A Comprehensive Analysis Of Medical Students' Culture And Attitudes Towards E-Learning In Hong Kong

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Abstract

For the dual purposes of advancing medical knowledge and developing skilled healthcare workers, medical education is essential. When it comes to medical education, e-learning has proven to be an innovator due to its ability to revolutionise accessibility, efficiency, and student-teacher interactions. Understanding the practices, trends, and associations in this field is vital since the covid-19 epidemic quickened the adoption of online learning. The results indicate that the quality of the content is necessary for the success of online courses. Students were satisfied, more diligent and abler to adapt when the content was organised, interactive and suitable to their academic and professional aspirations. Individuals lost interest and confidence in e-learning when the content was out of date, too long or poorly structured. There were issues that made it hard to keep providing high-quality content such as not enough training for teachers, inconsistent instructional design and a priority on speedy digitisation without enough planning. A quantitative research approach and stratified sampling were used in the survey to guarantee representation throughout diverse academic and vocational categories and a total of 558 genuine responses were received from medical students. Investing in teacher training, engaging tools and well-planned lessons is key to long-term success. Blended learning is a complete method that combines flexibility with academic rigour. It combines established classroom teaching with high-quality online resources. This model prepares medical professionals to function well in rapid-paced professional conditions while making sure that education is useful in the long term.

Keywords: content quality; e-learning; instructional design; medical education; hong kong; medical students' attitudes

Introduction

In the aftermath of the 2019 coronavirus disease (covid-19) pandemic, there was a sudden and remarkable shift from traditional physical education to e-learning on a worldwide scale. With this in mind, it is clear that e-learning has to be promoted within the context of contemporary education. E-learning systems enable complete courses to be remotely delivered to students at their leisure. The next step is for students to join guided live conversations via audio and video conferences at certain times. There is an established relationship between student engagement and success in online courses. Cultivating the ability to learn autonomously and continually is regarded as critical in medicine, and this was seen as a key component in achieving that goal. Supporters of this strategy argue that students who recently completed such a programme may be better qualified to work with electronic health records and provide telehealth services (venkatesh et al., 2020)

In the past twenty years, hong kong has been at the forefront of initiatives to promote e-learning . As hardware advanced, the focus of e-learning shifted from the equipment itself to its potential applications in healthcare. E-learning strives to encourage lifelong learning by making education more accessible, engaging, and customised for each student. It also wants to make it simple for students to use technology in the classroom and help them understand how to learn on their own. New advancements in diagnostic and treatment technology are increasingly essential to modern medicine and the training of future medical practitioners. Digital learning, mobile learning and e-learning are all terms for electronic learning. It is based on electronic

media and devices. Students frequently bring their own personal gadgets to class to help them study. These include phones, ipads, and pcs. An online course's success depends on its accessibility, teaching style, materials, and grading. There are numerous benefits to e-learning , including the capability to study whenever the student desires. Most schools in wealthy nations now provide a form of e-learning but schools in less affluent nations generally lack the money to fully take advantage of this trend (tabatabaeichehr et al., 2022).

2. Background of the study

As a result of a shift in how people study and obtain degrees, e learning has become a growing trend in recent decades. Electronic media and technology enable e-learning to engage both instructors and students. At around the same time, students began selecting online courses as a method to maintain learning after school was complete. At one point in time, the only way for students in hong kong to learn was in a classroom environment. With its growing popularity in medical schools, e-learning has lately come under fire from academics who question its efficacy. This is important if students are going to be able to get excellent grades. Thus, it appears to be significant. The worldwide scarcity of medical education was a major problem before the epidemic's start. Several medical students had to put their objectives of becoming teachers on hold to concentrate on treating patients during the epidemic, which is understandable given the tremendous demand for healthcare resources. Occupation and studies are making medical educators' resource crisis worse. Therefore, a rising number of medical schools are moving their classes online. Even though they have been around for a while, people still view online courses as a supplement to more conventional classroom instruction (rahm et al., 2021). Due to the unexpected class cancellation, researchers delved deeply into the topic, testing the resilience of educators and students in their use of online coursework. This new way of thinking about education may use some of these ideas. Due to this new normal, e-learning is an incredibly important tool. For the purpose of fostering the ongoing growth of e-learning, it is essential to conduct an evaluation of both its achievements and its shortcomings. Consequently, this study sought to evaluate the current state of e-learning in hong kong, including the views of both students and teachers and consider how well the local infrastructure supports e-learning.

