



Research on Innovative Internships and Teaching Modes in Vocational Colleges Based on Mental Health Theory

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ABSTRACT

Purpose: This paper introduces a unique approach to teaching internships that is grounded in mental health theory. Moreover, this research investigated the instructional approaches of innovative internships in vocational colleges, drawing on mental health theory.

Design/methodology/approach: The study group's students receive internship management along with mental health support, whereas the control group's students receive traditional instructional methods. ANOVA, chi-square test, and logistic regression analysis are employed to assess the academic performance of the students. In conclusion, a comprehensive assessment of the performance of the proposed model is carried out and subsequently compared with existing models. The findings of this investigation are visually represented using the Origin software.

Findings: The research revealed that both government initiatives and individual requirements exert influence on the pedagogy of internships in China. In this proposal, we present a vocational education and mental health theory model that prioritises a "student-centered" teaching methodology. Mental health is a non-cognitive factor that exerts a significant influence on educational achievements. The potential efficacy of the internship teaching model could be enhanced by incorporating considerations for mental health. **Originality/value:** The study placed significant emphasis on a novel theoretical framework rooted in mental health theory. This study has made a significant contribution to the development of the new educational model. The progress of education is facilitated by the presence of student motivation and the cultivation of efficient learning strategies. Enhancing the efficacy of teaching can be achieved by incorporating the consideration of students' mental health within the framework of educational reform. The integration of mental health education into a diverse range of classroom activities has been found to yield the most favourable outcomes for students.

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I. Introduction

Internships for vocational college students are essential for their career advancement and personal development and are thus receiving growing attention from society. Global forces, events, and procedures have transformed traditional participants in higher education and led to the emergence of new partners and institutions, particularly in developing countries (Wang, 2020). The importance of effective internships in teaching was emphasised to enhance the effectiveness of teachable moments both inside and outside the classroom, as well as in the process of teaching and learning. Given the significant impact of student internships on academic performance and skill development, it is crucial to promote the prioritisation of internships by educational institutions and students. The significance of student internships has been recognised as an important aspect of communicative competence and linguistic architecture. This importance is evident in discussions about the experiences of individuals and the overall impact on institutions. Additionally, internships have the potential to challenge notions of uniqueness and promote liberal values (Han, 2019).

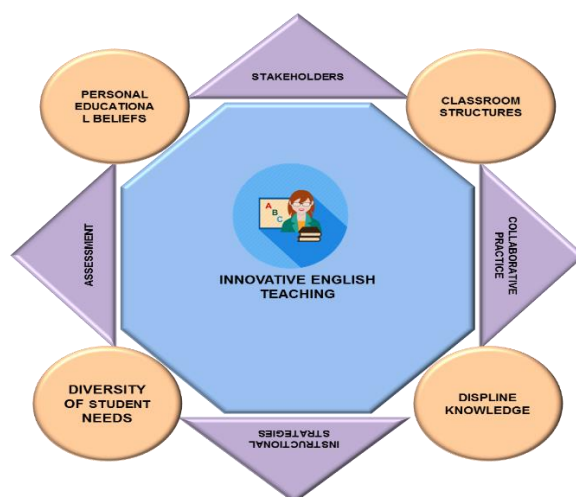


Figure 1: Source of innovative internships teaching

Figure 1 depicts student internships focused on innovative teaching methodologies. Teachers are responsible for establishing the atmosphere and organisation of the classroom. Creative education is centred around employing innovative teaching methods that facilitate learning, questioning, exploration, and risk-taking. Innovative education refers to the establishment of a learning environment in which students regularly engage with diverse subjects, critically question existing knowledge, and subsequently generate their own ideas. China has the highest number of internship students globally. The effectiveness of student internships in China is considered crucial due to the significant involvement of rights and government commitment. Given these factors, including the involvement in investigating and promoting the responsibilities of internship supervisors in Chinese higher vocational colleges, as well as the establishment of an educational magazine ranking system during the revolution, the research interaction of internship supervisors in China seems particularly significant (Wang, 2015b).

Likewise, Instructors have shifted their teaching approach for internship students to better align with their goals and requirements. This change involves moving away from traditional theoretical knowledge-focused methods and adopting a more skill-based approach. The emphasis is now placed on enhancing students' practical workplace abilities. Internship students often encounter challenges in understanding specialised communication within their academic fields. Many recent graduates in China continue to face challenges in effectively integrating theory and practice. The author argued that students lack sufficient extracurricular opportunities to enhance their skills and questioned the effectiveness of internships. An internship supervisor should utilise contemporary educational techniques as guidance methods to enhance the overall internship experience, fostering increased student engagement and motivation (Xu, 2018). One could argue that the absence of effective creative education could lead to the failure of the internship process.

