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Assessing Critical Thinking Dispositions of Undergraduate Business Students in Nepal ❖

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Abstract

This study examines the critical thinking dispositions of undergraduate students specializing in business and management studies at different university-affiliated colleges in Kathmandu Valley. The primary purpose of this study is to determine to what extent the sampled undergraduate students display critical thinking dispositions in a cross-sectional survey study related to management education in Nepal. The sample size of this study consists of 110 undergraduate students graduating in management and business specialisations, and the data was collected using the parameters of the California Critical Thinking Dispositions Inventory. The results of this study indicate a significant number of undergraduate students displayed negative, ambivalent, and insufficient critical thinking dispositions. This study reveals that critical thinking abilities of students are not fully developed during their undergraduate business and management studies. Therefore, this study suggests that academic institutions that offer management education need to create an institutional framework for critical thinking culture and offer academic environment that supports student's development of critical thinking abilities.

Keywords: business students, California critical thinking dispositions inventory, management education

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INTRODUCTION AND STUDY OBJECTIVES

This study examines the critical thinking dispositions of undergraduate students specializing in business and management studies at different private, public, and community-based university-affiliated colleges in Kathmandu Valley. Critical thinking is regarded as a crucial component of undergraduate level education that helps business students prepare themselves for upcoming opportunities and challenges in their business environment with regard to disruptive innovations, social upheavals, industrial technology revolutions, sustainable development, and entrepreneurship (Wang & Wu, 2023).

Critical thinking tendencies or dispositions involve comprehensive examination of problems, concepts, evidence, and occurrences prior to developing a viewpoint, judgment or an action (Silberman et al., 2021). Critical thinking dispositions are crucial for undergraduate business and

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management students because it helps them develop necessary decision-making and problem-solving skills for future academic and applied research, professionalism, job market prospects, career choices, creative confidence, self-initiations, innovations, and active citizenship (Akpur, 2020; Álvarez-Huerta et al., 2022; Silberman et al., 2021).

Moreover, in the context of management undergraduate education in Nepal, critical thinking has been framed from the perspective of educational intervention (Calma & Cotronei-Baird, 2021; Nepal, 2022). Educational interventional approach assumes that the transferability of relevant dispositions and skills associated with critical thinking is possible through classroom practices, curricula, learning outcomes, course content, application of Bloom's taxonomy, creative assessment methods, workshops, trainings, faculty development, and pedagogical interventions (Mulnix, 2012).

However, concerns for developing key critical thinking skill among undergraduate business and management students remain an unduly romanticized fantasy (Spataro & Bloch, 2018), without first examining critical thinking dispositions that have been fostered among students through local social-economic conditions, cultural influences, and educational practices at the basic and higher school level. Besides, any attempt to develop and enhance critical thinking skills of business undergraduate students with evidence-based evaluation of prevailing critical thinking dispositions only results in inadequate, irrelevant, and ineffective educational initiatives (Chen et al., 2024).

It is also important to make a distinction between the development of critical thinking skills and the cultivation of critical thinking dispositions. After all, it is possible to develop the critical thinking skills of students in the context of business studies and management education through appropriate teaching strategies, pedagogical initiatives, curriculum design, experimental learning and student engagement (Calma & Cotronei-Baird, 2021; Wilson, 1998). However, it is equivalently necessary to understand generic process that determines the critical thinking disposition of undergraduate students (Chen et al., 2024). Besides, the effectiveness of educational interventions for developing critical thinking skills are aggravate, distorted and de-limited by the generic pathway students have trodden in their education journey building their cognitive references from culture, family, social status, and economic condition (Chen et al., 2024; Wang & Wu, 2023).

Hence, universities in Nepal cannot assume that only through curriculum modifications, pedagogical strategies and teacher-centric inventions inculcation of critical thinking is possible in management education (Calma & Cotronei-Baird, 2021; Wang & Wu, 2023). First and foremost, universities in Nepal need to understand the level of critical thinking dispositions prevalent among undergraduate students based on their sociocultural, economic, and educational backgrounds. Next, after the assessing critical thinking disposition of students, universities need to develop educational policies, classroom practices, curriculum modifications and evaluation methods that enhance the critical thinking skills of students through different educational

interventions (Zhai & Zhang, 2023). However, there is a contextual knowledge-based gap around assessing and analysing the traits, dispositions and attributes of undergraduate students' critical thinking with reference to management education in Nepal (Bell & Loon, 2015).