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3. Purpose of the research

This study delved deeply into the views and experiences of e-learning among hong kong medical students. This research examined the major challenges that schools and students encounter in the strict setting of medical school. Among them, the researcher identified issues with digital literacy, the availability of resources, the learning culture and e-learning's general effectiveness. Researchers investigated these issues by examining variables like technical preparedness, learning habits, and content quality among other significant attributes. The study also highlighted certain elements of the educational system in hong kong. Another instance is the widespread use of bilingual education, another is the priority placed on cultural values, and still another is the emphasis placed on technology. Researchers can learn a lot about how

medical students in hong kong adjust to learning online by looking at all of these factors, which together make up the distinctive educational environment in hong kong. The purpose of this research is also to determine areas of e-learning that are not yet fully established and may be improved to better help medical students. The goal of this study was to develop potential answers to the issues that are now present in e-learning with the expectation that these solutions would improve medical education. The main objective was to foster in future doctors an aptitude for continuous learning in the face of a dynamic and unpredictable medical field as well as for clinical treatment and the use of digital healthcare technology.

4. Literature review

Recently, study on medical education has been concentrated on developing and experimenting with e-learning tools with the goal of discovering how these tools may change the sector. A small group of academics in hong kong looked into the merits and downsides of e-learning. But e-learning in hong kong is moderately new, so there does not appear to be much information about how chinese students use the internet. Some people consider e-learning a revolutionary development, while others think it is just a marketing hoax. Other factors that impact how students act while they are e-learning, even if they are not directly connected to e-learning include their assessment orientation, concern about their health and privacy issues (camargo et al., 2020). However, since they grew up with mobile phones and computers, today's medical students are also better at using technology than their older peers. Many medical teachers today have not begun using computers until much later in their careers. They are incapable of accomplishing their academic goals since they lack information about the most prominent online resources or how to change them to match their needs. Teachers could find it more difficult to use e-learning technologies well (wang et al., 2021).

The healthcare business and medical education are overflowing with problems. People have different views on these problems, which is why some people label them "wicked" problems like they refuse to embrace answers that have already been suggested. Issues including developing faculty and changing the curriculum, education, assessment, program evaluation, scholarship, research and leadership are always changing. Even though they have been there for a long time, the covid-19 pandemic has made their impacts much more threatening. Competency-based education, interprofessional education and the overall integration of information technology in medical education have appeared as contemporary advancements (frenk et al., 2022). The usefulness and accessibility of the delivered content particularly influence medical students' attitudes towards e-learning in hong kong. A thematic study of hong kong medical students during covid-19 showed that mental anguish and negative perceptions of e-learning efficiency were attributable to unclear course structures and inadequate feedback quality (yeung & yau , 2022).

5. Research question

- What is the role of content quality in e-learning in hong kong?

6. Research methodology

6.1 Research design

This study used a method of quantitative study to examine the cultural norms and ideas around e-learning among hong kong medical students. The researcher used spss version 25 to examine the data. The researcher has used descriptive statistics to include demographic and project-related data. Probability ratios with 95% confidence intervals and other inferential statistics

were used by the researcher to ascertain the kind and extent of the correlations. The findings were considered significant until the p-value was less than 0.05. A combination of component analysis and analysis of variance allowed the researcher to confirm the data and isolate statistically different groups.

