling, conflict resolution training) to enhance students' overall experience and learning outcomes in team-based assessments.

CONCLUSION

The current study offers valuable insights into how emotional and social competence skills influence students' attitudes towards team-based learning. It demonstrates that incorporating and leveraging emotional and cultural intelligence in team-based learning and assessment can significantly enhance the effectiveness and outcomes of these educational approaches.

One key recommendation for enhancing emotional and cultural intelligence is offering structured training and workshops to undergraduate students. Higher education institutions can design training modules that explicitly focus on emotional intelligence skills such as self-awareness, empathy, and conflict management, as well as cultural awareness skills such as perspective-taking and adaptability. Embedding these modules into university curricula—whether as stand-alone courses, integrated into general education, or embedded within discipline-specific programs—can better prepare students for collaborative learning and teamwork.

Beyond formal training, universities can also establish mentorship and peer-coaching programs where students learn to model emotionally intelligent behaviors and intercultural sensitivity from peers or faculty mentors. Reflection-based activities, such as journaling about emotional responses and cultural assumptions during teamwork, can deepen students' metacognitive awareness of how these factors influence group dynamics.

Interactive strategies such as role-playing exercises, intercultural simulations, and case studies can further create safe spaces for students to practice managing emotions and navigating diverse cultural perspectives. Pairing these with debriefing discussions helps translate practice into applicable skills.

Institutions should also create inclusive learning environments by adopting policies and classroom practices that celebrate diversity, encourage open dialogue, and provide equitable opportunities for participation in group projects. Faculty development is equally important: training instructors to recognize and support the development of emotional and cultural intelligence in their students ensures these competencies are consistently reinforced across courses.

At a broader level, embedding opportunities for students to engage in community-based projects, service learning, or international collaborations can provide authentic contexts for practicing emotional and cultural competencies. Such real-world applications not only prepare students for professional teamwork but also cultivate resilience, adaptability, and leadership in diverse environments.

Ultimately, emotional intelligence and cultural intelligence are crucial in team-based learning environments, given the diversity in terms of race, gender, and religion among students. By intentionally cultivating these competencies through curriculum design, experiential learning, and supportive institutional practices, universities can significantly enhance team-based learning experiences and better prepare undergraduates for the demands of professional collaboration.

ACKNOWLEDGMENT

This research work is supported by UNIMAS Scholarship of Teaching and Learning Research Grant UNI/F04/SoTL-RG/85727/2023.

REFERENCES

1. Ang, S., Rockstuhl, T., & Tan, M. L. (2015). Cultural intelligence and competencies. In J. Wright (Ed.), *International encyclopedia of the social and behavioral sciences* (2nd ed., pp. 433-439). New York, NY: Elsevier.
2. Ang, S., & Van Dyne, L. (Eds.). (2008). *Handbook of Cultural Intelligence: Theory, Measurement, and Applications*. M.E. Sharpe.
3. Ang, S., Van Dyne, L., & Koh, C. (2007). The development and validation of the cultural intelligence scale. *Organization Studies*, 28(3), 335-362.
4. Ayman, R., & Korabik, K. (2014). The influence of religious diversity on team dynamics and performance. *Journal of Organizational Behavior*, 35(6), 809-824.
5. Baratipour, H., Khosravi, H., & Zare, M. (2022). The role of cultural intelligence in enhancing communication skills and task performance in multicultural environments. *Journal of Cross-Cultural Psychology*, 53(6), 543-560. <https://doi.org/10.1177/00220221221100345>
6. Cherniss, C. (2010). Emotional intelligence: Toward clarification of a concept. *Industrial and Organizational Psychology*, 3(2), 110-126.
7. Clarke, N. (2010). Developing emotional intelligence abilities through team-based learning. *Human Resource Development Quarterly*, 21(2), 119-138.
8. Cooper, A., & Petrides, K. V. (2010). A psychometric analysis of the trait emotional intelligence questionnaire-short form (TEIQue-SF) using item response theory. *Journal of Personality Assessment*, 92(5), 449-457.
9. Crowne, K. A. (2009). The relationships among social intelligence, emotional intelligence, and cultural intelligence. *Organization Management Journal*, 6, 148-163.