While Internship supervisors should thoroughly evaluate the most effective active learning strategy to employ when overseeing student internships. Internship positions are considered crucial for implementing innovative learning due to various challenges in achieving student objectives. A prevalent challenge encountered during the internship process is insufficient student engagement. This could be associated with students' perceptions of authentic artworks. The difficulty of mastering a lesson was perceived by many students, primarily due to the scarcity of high-quality internship programmes in China (Mantra, Astawa, & Handayani, 2019). We have proposed a new internship approach based on mental health theory. The following section of this paper is organised as follows: Section II of this study involves a thorough review of the current literature and a concise statement of the problem. Section III includes the proposed research activities. Section IV provides an overview of the findings and analysis. Part V of the document comprises the conclusion.

II. Review of Literature

In their study, Goldsmith, Veum, and Darity Jr (1997) examine the use of qualitative techniques to analyse educational innovation comments, videotaped class activities, and co-constructed teaching material. During discussions on diversity and injustice, students identified similarities between their previous and current classmates. In their study, Zhou (2017) the authors introduced the concept of educational realities as a means of effectively managing and integrating different approaches to internship teaching in professional work. The author (Liu, Qing, & Si, 2017) argues that enhancing students' technical skills is crucial for a nation's global economic advancement. Consequently, the author examines the challenges and potential solutions for improving the effectiveness of internships among students in higher vocational colleges. The objective of study (Jin, 2015) was to assess students' perception of Mobile Assisted Language Learning (MALL) during the internship phase.

The study aimed to determine whether MALL could be an effective educational tool for teaching in the twenty-first century, specifically in the context of action learning, as compared to traditional instructors. The improvement of internship quality in higher vocational colleges is a significant concern, as discussed by the author (Dong & Reng, 2023). Internships (Zhang, 2015) are a crucial component of higher vocational education, serving

as a means to enhance the professional skills and overall abilities of students. They play a fundamental role in achieving the educational objectives of higher vocational education. According to the article (Wang, 2015a), the mental health of students during internships remains a significant concern, adversely impacting the overall outcomes of the internship period. Promoting active student participation in internships poses a significant challenge for higher vocational schools and educators. The author (Zhang & Shang, 2010) examines the critical stage of self-consciousness formation among higher vocational students.

Upon entering the workforce, these students are likely to experience workplace pressure. External environmental influences, as well as physiological and psychological immaturity, can have an impact on the development of self-awareness. A study by the author (Liu & Zhao, 2022), higher vocational students experience varying levels of psychological stress during internships despite having received a theoretical and practical education in school. This stress is attributed to inadequate preparation prior to the internship. The pressures experienced by individuals arise from various factors, including the social environment, personal responsibilities, life circumstances, and competitive forces. In a study (Mody & Bhoosreddy, 1995), it was noted that certain diseases demonstrate a high occurrence of multiple odontogenic keratocysts. A 12-year-old female patient presented with multiple odontogenic keratocysts.

The research findings did not identify any additional abnormalities that could indicate a medical condition. The use of detailed data in personalised medicine, as mentioned in Garg (2021), is utilised to identify specific deviations from the established norm. The study examined the conceptual and ethical dimensions of data-driven health care systems by employing 'Digital Twins' in the engineering domain. The physical artefacts were digitally interconnected to consistently depict their current condition. Moral distinctions can be identified by analysing data structures and the associated interpretations. This study examines the ethical and societal implications associated with Digital Twins. The healthcare system has become more data-driven. This technique has the potential to promote social equality by providing effective strategies for enhancing equal opportunities. Allergic rhinitis has been identified as a persistent global epidemic, as reported in Ahmed and Ali (2021). Taiwanese medical professionals commonly use traditional Chinese medicine or a combination of Chinese and Western pharmaceuticals to treat this ailment. Allergic rhinitis is the main target of outpatient traditional Chinese medicine treatment for respiratory disorders.

A comparative analysis was conducted in Taiwan to assess the effectiveness of traditional Chinese medicine and western medical therapies for treating allergic rhinitis. High-dose-rate (HDR) brachytherapy, as discussed in Shahabaz and Afzal (2021), provides several benefits including the elimination of radioactivity, enabling outpatient treatment, and reducing diagnostic timelines. The incorporation of a single-stepping source has the capacity to enhance dose dispersion by adjusting the latency at each dwell point. Reducing processing intervals may not guarantee error checking, which can lead to inaccuracies that may harm individuals. Hence, it is crucial to ensure that HDR brachytherapy treatments are performed with meticulous attention and accuracy. The authors conducted a study in Li (2021) that provided a comprehensive analysis of treatment methods and technological advancements in managing home sewage. The main aim of this study was to improve the environmental conditions in rural areas. In a study conducted by researchers in 2020, soil

samples [Salihu and Iyya \(2022\)](#) were collected from vegetable farms in Zamfara State, Nigeria. The samples underwent analysis to assess their physicochemical properties and detect the presence of organochlorine pesticides. The experimental methodology employed the QuEChERS technique along with gas chromatography-mass spectrometry (GC-MS) to analyse both the testing procedure and the resulting data.