In the context of business studies and management education, critical thinking skills are considered as core competencies, which fosters other competencies such as teamwork, communication efficiency, cross-cultural understanding, and analytical, decision-making, and problem-solving skills (Zhao et al., 2021). Additionally, students studying management and business who have weakened, or lower critical dispositions also find it difficult to complete tasks and activities that call for decision-making and problem-solving in various managerial, marketing, and operational contexts (Maniram, 2022). Hence, the focus of this study is to examine the present situation of critical thinking dispositions among business and management students and to investigate the development status of their critical thinking tendencies in relation to degree of openness to diversity and challenge students associated with these dispositions.

Moreover, management colleges, business schools, and management faculties need to determine and become aware critical thinking abilities and dispositional level of their students to provide relevant, applied, market-oriented, problem-solving, and transformative undergraduate management education in Nepal. Importantly, awareness of critical thinking disposition also provides references for management education system in Nepal to think out of box, develop coherent pedagogical models, introduce diverse evaluations methods and transformative educational initiatives that provides ample opportunities and relevant context for students to explore and improve their critical thinking dispositions and skills (Balcaen & Hirtz, 2007).

This study provides insights into the degree of critical thinking disposition undergraduate business students in Nepal have toward its core module dimensions, which include openness, diversity, truth-seeking, open-minded perspectives, analytical thinking, systematicity, self-confidence, inquisitiveness, and cognitive maturity and challenge (Facione et al., 1994).

Regarding the organisation of research, this study outlines its research objectives, gives the theoretical and conceptual background on critical thinking dispositions, its essential components, criteria, and constructs. Additionally, this study proposes a conceptual framework with relevant factors for data collection and analysis. In the next section, the research design, participants, sampling techniques, and instrumentation protocols have been described. This paper concludes with findings, discussions of the results, and educational implications, including pedagogical orientations, evaluation techniques, class-based activities, and other collaborative interventions that instil critical thinking dispositions of undergraduate management and business students. Hence, the paper examines the critical thinking disposition of undergraduate business and management students in Nepal. Likewise, this study analyses whether variations in

gender and in the areas of specialisation in management courses among undergraduate students have influenced their level of critical thinking dispositions. More importantly, this study examines the relationship between degree of openness to diversity and challenge and different dimensions of critical thinking dispositions as measured by the critical thinking scale to evaluate the critical thinking development among undergraduate students of business and management in Nepal.

LITERATURE REVIEW

The theoretical framework for this study is based on constructivism and dual process theory. Constructivism specifies that students construct knowledge rather than just passively absorbing and taking in information shared with them in a classroom setting (Lunenburg, 2012 Students incorporate new information and build their mental models based on their pre-existing frame of knowledge references (Lunenburg, 2012). Based on this theory, this study assumes that students develop critical thinking skills based on their pre-existing dispositions as part of their mental representation. Thus, unassertive and weak critical thinking skills are also a characteristic of students with low and ambivalent critical thinking dispositions (Maniram, 2022).

Similarly, in this study, dual process theory has been referred to differentiate between two modes of thinking: System 1 is unconscious, reactive, fast, and utilises shortcuts, and System 2 is intentional, calculated, slow, deliberate, and often more accurate (Kahneman, 2012). Critical thinking dispositions come under System 2 thinking, is slow and laborious, necessitating focus, analytical skills, and self-control; it is also linked to logical reasoning, deliberate problem solving, and decision making (Kahneman, 2012).

As indicated by Toplak et al. (2014), this study assumes that only when system 2 mode of thinking has been applied by undergraduate students, this entails that they have dispositions necessary to apply critical thinking. Furthermore, the disposition toward critical thinking in this study has been characterised as a cognitive tendency to utilise critical abilities to decide on what to believe and what to do (Facione et al., 1994). Hence, dispositions determine to what extent or level students apply critical thinking skills in their professional and personal lives.

In this study, for the purpose of evaluating the prevalence of critical thinking dispositions and openness to diversity and challenge among undergraduate business students, conceptual references have been based on previous studies and evaluation parameters developed for measurement and scaling of dimensions that indicate the presence of thinking tendencies (Chen et al., 2024; Faccione et al., 1994; Zhai & Zhang, 2023).

Based on thematic review, in this study, dispositions are regarded as the mental component of critical thinking, and these dispositions are primarily used to identify an inclination to employ skill sets associated with critical thinking (Faccione et al., 1994). Besides, when undergraduate students lack critical thinking dispositions, they also exhibit a tendency to underutilise critical thinking skills and struggle to effectively demonstrate problem solving and creative