10. Earley, C., & Mosakowski, E. (2004, October). Cultural intelligence. *Harvard Business Review*, 1-9.
11. Earley, P. C., & Ang, S. (2003). *Cultural Intelligence: Individual Interactions across Cultures*. Stanford, CA: Stanford University Press.
12. Emmerling, R. J., & Boyatzis, R. E. (2008). Emotional and social intelligence competencies: Cross-cultural implications. *Journal of Management Development*, 27(1), 5-12.
13. Gokalp, M. (2021). The impact of cognitive and motivational aspects of cultural intelligence on social communication skills in collaborative environments. *International Journal of Intercultural Relations*, 85, 123-134. <https://doi.org/10.1016/j.ijintrel.2021.02.002>
14. Harris, K. A. (2017). Investigating the relationship between emotional intelligence and cultural intelligence to attitudes towards team-based learning in undergraduate pre-health profession students.
- Hrynychak, P., & Batty, H. (2012). The educational theory basis of team-based learning. *Medical Teacher*, 34, 796-801.
15. Jamshed, S., & Majeed, N. (2019). Relationship between team culture and team performance through lens of knowledge sharing and team emotional intelligence. *Journal of Knowledge Management*, 23(1), 90-109.
16. Järvenoja, H., Järvelä, S., & Häkkinen, P. (2013). Emotion regulation in social learning situations: The impact on group dynamics and learning outcomes. *Learning and Instruction*, 25, 46-56. <https://doi.org/10.1016/j.learninstruc.2012.10.002>
17. Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, 95(1), 54-78.
18. Khani, N., Afshari, M., & Naderi, S. (2011). The relationship between cultural intelligence and group effectiveness in collaborative learning environments. *International Journal of Educational Management*, 25(4), 315-328. <https://doi.org/10.1108/09513541111139955>
19. Kuhlmann, A., Bock, J., & Riemann, M. (2021). Emotional intelligence and cultural intelligence among university students: A comparison across academic disciplines. *International Journal of Educational Management*, 35(3), 615-629.
20. Lee, C., Bristow, M., & Wong, J. C. (2018). Emotional intelligence and teamwork skills among undergraduate engineering and nursing students: A pilot study.
21. Levine, R. E., O'Boyle, M., Haidet, P., Lynn, D. J., Stone, M. M., Wolf, D. V., & Paniagua, F. A. (2004). Transforming a clinical clerkship with team learning. *Teaching and Learning in Medicine*, 16(3), 270-275.
22. Liu, Y., Wang, H., & Liao, J. (2016). The impact of cultural intelligence and emotional intelligence on team-based learning satisfaction: A study among university students. *Educational Psychology*, 36(6), 1051-1070.
23. MacNab, B. R., & Worthley, R. (2012). Individual characteristics as predictors of cultural intelligence development: The relevance of self-efficacy. *International Journal of Intercultural Relations*, 36(1), 62-71.
24. Martins, H., & Proença, T. (2012). Minnesota Satisfaction Questionnaire—Psychometric properties and validation in a population of Portuguese hospital workers. *FEP Journal—Economics & Management: Working Paper*, 471(1), 1-23.
25. Michaelsen, L. K., Knight, A. B., & Fink, L. D. (2004). *Team-Based Learning: A Transformative Use of Small Groups*. Stylus Publishing, LLC.
26. Michaelsen, L. K., & Sweet, M. (2008). The essential elements of team-based learning. *New Directions for Teaching and Learning*, 116, 7-17.
27. Min, H., Lee, P. C., & Park, J. (2020). Open to diversity! Investigating the impact of cultural intelligence on students' preference for group work. *Journal of Hospitality & Tourism Education*, 32(1), 14-24.
28. Musa, A., Dauda, M., & Saba, Y. (2022). Relationship between emotional intelligence and psychological distress among nursing students in College of Nursing Gombe State, Nigeria. *Kashere Journal of Education*, 3(1), 62-68. <https://doi.org/10.4314/kje.v3i1.9>
29. O'Boyle, E. H., Humphrey, R. H., Pollack, J. F., & Hawver, T. (2011). The relation between emotional intelligence and job performance: A meta-analysis. *Personality and Individual Differences*, 51(5), 469-474.

30. Petrides, K. V. (2010). Trait emotional intelligence theory. *Industrial and Organizational Psychology*, 3, 136-139.
31. Petrides, K. V., Furnham, A., & Frederickson, N. (2004). Emotional intelligence. *The Psychologist*, 17(10), 574-577.
32. Rose, R. C., Ramalu, S. S., Uli, J., & Kumar, N. (2010). Expatriate performance in international assignments: The role of cultural intelligence as dynamic intercultural competency. *International Journal of Business and Management*, 5(8), 76.
33. Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., & Lucharini, P. (2001). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25(2), 167-177.
34. Sibley, J., & Parmelee, D. X. (2008). Knowledge is no longer enough: Enhancing professional education with team-based learning. *New Directions for Teaching and Learning*, 116.
35. Tabachnick, B., & Fidell, L. (2007). *Experimental design using ANOVA*. Belmont, CA: Thompson Higher Education.
36. Tadmor, C. T., Tetlock, P. E., & Peng, K. (2012). Developing cultural intelligence: The role of emotional intelligence. *International Journal of Intercultural Relations*, 36(3), 258-270.
37. Tatar, A., Tok, S., Bender, M., & Saltukoğlu, G. (2017). Translation of original form of Schutte emotional intelligence test into Turkish and examination of its psychometric properties. *Anatolian Journal of Psychiatry*, 1. <https://doi.org/10.5455/apd.221802>
38. Törmänen, T., Kumpulainen, K., & Kallio, J. (2021). Affective states in collaborative learning: Understanding and managing emotions in group settings. *Learning and Instruction*, 75, 101473. <https://doi.org/10.1016/j.learninstruc.2021.101473>
39. Wang, Y., Wang, H., & Liu, X. (2020). The moderating role of emotional intelligence in the relationship between cultural intelligence and adaptation in diverse environments. *Journal of International Business Studies*, 51(5), 745-764.
40. Ward, C., Bochner, S., & Furnham, A. (2001). *The psychology of culture shock*. Psychology Press.