Problem statement

In light of the significant expansion of internships in vocational education, it is imperative for twenty-first century teachers to utilise effective teaching methods that prioritise the preparation of contemporary students for future endeavours. Teaching non-graded courses is a challenging task for teachers in both schools and universities. Learners' lack of attendance and engagement in academic tasks suggested a lack of attentiveness and interest in the classroom. Consequently, it affects the educational achievements of students as well as the psychological and ethical well-being of students and teachers. To assess the impact of active learning on student learning outcomes, implement the temporary work approach in non-graded courses taught by a group of academics.

III. Proposed Work

This paper aimed to investigate the impact of an internship in vocational education combined with mental health theory (EE+MHT) on students' learning capabilities and the promotion of global relationships. The dataset of Chinese students is divided into control and study groups. The control group received standard education, while the study group received EE+MHT. The data are analysed using ANOVA, logistic regression, and chi-square tests. [Figure 2](#) depicts a schematic representation of the methodology.



Figure 2: Schematic representation of the methodology

A. Students' dataset

China Education is the pioneer in observing secondary school students globally. The primary results of this study are derived from the initial phase of the report, which was collected throughout the academic year 2018-2019. China's education system employs the stratification systematic sampling approach. Out of a total of 2870 provinces, 28 were selected in the initial stage. A random selection of schools was made from each township, with two classrooms chosen from the 7th grade and another two from the 9th grade for each student (Xu & Li, 2018).

B. Dataset partitioning

The dataset was divided into two groups: the control group and the study group. The study included 7th and 9th grade students who were enrolled in Chinese secondary education. The control group received standard education, while the study group received internships focused on mental health theory.

a. Standard education

Standard education typically includes internship training, which is widely recognised as an effective approach. The study of enhancing the quality of student internships has the potential to standardise the internship process, improve its effectiveness, and offer students greater employment prospects. This research can also assist students in achieving their final employment or entrepreneurial objectives while enhancing their satisfaction with internships and subsequent employment. All of them, however, can be traced back to standard internships in education.

b. Internship education and mental health theory

Internship education is essential for improving and optimising the teaching performance of interns in relation to emotional aspects associated with mental health. The objective of internship education is to enhance students' academic performance during internships and promote the mental well-being of student teachers. This includes emphasising important learning practises as outlined in the current phase's objectives. The relationship between mental health and internship education is mutually dependent and synergistic. On one hand, mental health plays a crucial role in ensuring the smooth progress of internship education. Internships serve as a practical teaching link that allows educators to understand and learn from each other, develop instructional methods, and engage in communication and interaction. They are the primary means for students to acquire practical knowledge and application skills by bridging theory with practise. Psychological well-being learning is influenced by various factors, such as time, space, and physical constraints. In this context, the role of other teachers in a class as communicators becomes significant. Internship teaching courses have incorporated the use of communication as a means of dissemination. The academic integration of internship teaching and mental health education is founded on their mutually beneficial relationship.

Integrating teaching styles can facilitate the holistic development of students, encompassing both intellectual and non-intellectual growth, while also enhancing internship learning outcomes and emotional well-being. Enhancing students' learning can

be achieved through cultivating positive learning mindsets, addressing undesirable learning behaviour, implementing effective learning techniques, and exploring the connection between theoretical knowledge and practical skills within an appropriate instructional framework. Instructional materials are designed to establish the foundation for an integrated teaching approach. The approach of an effective instructional model is determined by the learning objectives. Pedagogical activities serve as the basis for constructing a coherent instructional framework. The classroom is crucial for optimising the ideal teaching paradigm. Figure 3 depicts the integration of mental health theory within the context of internship education.

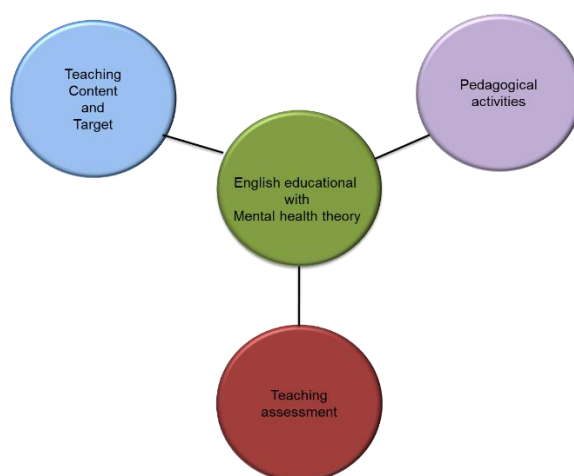


Figure 3: *Internship education with mental health theory*

1. Teaching content and target

Internships in higher education institutions serve multiple purposes. They aim to bridge the gap between academic theory and practical work, facilitate the development of vocational skills, foster the establishment of career networks, provide clarity in career direction, enhance employment competitiveness, cultivate problem-solving abilities, foster an understanding of industry needs, and promote personal growth and self-development. Mental health education encompasses various aspects aimed at enhancing students' cognitive abilities, self-confidence, learning motivation, awareness, and strategic development. These aspects contribute to the improvement of students' analytical skills, formation, communication, and freedom. Figure 2 depicts the correlation between internship education and mental health theory.