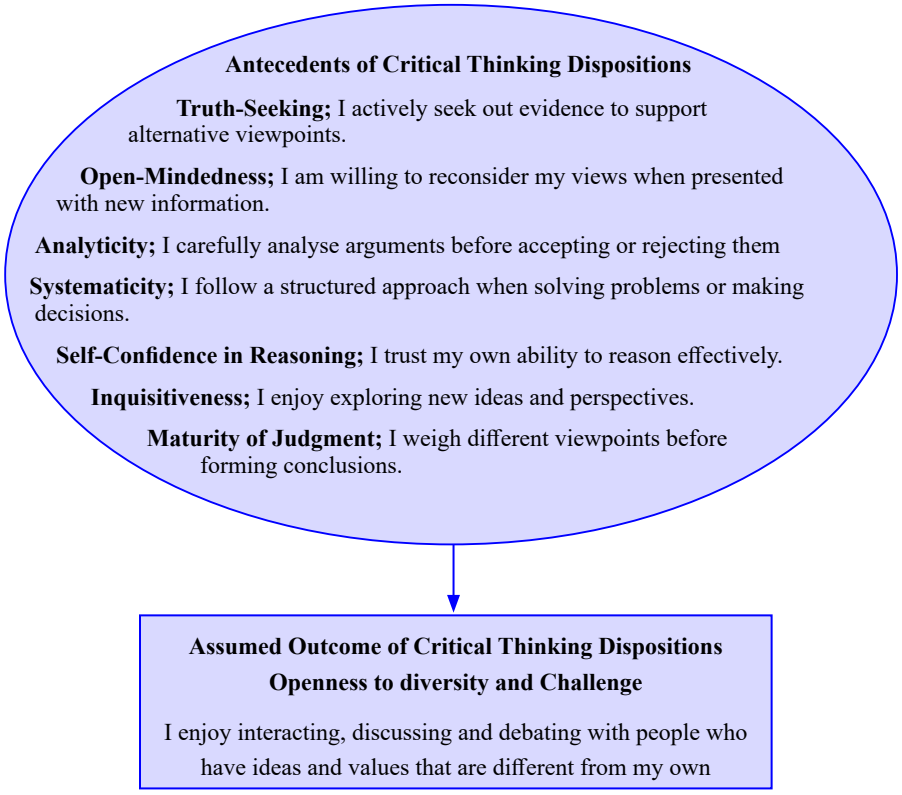
confidence in their professional context (Álvarez-Huerta et al., 2022). This study investigates critical thinking dispositions before assessing skills, as it is crucial for implementing educational initiatives based on comprehensive evidence from analysis and exploration of these dispositions, as outlined by Zhao et al. (2021) as well as in Zhao et al. (2024), which divides critical thinking into two categories.

Moreover, as stated by Poondej and Lerdpornkulrat (2015), assessing the disposition dimension of critical thinking has gained more importance than assessing skills sets associated with critical thinking. In addition, Boso et al. (2021) in their study on critical thinking dispositions of undergraduate students find that most participants demonstrated a positive tendency towards critical thinking disposition. The mean score of undergraduate students was highest on the confidence in reasoning subscale while lowest on truth-seeking (Boso et al., 2021). Likewise, in a study, Maniram (2022) finds that critical thinking dispositions enable undergraduate students explore, analyse and make connections with the real-life contexts where they need to enter as a part of their profession after graduation Similarly, in the Nepalese context, the study by Nepal (2022) indicates that teachers still prefer traditional teacher-centred methods, thus depriving students of pedagogical context necessary for the development of critical thinking skills and the educators in the context of business studies and management education in Nepal have not taken up their role rather earnestly for integrating critical thinking in their teaching and learning practices.

Regarding openness to diversity and challenge willingness Bowman (2014) suggests that sensitivity to diversity and challenge are personal characteristics that students need to develop if they are to flourish in diverse professional, managerial, and business situations. Besides, previous studies have indicated that those students with ample critical thinking dispositions are also open to new business challenges, risk-taking, ventures, and dealing with people from diverse cultural backgrounds in distinctive situations (Álvarez-Huerta et al., 2022). Furthermore, Álvarez-Huerta et al. (2022) in their study have shown that students those who are disposed toward critical thinking are also open to diversity and challenge and have a stronger creative self-concept necessary for innovation and entrepreneurship

Research on critical thinking in the Nepalese context is still at its beginnings, and the focus has been limited to teacher-based interventions rather than analysing the prevalence of critical thinking dispositions that provides foundations for educational interventions necessary for developing critical thinking skills (Chen et al., 2024).

Moreover, Wilson (1998), in a study that measured the disposition toward critical thinking of undergraduate students of Business Administration and Economics, has indicated a positive tendency toward critical thinking dispositions among these students. In addition, critical thinking dispositions determines the application of critical thinking skills by undergraduate students of business studies and management education in their academic and professional context (Facione et al., 1994).