6.2 Sampling

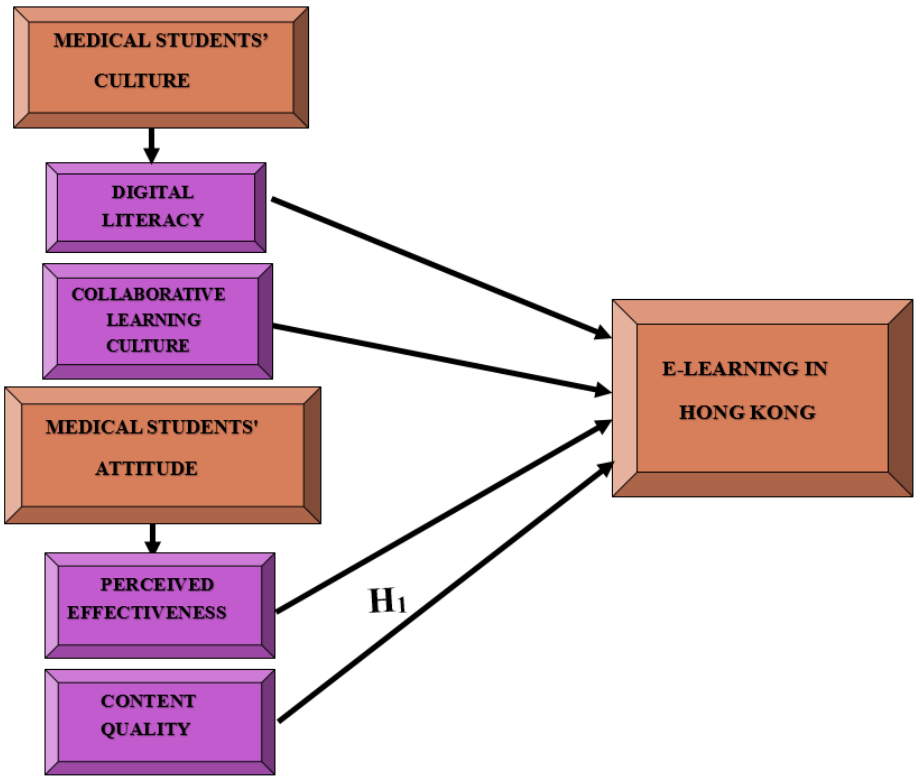
For this study, the researcher used stratified sampling to collect data. In total, 516 people are required for the research, according per raosoft's sample size estimation. The researcher stratified the distribution of the 650 questionnaires to lower the incidence of non-response. A total of 589 surveys were sent back to the researcher after completion. The overall number of responses reached 558, with 32 being either incomplete or inaccurate.

6.3 data and measurement: questionnaires with specific enquiries were the main tool for gathering information. After collecting basic demographic information and occupations, the poll moved on to gauge respondents' opinions on several e-learning topics using a five-point likert scale. By using stratified sampling, the researcher was able to correctly represent all types of projects and functions. The bulk of the study's secondary data came from scholarly journals, company records, and online databases.

6.4 statistical software: for statistical analysis, the researcher utilised spss 25 and microsoft excel.

6.5 statistical tools: the use of descriptive analysis has provided insight into a variety of strata-specific demographic and project-related variables. Analysis of variance (anova) for group comparisons, factor analysis for measurement reliability and theoretical validation and 95% confidence intervals for odds ratios are all examples of inductive statistical methods that researchers could use.

7. Conceptual framework



8. Result

- **Factor analysis**

It is the purpose of factor analysis (fa) to discover hidden characteristics in available data. It is common practice to rely on regression data for assessments when simple visual or clinical signs are unavailable. Simulation is a great tool for discovering security holes, infractions, and possible visible connections. The kaiser-meyer-olkin (kmo) test is used to assess data collected from multiple regression investigations. It has been shown that estimates derived from the mathematical model and associated sample variables are correct. The data may reveal the existence of duplicates. By lowering the proportions, more information may be seen. A number between 0 and 1 is provided by kmo to the investigator in order to assist them. An adequate sample size is indicated by a kmo value ranging from 0.8 to 1. According to kaiser, the permissible ranges are as follows: the criteria that kaiser has set for certification are as follows: abysmal, ranging from 0.050 to 0.059, far lower than the typical range of 0.60 to 0.69. A middle grade often ranges from 0.70 to 0.79. An evaluation on the quality scale that falls between 0.80 and 0.89. The range from 0.90 to 1.00 is considered notable by them.