2. Pedagogical activities

This innovative pedagogical paradigm is achieved through concrete educational practises. The objective of language acquisition is to enhance proficiency in communicating in a foreign language. To enhance communication between classmates, students, and teachers, it is crucial to prioritise interaction components within the education system. Table 1 illustrates the pedagogical activities conducted within the educational classroom.

Table 1*Pedagogical activity in the educational classroom*

"SI.No	Teaching activity type	Teaching activity content
1.	Analytic activity	References reading, group discussion, word, phrase analysis, lexical analysis, syntactic analysis, test analysis, self-evaluation, mutual evaluation, etc.
2.	Practical activity	Storytelling, oral presentations, speeches, performance dialogues, retelling, role-playing, reading, voice imitation, writing imitation, games, etc.
3.	Creative activity	Actual workplace simulation, performance dialogues, design questions, mock interviews, self-editing tabloids, posters, drawing composing, etc. "

3. Teaching assessment

Teaching assessment should prioritise the process of adjustment, which aids in the implementation of pedagogical activities for refinement purposes. Test scores are used to assess individuals' internship learning capabilities, while overall emotions, behaviour, and learning attitude are employed to evaluate students' mental well-being.

C. Assessment of the students' performance

Evaluating students' learning is crucial for understanding the level and scope of their educational progress in the classroom. The assessment includes additional components beyond the score. The main objective is to evaluate students' educational progress. This implies that the assessment of education should be predicated on students' productivity levels or their ability to apply acquired knowledge.

1. ANOVA

ANOVA is a statistical method that divides the observed variability in data into separate components, allowing for its application in subsequent statistical analyses. A one-way ANOVA was used to examine the relationship between variables when there are three or more datasets. The ANOVA F-statistic is a widely used measure that compares the average sums of squared residuals in the null model, which includes the anthropic principle, to the total model. The parameters are determined using the least-squares methodology, assuming equal variances for all. This may be expressed as:

$$R = FN_{between}/FN_{error} \quad (1)$$

Where

$$FN_{between} = \frac{\sum_{k=1}^l n(\bar{z}_k - \bar{z})^2}{n-1} \quad (2)$$

And

$$FN_{error} = \frac{\sum_{k=1}^l \sum_{h=1}^{n_k} (z_{kh} - \bar{z}_k)^2}{k-n} \quad (3)$$

The Welch-test-statistic is defined as

$$G = \frac{\sum_{k=1}^l x_k [(z_k - \bar{z})^2 / (L-1)]}{1 + \frac{2(l-2)}{l^2-1} \sum_{k=1}^l [(1-x_j/w)^2 / (n_k-1)]} \quad (4)$$

Where $n_k = \frac{l}{t_1^2}$, $w = \sum_{k=1}^l n_k$ and $G = \frac{1}{w} \sum_{k=1}^l n_k Z_k$ is defined as:

$$p = \frac{l^2-1}{3 \sum_{k=1}^l [(1-z_k/w)^2 / (n_k-1)]} \quad (5)$$

The Brown-Forsythe-test-statistic is defined as:

$$p^* = \frac{\sum_{k=1}^l q_k (\bar{z}_h - \bar{z})^2}{\sum_{k=1}^l (1-n_k/N) J_k^2} \quad (6)$$

When L is factual the allocation of p^* is appropriate by a central p distribution with degrees of freedom $n-1$ and p , where s is defined as

$$1/p = \sum_{k=1}^l a_k^2 / (n_k-1), c_i = \frac{(1-n_k/N) J_k^2}{\sum_{h=1}^k (1-n_k/N) J_k^2} \quad (7)$$

To calculate the generalized S-value, the generalized S-value is now computed as $S=1$ -where s is the sample size.

$$p = D \left(H_{l-1, k-l} \left(\frac{k-l}{k-1} \bar{t}_a \left(\frac{k_1 t_1^2}{a_1 a_2, \dots, a_{k-1}}, \frac{k_2 t_2^2}{a_1 a_2, \dots, a_{k-1}}, \frac{k_3 t_3^2}{(1-a_2) a_3, \dots, a_{k-1}}, \dots, \frac{k_l t_l^2}{(1-a_{k-1})} \right) \right) \right) \quad (8)$$

The prediction is calculated about the separate Beta stochastic process in an F-distribution having $k-l, D-k$ dof.

$$B_k \sim \text{Beta} \left(\sum_{k=1}^l \frac{(n_k-1)}{2}, \frac{n_{k+1}-1}{2} \right), n = 1, 2, \dots, l-1 \quad (9)$$

The p-value is calculated by numerically integrating the anticipated value in the p-value formula about the Beta random variables.