Note. Álvarez-Huerta et al., 2022 ; Facione et al., 1994 ; Zhai & Zhang, 2023

Figure 1. *Antecedents of Critical Thinking Dispositions and their Outcome*

However, in the Nepalese context, there is an empirical research gap on the prevalence of critical thinking dispositions among business undergraduate students with reference to management education. Hence, this study investigates the prevalence of critical thinking disposition among undergraduates, and the findings of this study provide a scientific basis for transforming management education in Nepal through courses, curriculum, evaluations, assignments, pedagogical, and classroom activities that develop the critical thinking skills of undergraduate students and openness to diversity and challenges.

This study uses the California Critical Thinking Disposition Inventory (CCTDI) to assess critical thinking in undergraduate students. The CCTDI includes seven elements: analyticity, inquisitiveness, systematicity, open-mindedness, truth-seeking, self-confidence, and maturity (Facione et al., 1994; Chen et al., 2024; Zhai & Zhang, 2023). These seven subscales help measure critical thinking in Nepali undergraduate students and its effect on openness to diversity and challenges. In this study, critical thinking dispositions are defined as attitudes or habits that influence how a person reasons, argues, and makes decisions. Openness to diversity and challenge refers to a personality trait where an individual embraces new experiences and learns from

differences (Álvarez-Huerta et al., 2022; Bowman, 2014; Facione et al., 1994). This study focuses on the seven elements of the CCTDI approach, highlighting Maturity as a critical thinking trait linked to cognitive maturity and epistemic growth. Truth-seeking involves unbiased inquiry, while being open-minded means accepting different views and recognizing personal biases. Analyticity entails awareness of problems and reasoning skills. Self-confidence is measured by sound judgment and decision-making ability. Systematicity reflects focus and organization in research, and curiosity is shown by a desire to learn without expecting rewards (Álvarez-Huerta et al., 2022; Chen et al., 2024, Dennett & DeDonno, 2021; Facione et al., 1994).

RESEARCH METHOD

For investigating the prevalence of critical thinking dispositions among undergraduate students specialising in business and management studies, a quantitative descriptive cross-sectional design has been used in this study. Since cross-sectional design allows for an assessment of the critical thinking disposition of the students at a specific point in time, this research design has been appropriate for identifying dispositional tendencies and mindsets of students regarding critical thinking (Zhai & Zhang, 2023). In addition, correlational research design has also been used to explain the relationships between quantitative variables through correlation coefficients.

With reference to research questions, in this study descriptive statistics have been used to generate overall and subscale scores associated with the California Critical Thinking Disposition Inventory (CCTDI), and frequency statistics and percentages were generated to illustrate the demographic profile of research respondents. Further, in this study, the researcher has used descriptive and inferential statistics for data analysis and to report the findings. Statistical analysis in this study has been performed using IBM SPSS Statistics version 24.0 software, where a p-value <0.05 is considered as statistically significant.

Moreover, application of descriptive statistics in this study includes uses of frequencies and percentages, as well as measures of central tendency and dispersion to describe the data. Likewise, a chi-square test has been conducted to test for a statistically significant relationship between nominal and ordinal variables. The chi-square test has been used to examine the relationship between gender, area of specialisation in business and management studies, and the CCTDI score. In this study, correlation analysis has also been used to predict to what extent openness to diversity and challenge is related to the critical thinking dispositions of undergraduate students.

Sample Size and Study Area

The present study is based on the convenience sampling method; a total of 110 respondents participated in this study as the sample from the population of 440 students studying in the sixth semester of eight different private, public, and community-based university-affiliated colleges in Kathmandu Valley in Kathmandu valley. Data was collected from July to August of 2024. In this study, data was collected

through the questionnaire that included the socio-demographic characteristics data form, the CCTDI. Inventory questions set were divided into seven sub-components of critical thinking dispositions and forms were converted into online formats using "Google Forms". The forms were then distributed to respondents through different social media platforms. The inclusion criteria for respondents included management and business students studying at the ungraduated level with a competition of six semesters of study and having already selected a particular area specialisation for their remaining study period.

Although questionnaire was distributed on different multiplatform multiple sources about 110 participants (female = 70, male = 40) studying under the faculty of management and business departments in different private, public, and community colleges affiliated have been finalised for this study. Here only those students with cumulative grade till six semesters within the range of 4-2. Likewise, business students studying in business schools and college affiliated and associated with Tribhuvan University, Kathmandu University, Purbanchal University, Pokhara University and Mid-western University have participated in the survey. More importantly, in this research only students studying bachelor's in business administration, business management and management sciences are only considered as research sample, excluding information management, travel, tourism and hospitality. This study has not included students of business studies who have not studied in the semester system.