Table1: kmo and bartlett's test

Testing for kmo and bartlett's

Sampling adequacy measured by kaiser-meyer-olkin .884

The results of bartlett's test of sphericity are as follows:

Approx. Chi-square = 3252.968

Df = 190

Sig =.000

Table: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.884
Bartlett's Test of Sphericity	Approx. Chi-Square	3252.968
	df	190
	Sig.	.000

At its fundamental level, this permits claims regarding sampling. The researcher has used bartlett's test of sphericity to identify if the correlation matrices are substantive. With a value of 0.884, the kaiser-meyer-olkin statistic suggests that the sample size is sufficient. The results of bartlett's sphericity test show a p-value of 0.00. In light of the positive result of bartlett's sphericity test, it may be inferred that the correlation matrix is not an identity matrix.

❖ **Independent variable**

- **Medical students' attitude:**

Hong kong medical students' attitudes about their schooling, occupation and future practice are shaped by cultural, social and educational factors. Students in hong kong are identified for being professional, working hard and caring for their patients. Students' attitudes and reasons

about their education are influenced by their impression of medicine as a prestigious and stable profession. However, students have to manage with a lot of stress such as a lot of coursework, high expectations from family and community and a hard admissions procedure for medical school. These pressures may make people nervous and change the way they think about training. Students still display amazing fortitude and resolution when things become tough and they feel a huge sense of obligation to their town and future patients (zhang et al., 2020). Students in the medical field are enthusiastic about the prospect of using e-health in their future careers and have a positive attitude on e-learning in the majority of countries. On the other hand, many asian countries' perspectives on e-learning are sceptical due to the fact that e-health is still in its infancy in asia. During the covid-19 pandemic in particular, medical organisations in hong kong desired to integrate electronic medical records in response to the worldwide trend towards e-learning. Research on the use of e-learning for the purpose of clinical education across disciplines has been supported by a teaching grant at hong kong university.

❖ **Factor**

- **Content quality:**

Due to advances in technology, medical teachers may now use electronic ways to create and share information with their students. Teachers may now add e-content to verbal classes. This includes multimedia, animations, simulations and interactive parts that help students express themselves and comprehend what they are learning. E-content development is growing even though it is still a new field. E-content which contains multimedia, animations, simulations, and interactive components which improve students' expressiveness and comprehension may now be used by teachers as a complement to their already existing verbal classes. Due to advancements in quality of the content, medical educators may now include interactive tests and evaluations in their course materials. This gives them a chance to show what they have learnt and get comments on how they did. Video, simulation, and case study elements are examples of well-designed interactive content that keep learners interested, retain them involved and help them learn more. Learning becomes more customised and accessible by using different formats that are effective for different people. Students are better prepared for the challenges of the workforce when they learn how to think critically, solve problems, and use knowledge in everyday situations. High-quality content helps them accomplish all of these things. On the other hand, low-quality content may make it harder to acquire and improve skills by disseminating inaccurate information and making people less interested. A student who lacks the latest or most correct details may lose confidence, which can affect their capability to act and make decisions later (xiong et al., 2020).

❖ **Dependent variable**

- **E-learning in hong kong:**

"e-learning" refers to online lectures that involve both instant and in-depth knowledge transmission. These classes are described using the term "e-learning." issues with connectivity, inadequate facilities and a lack of involvement are typical concerns that arise with synchronous systems that provide real-time communication. As a result of their adaptability, asynchronous techniques are popular among many people since they allow students to overcome challenges that are associated with time and location. As e-learning expands, logistical costs could drop significantly, creating a previously undiscovered realm of educational opportunities. When it comes to education, e-learning offers a world of opportunities. It allows for more flexible learning, better collaborative learning and a whole new role for the teacher (gismalla et al., 2021). Adding online courses to the medical school curriculum improves medical education by equipping teachers with additional resources to aid student learning and assessment of progress. There has to be a shift in the creation and design of these resources to better match the

educational expectations and importance of medical students because different types of e-learning materials are utilised at varying rates throughout specialities.