2. Logistic regression test

Logistic regression involves estimating the probability that a given realisation of the power demand variable belongs to the correct group. The likelihood of inclusion was computed in this scenario. Moreover, logistic regression can be used to identify educational quality. Logistic regression is the term used to describe a model where the Z variable follows a probabilistic distribution. Logistic regression is a statistical method used to estimate the probability of a regression model Z being observed, given the values of random variables Y. As a basis, victory ($Z=1|Y$) as well as loss ($Q(Z=0|Y)$) probability must be determined. The chances are defined as follows in the Equation (10):

$$\sigma(Y) = \frac{Q(Z=1|Y)}{Q(Z=0|Y)} = \frac{Q(Z=1|Y)}{1-Q(Z=1|Y)} \quad (10)$$

The objective of logistic regression is to estimate the probability of a certain outcome, denoted as Y , based on observed data. The chances logarithm is also referred to as regression analysis. The logistic regression model evaluates the continuous relationships among model parameters, as represented by Equation (11):

$$\ln\sigma(Y) = \ln\left(\frac{q(\beta, Y)}{1-q(\beta, Y)}\right) = Y\beta \quad (11)$$

If equation (11) has an intercept, the corresponding sections of matrix Y that represent regression coefficients contain ones. Equation (12) is obtained through the derivation of Equation (11):

$$q(\beta, Y) = \frac{k^{Y\beta}}{1+k^{Y\beta}} \quad (12)$$

Equation (13) is estimated using a probabilistic method. The assignment mentioned above, as represented by equation (12)

$$\max_{\beta} J(\beta, Z, Y) \quad (13)$$

Where the probability variable is specified as in the equation, the issue will be resolved (13)

$$J(\beta, Z, Y) = \prod_{s=1}^m q(\beta, y_{(s)}) z^s (1 - q(\beta, y_{(s)}))^{1 - z_s} \quad (14)$$

We perform the secondary work stated in equation (15) in place of answering equation (14):

$$\max_{\beta} j(\beta, Z, Y) \quad (15)$$

Where the goal variable is equivalent to equation (15) and also is given as the logarithmic of the probability value $j(Z, Y) = j(\beta, Z, Y)$:

$$j(\beta, Z, Y) = \sum_{s=1}^m (z_s y_{(s)} \beta - \ln(1 + k^{y_{(s)} \beta})) \quad (16)$$

The Newton-Raphson technique was employed to measure the unknown values. Based on the individual's submissions, the unknown parameters are progressively determined. Equation 17 is used for the computation of the estimation method in step $a + 1$.

$$\beta_a + 1 = \beta_a + \left(\frac{\partial^2 j}{\partial \beta \partial \beta^t}(\beta_a) \right)^{-1} \frac{\partial j}{\partial \beta}(\beta_a) \quad (17)$$

Where $\frac{\partial j}{\partial \beta}(\beta_a)$, $\frac{\partial^2 j}{\partial \beta \partial \beta^t}(\beta_a)$ are first- and second-part variables of an objective function, respectively.

3. Chi-square test

The Pearson's chi-squared test is used to analyse categorical data for the presence of non-random variability.

The study aims to assess the alignment between the observed frequency distribution of specific occurrences in each collection and an analytical distribution. It is crucial to ensure that the alternatives being considered are mutually exclusive and have a cumulative probability that follows a one-to-one relationship. This scenario exhibits categorical data outcomes in all episodes. Considering a six-sided dice as "fair" is an oversimplification.

In three sets of relationships, Pearson's chi-squared assessment measures convenience, uniformity, and independence.

- A convenient test estimates when a frequency distribution measured differs from the analytical distribution.
- Using the same type parameter, a uniformity test evaluates the distribution of values among multiple groups.
- Analysis of independent determines if findings comprise of 2 factors' measurements, as represented in a contingency table, were independent of one another.

$$\text{Pearson's chi-squared test} = \sum_{i=1}^m \frac{(R_i - E_i)^2}{E_i} \quad (18)$$

Here, R_i =measurements of type i

R=sum of measurements

E_i =predicted count of type i

m=amount of cells

If not, they had been treated. Expected Chi-Square values are determined as follows:

$$E = \frac{m_d \times m_u}{l} \quad (19)$$

Where: E = reflects the work value of the unit,

m_d = denotes that cell nucleus row edge,

m_u = denotes that cell's row edge, and

l = reflects the sample group.

The sample size is split by the product of the row marginal and the column marginal for each cell.

$$\chi^2 = \frac{(p-F)^2}{F} \quad (20)$$

Correlation measures are statistical assessments of the strength of a relationship. The Cramer's F test is the most often utilized Chi-square strength test. Using the formula below, it's easy to calculate out:

$$\sqrt{\frac{\chi^2/p}{(l-1)}} = \sqrt{\frac{\chi^2}{p(l-1)}} \quad (21)$$

Useful for analyzing data, the Chi-square is an excellent tool for discovering the nature

of research data.