Instruments and measures

In this study CCTDI with six-point Likert scale for seven items used for assessment for evaluating critical thinking disposition in the range of "I strongly disagree" (1) to "I totally agree" (6) has been applied for data collection and analysis. Scores for each sub-dimension have been collected with four research statements for each item based on previous studies (Álvarez-Huerta et al., 2022; Chen et al., 2024; Dennett & DeDonno, 2021; Facione et al., 1994). Hence, this study has used modified version and condensed procedure of CCTDI (Ali, 2010). The resulting in scores ranging from 1 to 6 have been presented in different range determining the level and tendencies of critical thinking among undergraduate students.

Since this research has adopted version of CCTDI, the inventory comprised of 28 items, with format for this inventory, Cronbach Alpha internal consistency reliability coefficient of the is determined with the decent and acceptable range of 0.91 to 0.83. Likewise, for measuring Openness to Diversity and Challenge, four items from the Openness to Diversity and Challenge scale has been applied with (Álvarez-Huerta et al., 2022; Bowman, 2014). with Internal consistency of scale scores (Cronbach's alpha) in the present sample of 0.85 respectively.

DATA ANALYSIS AND DISCUSSION

Table 2 shows the demographic information of respondents. Demographic data from the survey indicate that the sample size for the study consists of 110 undergraduate students

of business and management, and among them, 73% are female, and the remaining 27% are male respondents. Regarding area of specialisation within business and management studies, in this study undergraduate students specialising in sales and marketing management consist of 36%, banking and finance are 41% , students specialising in human resource management are 14%, and accounting undergraduates were nine percent. Most research participants in this study have cumulative GPA (average) (till the 6th semester) in the range of 3.5–3 (41%); likewise, 22%, are in the range of 4-3.5.

Similarly, when it comes to university association and affiliation, 32% study in colleges and business schools affiliated with Pokhara University, followed by 23% of Tribhuvan University, 18% each from Kathmandu University and Midwestern University, and the remaining nine percent are from Purbanchal University.

In the above table, study sample scores for each sub-domain are displayed as descriptive statistics among undergraduate respondents. The sub-domain of inquisitiveness has the greatest mean score (4.9), while truth-seeking has the lowest mean score (2.2). Comparably, it is clear from the above table that most of the respondents in this study showed an unfavourable, erratic, and ambivalent disposition when it comes to seeking the truth, being open-minded, methodical, analytical, and having mature judgment. These undergraduate students do, however, have a positive inclination towards curiosity and self confidence in their thinking. Furthermore, upon computing the overall scores, their general propensity towards critical thinking dispositions falls under the classification of inconsistent and ambivalent.

As indicated by Dissen (2023), this study also simulates that critical thinking dispositions contribute towards building problem-based learning and solving skills; hence, with negative, inconsistent, and ambivalent dispositions, undergraduate students associated with business studies and management education in Nepal also have low inconsistent and ambivalent tendencies towards problem-based learning and solving skills.

Moreover, the findings of the descriptive statistics in the above table are consistent with the finding of a previous study that the students belonging to Asian or Eastern cultural paradigms tend to score lowest on the truth-seeking sub-scale and highest on the inquisitiveness sub-scale (Ip et al., 2000). Hence, this study also concludes that due to the exiting culture norms and limiting parameters of socially accepted thinking standards, Nepalese undergraduate students also have lower critical thinking abilities as free thinking and truth-seeking tendencies are not emphasised enough in their school education (Silberman et al., 2021). Likewise, the low and negative tendency for truth seeking has been sustained due to the persistence of traditional teaching and learning strategies in management education in Nepal (Wang & Wu, 2023).

In this study, a chi-square test has been conducted to determine whether the variations in critical thinking dispositions

Table 1
Categorisation of Dispositions

Range	Categorisation of Critical thinking dispositions
5–6	Strong positive tendency toward critical thinking disposition
4–5	A positive tendency toward critical thinking disposition
3–4	Inconsistency/ambivalence
2–3	A negative tendency against critical thinking disposition
1–2	Strong negative tendency against critical thinking disposition

Note. Álvarez-Huerta et al., 2023; Dennett & DeDonno, 2021; Facione et al., 1994

are determined by the differences in gender and the area of specialisation. The results indicate that the disposition of male and female students is statistically insignificant in the sub-scale examined in this study, here 2.83, $p > 0.005$. Similarly, this study also finds that there is a lack of association between the area of specialisation within business and management studies and the levels of critical thinking dispositions prevalent among students (4.109, $p > 0.005$).

Hence, this finding contradicts the indications of a previous study that the specialisation area of business studies a student selects influences the development of their critical thinking dispositions during undergraduate study (Bowman, 2014). Therefore, this problem regarding negative, inconsistent and ambivalent inclinations towards critical thinking is more of a systemic and cultural issue rather than a simple phenomenon explained by demographic and characteristic factors.