- **Relationship between content quality and e-learning in hong kong:**

Content quality may directly impact both the success of e-learning and the dignity of learners. Previous studies have shown that system resilience, features, ease of learning and usability are significant factors in determining system quality. Additionally, it is anticipated that they will impact the quality of interactions. A single definition of learner-system interaction is the extent to which students feel they have agency over their learning while using an online platform (si, 2022). In addition, high-quality content allows adaptable, individualised learning to suit a combination of schedules and learning preferences. Given the huge volumes of material that medical students must effectively absorb; this adaptability is crucial in their education. Having access to current, evidence-based knowledge better prepares learners for clinical practice. Teachers may provide students valuable feedback on their work and point out areas where they can improve by including insightful assessments in e-learning courses. On the other side, inappropriate content may spread inaccurate information, make readers less curious and lead to misconceptions. These kinds of contents make it more difficult to learn new things and could even make it harder to improve critical skills. Therefore, it is critical in medical education to constantly maintain the quality of e-learning content high. It sustains healthcare quality throughout time, improves the results of learning and prepares students ready for the challenges of medical practice (borakati, 2021).

Based on the preceding discussion, the researcher developed the following hypothesis to examine the role of content quality in e-learning in hong kong:

- ***"h_{01}: there is no significant relationship between content quality and e-learning in hong kong."***
- ***"h_1: there is a significant relationship between content quality and e-learning in hong kong."***

Table 2: H_1 ANOVA Test

ANOVA					
Sum					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	53246.336	209	2857.365	1051.661	0.000
Within Groups	712.243	348	2.717		
Total	53958.579	557			

The findings of this study are rather significant. Since the p-value is.000 and the f-value is 1051.661, the researcher may conclude that there is statistical significance at the.05 level. This signifies that the ***"h_1: there is a significant relationship between content quality and e-learning in hong kong"*** is accepted, and the null hypothesis is rejected.

9. Discussion

The results of this study highlighted the importance of excellent content quality in shaping the perceptions and use of e-learning among online medical students in hong kong. It was discovered that students were happier and more engaged when they accessed content that was both well-organised and engaging. They were additionally better able to get used to online classes. Using high-quality content that allowed people to comprehend and kept them interested made the learning process more effective and meaningful. This was certainly the case when the

course materials were current, well organised and in line with the students' academic and professional aspirations. The study also discovered limitations that make it challenging to deliver high-quality content in medical education. The primary issues were that lesson plans were not always the same and instructors were not highly qualified. Students said that old or overly text-heavy content made them less interested in and less confident in e-learning. Faculty members struggled to create interesting content because the focus was on swift digitisation. The results revealed that enhancing e-learning in hong kong's medical education necessitates the advancement of content quality notwithstanding these challenges. To achieve this, schools might use a structured instructional design, interactive materials and teacher training.

10. Conclusion

The results highlight the value of superior content in medical education and its impact on the e-learning practices of medical students in hong kong. When students were provided clear, entertaining, and well-organised content, they were more likely to stay motivated, adapt well to digital platforms and perform well in their studies. Research showed that successful e-learning is closely related to providing high-quality instructional materials that are appropriate, easy to find, and served to the needs of students. The study also demonstrated that it is hard to maintain high-quality content since teachers lack enough training, resources are also text-heavy and the structure of lessons is not always the same. Even if there are problems, the quality of the content must come first for medical students' e-learning to be successful, interesting, and long-lasting. Making tools that are rich in multimedia and encourage both individual and group learning may be all it takes to enhance learning results. The use of combination tactics offers an affordable alternative that combines rigorous learning with flexibility. This is accomplished by combining regular procedures with high-quality content obtained from the internet.

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