IV. Result and Discussion

The nature of internship education is contingent upon the perspectives of those who have defined it. This word encompasses a range of subjects, such as internship programmes inside educational institutions, literacy courses, and the inclusion of training centres in secondary schools. Furthermore, this concept is applicable not just to linguistics, creative writing, and literary courses at the college level, but also to second language training internships, which are widely available in numerous nations. We have put out a proposal for an internship programme that integrates education on mental health theory, which we refer to as EE+MHT. This study conducted a comparative analysis of various methodologies, including machine learning algorithms (MLA), deep learning (DL), k-nearest neighbour (KNN), and support vector machine (SVM).

A. Learning accuracy

The concept of learning accuracy pertains to a statistical measure that encapsulates the effectiveness of a particular methodology across all classes. It is advantageous when all classes hold equal significance. The evaluation of value is determined by calculating the percentage of correct statements out of the total number of suggestions.

$$Accuracy = \frac{T_{positive} + T_{negative}}{T_{positive} + T_{negative} + F_{positive} + F_{negative}} \quad (22)$$

Based on the matrix originally obtained, this is how to determine the accuracy with Scikit-learn. The learning accuracy attributes contain the result of dividing into,

$T_{positive}$ = number of right statements in the learning accuracy.

$T_{negative}$ = number of suggestions in the learning accuracy.

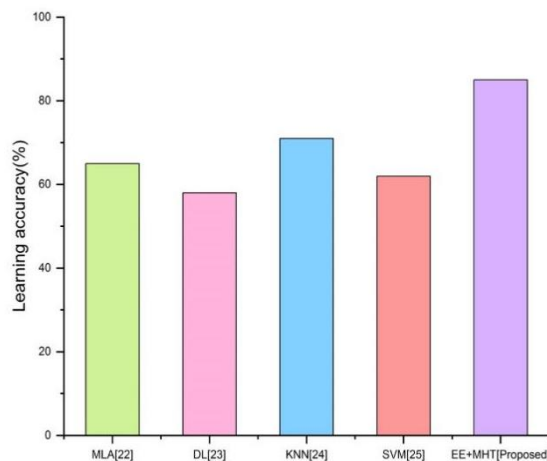


Figure 4: Comparison of the learning accuracy

Figure 4 shows the comparison of the learning accuracy. When existing methods like [MLA, DL, KNN, and SVM] are compared to the proposed work, EE+MHT has a higher learning accuracy percentage.

B. Satisfaction level

Satisfaction is associated with a student's educational experience, specifically the feelings of peace and joy that arise from the recognition and utilisation of one's personal strengths. Satisfaction, along with skills and attributes, serves as a primary motivator for professional behaviour. The objective is to create a conducive and nurturing atmosphere for students. Improving efficiency, mental health, and security in the student population has positive effects on both short-term learning objectives and long-term character development and social inclusion.

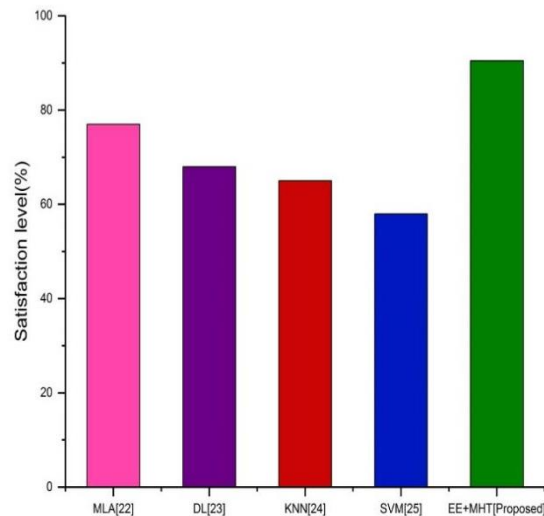


Figure 5: Comparison of the satisfaction level

Figure 5 presents a comparison of satisfaction levels. The proposed EE+MHT approach demonstrates higher satisfaction levels compared to existing methods [MLA, DL, KNN, and SVM].

C. The quantitative value of students learning

The level of students' learning attitudes is increasing. Individuals believe that participating in a learning internship enhances their learning capabilities and fosters the development of their intellectual, innovative, and technical skills. There is no significant difference in the quantitative values of learning behaviour and attitudes among students in the control group before and after the teaching. Figure 6 displays the quantitative measure of students' learning.

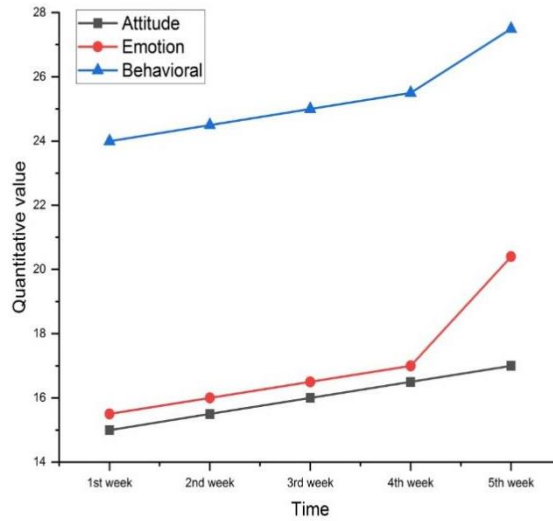


Figure 6: Quantitative value of students learning

D. Cognitive strategy usage rate

Individuals studying professions benefit from a positive and confident health mindset, as it allows them to effectively employ various learning methodologies. Figure 7 illustrates the utilisation of cognitive techniques by both the study and control groups prior to and following the administration of the test.