Similarly, the findings of this study are similar to those of Liu and Pásztor (2022) that gender and area of specialisation have no distinct influence on the development of critical thinking dispositions. More importantly, the prevalence of teacher-centered, instruction-based one-way transfer of knowledge and authoritative models of school-level education journeys together with acceptable norms and thinking patterns derived from cultural references, family, parenting styles, social status, and economic condition may have contributed to their non-critical thinking. (Wang & Wu, 2023)

Critical thinking dispositions and openness to challenge and diversity have a positive but statistically insignificant association, as shown in Table 5. In this case, there is a correlation between the dependent variable and each of the critical thinking disposition sub compositions and their coefficients. However, correlation coefficients are weak, inconsistent, and low size. Any positive correlation between critical thinking dispositions and openness to diversity and challenge may potentially be due to chance, after all for each critical thinking disposition domains p-value is greater than 0.05. Besides, correlation less than 0.3 coefficient magnitude indicates very little, if any, linear correlation.

Table 2
Respondents' Demography

Respondents' characteristics	No. of responses	Percentage (Approx.)
Undergraduate students of Business and Management Sciences	Total Responses =110	
Gender		
Female	80	73%
Male	30	27%
Area of Specialisation		
Sales and Marketing Management	40	36%
Banking and Finance	45	41%
Human Resource Management	15	14%
Accounting	10	9%
Cumulative GPA (Average) (till 6th semester)		
4-3.5	25	22%
3.5-3	45	41%
3-2.7	40	37%
University Affiliation		
Tribhuvan University	25	23%
Kathmandu University	20	18%
Mid-western University	20	18%
Pokhara University	35	32%
Purbanchal University	10	9%

Note. Field survey, 2024

It's vital to recognise that pupils who are more inclined toward critical thinking are also more receptive to challenge and diversity (Álvarez-Huerta et al., 2022). The personality trait of openness to experience, which is necessary for creativity and invention, is linked to being open to diversity and challenges (Bowman, 2014). Nonetheless, a weak and conflicted tendency toward openness to diversity and challenge has also been brought about by the lack of strong and positive tendency towards critical thinking disposition among Nepalese undergraduate students.

Discussion

The main purpose of this research was to find out to what extent the sampled undergraduate students provide evidence that students associated with management education in Nepal can demonstrate critical thinking dispositions in a cross-sectional survey study. As comparable with the findings of Zhai and Zhang (2023), this study indicates that undergraduate business students have a negative, weak, inconsistent, and ambivalent disposition towards critical thinking, which means they were not sufficiently disposed toward critical thinking.

Table 3
Distribution of Critical Thinking Disposition Scores

Disposition category	Min	Max	Mean	SD	Categorisation of tendencies
Truth-seeking	2	4	2.2	0.59	Negative tendency
Open-mindedness	2	5	3.5	0.57	Inconsistent/Ambivalent
Inquisitiveness	3	6	4.9	0.43	Positive tendency
Analyticity	2	5	3.3	0.65	Inconsistent/Ambivalent
Systematicity	2	5	2.7	1.23	Negative tendency
Confidence in Reasoning	2	6	4.4	1.67	Positive tendency
Maturity of judgment	2	5	3.2	1.45	Inconsistent/ Ambivalent

Note. Field survey, 2024

Table 4
Relation between Critical Thinking Dispositions, Gender and Specialisation Variables

Variables	Negative Tendency n (%)	Inconsistent/ Ambivalent n (%)	Positive Tendency n (%)	x^2 (Chi-Square)
Gender				
Male	4 (13%)	21 (70%)	5 (17%)	$x^2 = 2.83$
Female	20 (25%)	45 (56%)	15 (19%)	p-value= 0.476
Area of Specialisation				
Sales and Marketing Management (n=40)	5 (12.5%)	24 (60%)	11(27.5%)	
Banking and Finance (n=45)	6 (13%)	26 (58%)	13 (29%)	$x^2 = 4.109$
Human Resource Management (n=15)	3 (20%)	8 (53%)	4 (27%)	p-value =0.727
Accounting (n=10)	2 (20%)	6 (60%)	2 (20%)	

*Note. *P-value <0.05*

More importantly, in alignment with previous studies, the findings of this study also suggest that the critical thinking disposition of undergraduate students appears weak, inconsistent, and ambivalent like those students in other countries in the Asian cultural region (Wang & Wu, 2023; Zhai & Zhang, 2023). Besides, this result has been attributed to the fact that students in Asian educational and cultural contexts indicate lower critical thinking dispositions and abilities because the importance of critical thinking is not emphasised enough in the school education (Anderson & Good, 2022). Likewise, Jenkins (2011), in a study, has also determined the negative impact of cultural norms as a limiting factor when it comes to the development of critical thinking dispositions