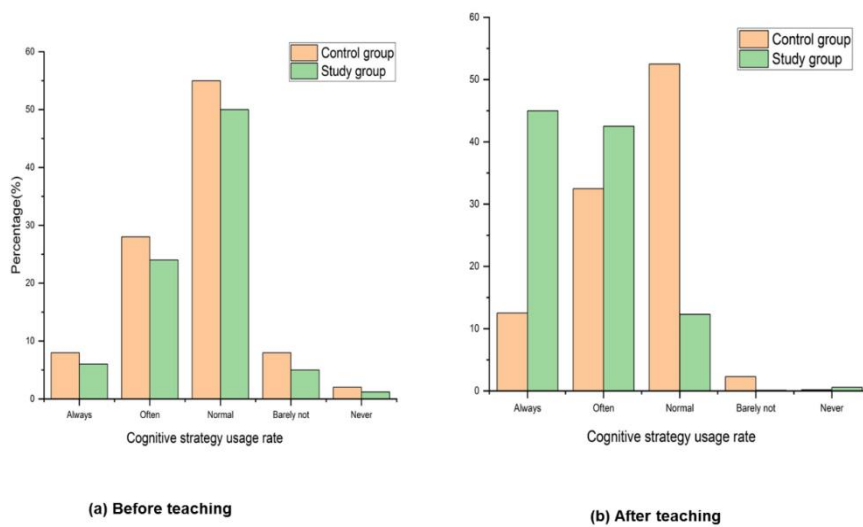


Figure 7: Cognitive strategy

E. Communication strategy usage rate statistical

Figure 8 illustrates the comparative analysis of the adoption of communicative methods between the study and control groups, both prior to and following the test. The use of communicative methods demonstrates that, within the appropriate instructional framework, two groups are initially comparable but exhibit significant differences immediately following the exam. In the study group, over 80% of students frequently utilised common learning approaches during their internship learning process. In contrast, only 40% of students in the control group were observed to be actively involved.

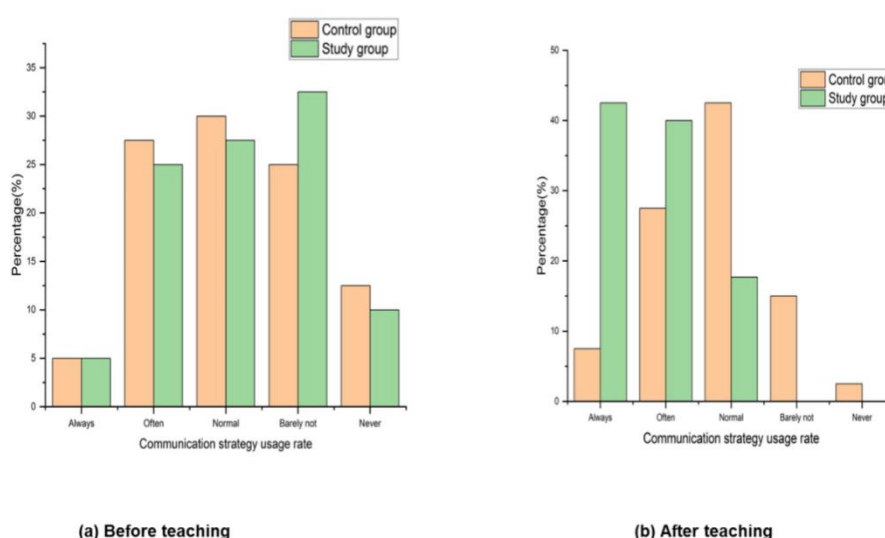


Figure 8: Communication strategy

V. Discussion

This paper discusses the implementation of EE+MHT, a student-centred teaching approach. The proposed work is compared with standard models such as machine learning algorithms (MLA), deep learning (DL), K-nearest neighbour (KNN), and support vector machines (SVM). MLA (Lu, Vivekananda, & Shanthini, 2023) states that it is necessary to allocate ample time for the methods to undergo learning and improvement in order to achieve a high level of accuracy and relevance in their performance. It comprises multiple operational components. This may require increased processing capacity. Individuals should also choose the most appropriate algorithms. Organisations were selected based on the accuracy of their outcomes. The duration of the procedure is lengthy. Deep learning requires the utilisation of numerous high-performance workstations (Perrotta & Selwyn, 2020). The above will lead to an increase in the participants' expenses.

Due to the need for understanding architecture, learning types, and other factors, there is currently no universally accepted theory to guide students in selecting appropriate resources for deep learning. Less-skilled individuals face challenges in adopting it.

Determining the appropriate value for k in the k -nearest neighbour algorithm can be challenging during the learning phase (Liu & Ardakani, 2022). Determining the spacing between observations in all training sets requires significant processing effort. The SVM learning model has been found to be ineffective. SVM (Rana et al., 2021) performance is negatively affected when the model encounters excessive disturbances, such as multiple target classes. The categorization process lacks probability justification due to the support vector learner's reliance on experiments conducted above and below the large grading system. The proposed method was evaluated within an innovative internship teaching mode grounded in mental health theory.

This research is compared to other contemporary studies. According to a study by Cattaneo, Antonietti, and Rauseo (2022), it is recommended that vocational teaching incorporates innovative methods to ensure effective student learning. Accordingly Antonietti, Cattaneo, and Amenduni (2022), teachers' digital competence significantly influences their teaching methods and the education of students. A study conducted by Sauli, Wenger, and Fiori (2022) found that teachers should possess emotional resilience and adopt a productive approach to student learning. Wildeman, Koopman, and Beijaard (2022) argues that adopting teacher-oriented learning methods can enhance teaching methods and improve students' learning performance.

It is important to carefully consider educational methodology Khusanov, Khusanova, and Khusanova (2022) in distance vocational education to ensure innovative and effective learning for students. Meanwhile, Leonardsen, Utvær, and Fjørtoft (2022) emphasised the importance of teachers using an appropriate assessment approach to support their long-term teaching effectiveness. This intervention could enhance students' learning performance (Hussain, 2023). According to Trent and Liu (2023), teachers require a dependable method of learning, and their performance is crucial for achieving positive outcomes in their work. As noted by Sudira et al. (2022), teachers in vocational institutes must adapt to new products and models in order to facilitate innovative learning methods.

VI. Conclusion

China's internship education reform showcases superior infrastructure improvements, facilities, and curricula. The disparity in internship teaching quality in rural areas of China can be attributed to differences in economic development. More developed regions have greater access to advanced pedagogical methods and modern facilities. While internship education traditionally focuses on pedagogy and is centred around teachers, recent reforms have aimed to incorporate more contemporary teaching methods. Some provinces have been granted permission to use textbooks that incorporate innovative pedagogical approaches. Internship teaching in China is influenced by both government schemes and individual needs. We propose an educational model that combines EE (Experiential Education) with MHT (Multimedia and Human Technology) to prioritise a student-centred teaching approach. ANOVA, logistic regression, and chi-square tests are utilised. China's education system is anticipated to become more practical to cater to the requirements of both organisations and individual students.

This study contributed to the existing body of knowledge in mental health theory by closing a research gap. This study is unique in its theoretical approach as it examines innovation in internship education from the standpoint of teaching and other resources.

This study examines the level of internship teaching in the Chinese context, an area that has received limited attention from scholars. The study emphasised that innovativeness is crucial for enhancing the effectiveness of innovation-related instruction. The study emphasised the need for enhancing modern teaching facilities and implementing innovative approaches to address this issue. This study suggests that teacher-centered education is suitable in the Chinese context, as teachers are expected to be innovative in their teaching methods to enhance student performance. This research offers a fresh perspective on internship education in vocational colleges in China, emphasising the importance of implementing student-centered teaching methodologies effectively in order to achieve desired outcomes. The study proposed the EE+MHT model in the literature to improve teaching methods for students, based on empirical results. The study's findings have important implications for entrepreneurship education and contribute significantly to the existing body of knowledge.

The research findings have practical implications that align with theoretical contributions. This study suggests that there is a need for improvement in internship education by adopting a student-centred approach. Therefore, implementing education strategies that foster innovation based on students' individual levels would be a promising approach to enhancing their progress in learning. Teachers must provide students with real-world examples to enhance their ability to innovate. Teachers have the primary duty of effectively conveying their ideas to their students. Hence, when teachers are motivated to provide high-quality education, their approach to teaching is enhanced. This study emphasised the suitability of the EE+MHT model for the internship-based education of students. This study proposes a method to enhance innovation in internship education and increase learning opportunities for students in vocational institutes. The research findings have broader implications beyond the Chinese population, as they are relevant to vocational education administrations in any country. This approach has the potential to enhance innovation and educational outcomes by implementing suitable strategies for students.

The research outcomes hold significance from both theoretical and practical standpoints. However, further research is needed in this area to explore additional avenues of inquiry. Firstly, scholars must assess the influence of innovativeness on internship education and its effects on students' learning outcomes. Hence, it is recommended to conduct a longitudinal study to gather data both prior to and following students' learning experiences. Moreover, scholars are driven to conduct research aimed at assessing the efficacy of teaching methods in Chinese vocational centres and their impact on students' learning outcomes. These guidelines are beneficial for scholars to make substantial contributions to the existing body of literature.

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