Among different dispositions, this study finds that truth-seeking and systematicity tendencies among undergraduate students have weak and negative dispositions possessed by the student. Besides, the

findings of this study are similar to those of Mahmoud and Mohamed (2017), where the results revealed that the lowest score was for the truth-seeking subscale. The negative tendency towards truth-seeking suggests that undergraduate management students in Nepal are reluctant to ask questions, seek new informative and re-evaluate evidence (Zhai & Zhang, 2023) Besides, students' negative tendency towards truth-seeking is rather disturbing, because this evidence indicates that students have inadequate analytical, explanatory, and interpretive skills that are necessary to become effective and efficient managers (Calma & Cotronei-Baird, 2021).

In addition, this finding also aligns with the conclusions of previous studies that truth seeking remains the least developed critical thinking disposition among undergraduate students in Nepalese context because they usually follow concepts, methods, and procedures that have always been prescribed in their syllabus without critically re-evaluating these concepts, methods, and theories with new information and contemporary research (Facione et al., 1994; Mahmoud & Mohamed, 2017). Likewise, negative tendency toward systematicity subscales indicates that undergraduate students of management and business studies are disorganised and disordered in their thinking orientations (Facione et al. 1994). In other words, they can not think systematically considering different steps, strategies and procedures involved in either solving problems or taking managerial decisions.

More importantly, findings of this study collectively suggest that existing and conventional teaching methods, pedagogical, and assessment practices still prevalent in management education have not been able to improve the critical thinking dispositions of undergraduate students in Nepal (Calma & Cotronei-Baird, 2021).

Moreover, the findings of this study also corroborate with System 1 of dual process theory. System 1 thinking is often described as a reflex system, which triggers our brains' fast, automatic, unconscious, emotional response to situations and

Table 5
Correlation Coefficients Results

Dispositions	Openness to Diversity and Challenge
1. Truth-seeking	0.012
2. Open-mindedness	0.014
3. Inquisitiveness	0.209
4. Analyticity	0.131
5. Systematicity	0.024
6. Confidence in reasoning	0.043
7. Maturity of judgment	0.022

*Note. *Correlation is significant at the 0.05 level (2-tailed).*

stimuli. System 1 is unconscious, reactive, fast, and makes use of shortcuts (Kahneman, 2012). Hence, prevalence negative, ambivalent, and inconsistent cognitive thinking dispositions of students indicate that their dominant mode of thinking is still system 1 thinking, which hinders their analytical thinking, problem solving, and decision-making skills.

Furthermore, comparable with constructivist learning theory, learners build their own mental models and incorporate new information into their pre-existing knowledge (Lunenburg, 2012), based on their existing cognitive foundations that indicates towards low, inconsistent and ambivalent critical thinking dispositions, this study reveals that undergraduate students have also assimilated openness to diversity and challenges within the same levels of their critical thinking dispositions. Hence, undergraduate students in Nepal who are less disposed toward critical thinking are also less open to diversity and challenge that they may encounter in business environment and professional settings (Álvarez-Huerta et al., 2022). Likewise, this study also confirms the fact that in developing countries like Nepal, students are susceptible to factors such as the seniority, existing cultural norms and teaching and learning conventions, hence there is less tendency among students to participate in different curricular, co-curricular and other educational activities that facilitated critical thinking dispositions and skills (Boso et al., 2021).

Likewise, building upon the findings, this study also implies that the cultivation of critical thinking skill through educational interventions must be based on the characteristics and levels of student's critical thinking development (Chen et al., 2024). In addition, Franco et al. (2017) have indicated with undergraduate students with low scores in dispositions towards critical thinking also have a profile of being and becoming lost in translation. In other words, undergraduate students become indecisive about their career direction, professionalism, implementing their business ideas, and further education, thus becoming demotivated and distorted by various promotional messages that show a bleak picture of the business realities of Nepal. Thus, management students fail to realise their business, managerial, and entrepreneurial potentials in Nepal.

Similarly, Pascarella (2001) found that undergraduate students with greater capacity for critical thinking are also more open to diversity and challenges. Based on the findings of this study, it is arguable that Nepalese undergraduate students are not open towards embracing diversity and comfortable working in a professional setting that includes risk and challenges. Hence, they easily give up, complain, blame the system, and regret.

The management education system in Nepal needs to shift from unidimensional teaching approaches like lecturing (Boso & Gross, 2015), which may compromise the facilitation of critical thinking skills of students and come up with critical thinking culture that encourage the development of critical thinking dispositions, along with creativity, innovation, independence, and tolerance when solving problems or taking decisions.

As indicated by Dissen (2023), critical thinking dispositions are important factors that influence the ability of undergraduate management students to understand and solve complex problems. This study indicates that within management education in Nepal, critical thinking skills and dispositions are highly valued and encouraged to some extent, but these dispositions and skills are not adequately developed even at the time when students are about to complete their undergraduate degree.

Business educators have important roles and responsibilities; they need to incorporate multiple perspective educational interventions, non-linear teaching and learning strategies, and pedagogical orientations through cooperative learning environments to encourage their students to apply critical thinking in academic settings (Alt, 2017). Importantly, management education in Nepal needs to realise that critical thinking is a fundamental skill crucial for the development of resourceful professionals who can navigate the complexities of the highly competitive and dynamic job market (Lee et al., 2016). Hence, putting undergraduate students in business environments and jobs with sufficient critical thinking skills would be akin to sending them on a voyage of the sea without relevant and essential equipment.

In addition, this study also suggests that dispositions of critical thinking can be cultivated and improved through student-centred teaching methods such as problem-based learning (Liu & Pásztor, 2022). Likewise, previous studies have revealed significant enhancements among students who participated in undergraduate courses that utilises the collaborative learning method (Mahmoud & Mohamed, 2017). Therefore, rather than limiting to assessment regimes and memorisation-based examinations, which tend to prompt teachers to favour reproductive modes of teaching and learning, management education in Nepal needs to explore evidence-based alternative, innovative, and transformative pedagogical strategies that enhance learning methodologies and assessment approaches that enhance critical thinking distortions. Besides, as indicated by Fernandes et al. (2024), critical thinking has become central to reforms in curricula and teacher pedagogical practices globally.

CONCLUSION AND IMPLICATIONS

The findings of this study indicate that most undergraduate students graduating in business studies and management sciences have negative, inconsistent, and ambivalent tendencies towards critical thinking. Similarly, there is no statistically significant difference between critical thinking disposition in male and female undergraduates and among students specialising in different dimensions of management education in Nepal. Although lower and weak cognitive dispositions of students might be attributed to the traditional educational culture and practices in Nepal, where the students still regard their teachers as figures of authorities and business educators practice passive, linear and instructive teaching strategies even with updated curricula and improved methods of evaluation that reflect the aspirations of twenty-first century learners (Lee et al., 2016).

Consequently, rather than limiting the significance of critical thinking within the frames of curriculum development, learning outcomes, course designs, and mission statements of management departments and business schools, universities associated with management education in Nepal must also develop a critical thinking culture that encourages collaborative and problem-based learning orientations that improve the critical thinking dispositions of students. After all, critical thinking helps students become flexible, adaptive, and resilient in natural contexts while developing their comprehensive understanding (Gambrill, 2018).

After all, development of critical thinking skills among undergraduate students is possible using specific teaching pedagogy that include problem-based learning activities, case studies, and interactive activities, including discussions, debates, and case simulations (Fernandes et al., 2024). More importantly, management education in Nepal needs to adopt educational practices that generate graduates who have the critical thinking disposition required in these times of rapidly changing business realities, disruptive innovations and business expansions, and challenges of competition (Wang & Wu, 2023).

This study suggests that understanding the prevalence of critical thinking dispositions among students enables curriculum design in undergraduate management education with the purpose of developing and cultivating problem solving and decision-making skills so that students are prepared to enter the workplace (Dennett & DeDonno, 2021). Besides this, increased openness to diversity and challenge among management students in Nepal need to provide constructivist learning environments where students can participate in cultural awareness workshops, and frequent interaction with people with different socio-political cultural and business identities (Alt, 2017).

Although this cross-sectional study provides significant findings that provide insights into improving the critical thinking dispositions of students, this study has several limitations. In this study, convenience sampling has been applied for data collection, and the sample size of respondents was limited to only streams of management and business undergraduate further, excluding domains of management studies such as hospitality, travel tourism, and information technology. Furthermore, this study does not include longitudinal components or pre- or post-intervention-based educational initiatives; rather, it captures students' critical thinking disposition during a certain time frame.

More importantly, while socio-economic conditions, cultural components and prevailing educational systems may have been used in this study to discuss some potential causes for inconsistence, and low critical thinking abilities, this research is insufficient to fully address this complicated issue with diverse compounding and moderating factors. Thus, additional research is required to examine potential correlations related to these findings. Additionally, the researcher with his position as faculty of graduate research, critical thinking, and business studies has limited this study to management education. As a result, other faculties in different streams of knowledge can also launch similar research projects in their own areas of expertise.

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