Enhancing the Learning Quality of Students at Le Huu Trac Medical in the Mass Digital Literacy Campaign: Realities and Solutions

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Abstract: In the era of the Fourth Industrial Revolution, digital transformation is an inevitable trend directly impacting higher education. This study focuses on analyzing the current state of students' acquisition of digital knowledge and skills at Le Huu Trac Medical University through the "Mass digital literacy campaign". Using a survey of 331 students on the Q-LMS platform, the results indicate that the majority of students exhibit a serious learning attitude and achieve positive outcomes, with over 98% meeting the requirements in skills assessments. However, the study also reveals inconsistencies in practical application and advanced digital thinking among some students. Based on these findings, the authors propose five key solutions, including establishing "Digital technology teams," instituting "Digital self-study hours," and intensifying competitive emulation movements. These solutions aim to develop a future cadre of physicians and pharmacists with robust digital competencies, meeting the demands of new circumstances.

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I. INTRODUCTION AND RESEARCH PURPOSES

In the context of the Fourth Industrial Revolution, digital competencies have become essential requirements for learners, optimizing research efficiency and professional practice in digitalized environments. At Le Huu Trac Medical University, developing digital knowledge and skills not only enhances training quality but also serves as a prerequisite for students to adapt to modern management and instructional systems. Through the "Mass digital literacy campaign", students access comprehensive digital competency standards via learner-centered active education methods, combining direct practice and case-based problem-solving on online platforms. However, actual implementation reveals complex shifts: while foundational knowledge is well absorbed, the failure rate in skills courses is rising. Specifically, in the "Device and software

usage skills" course, 7.2% of students failed to meet requirements. This situation reflects significant barriers in transforming theory into advanced practical competencies and critical digital thinking among students.

Amid these challenges, this study addresses the following key objectives:

- First: Assess students' digital competencies based on actual learning outcomes; thereby analyzing influencing factors, including subjective variables from learners and objective factors from the training environment.
- Second: Propose a practical system of solutions to enhance digital skills training effectiveness, contributing to professional competency development and supporting the university's sustainable development strategy in the new phase.

II. RESEARCH SUBJECTS AND METHODS

A. Research subjects

The study analyzes the current state of learning core digital knowledge and skills courses within the "Mass digital literacy campaign" framework. The survey targeted a sample of 331 students enrolled at Le Huu Trac Medical University.

B. Research methods

The study employed a questionnaire-based survey to collect quantitative data. The survey instrument was designed for multidimensional evaluation of learning methods and outcomes across digital knowledge and basic digital skills on the Q-LMS learning management system.

➢ Scale: Observed variables were measured on a 5-point Likert attitude scale: Very Important, Important, Somewhat Important, Not Important, and Undecided.

➢ Training content structure: The Q-LMS program was standardized into two components:

• *Digital knowledge courses*: Focused on theories of digital transformation, digital technologies, artificial intelligence (AI), information security, and cybersecurity.

• *Digital skills courses:* Encompassing practical competencies in device/software usage; data/information exploitation; digital communication/collaboration; digital content creation; information security/cybersecurity assurance; and problem-solving skills.

➢ Learning outcome assessment: To ensure objectivity in evaluating natural assimilation, the study used first-attempt exam results. Per Q-LMS regulations, outcomes are scored on a 10-point scale, with Pass defined as 8 or above and Fail below 8.

III. RESEARCH FINDINGS AND DISCUSSION

➢ *Current State of Digital Knowledge Learning Methods on Q-LMS*

Basic digital knowledge serves as an essential foundation for students to adapt and effectively exploit opportunities in digitized environments. Mastering this knowledge not only improves current learning outcomes but also lays the groundwork for innovative and breakthrough professional tasks in the future.

Table 1. Survey on the Importance of Active Learning Methods on Q-LMS (N=331)

Learning Method Content	Very Important (%)	Important (%)	Somewhat Important (%)	Not Important (%)	Undecided (%)
Searching for digital knowledge materials/videos on Q-LMS	90.0	4.5	2.7	2.8	0
Resolving difficult content via Q-LMS lookup	95.0	3.0	1.0	1.0	0
Applying lookup results to exercises and practice	81.0	8.0	3.7	2.3	5.0
Participating in discussions and exchanges on Q-LMS	77.3	8.5	7.2	4.0	3.0
Practicing self-study and self-research skills	92.8	4.6	1.6	1.0	0

(Source: Research team survey data)

Results in Table 1 show that the vast majority of students highly value active learning methods on Q-LMS. Notably, the highest consensus rates are for using Q-LMS to resolve difficult content (95%) and practicing self-research skills (92.8%). Although online discussions and exchanges have the lowest rate (77.3%), it remains impressive, reflecting learners' active engagement in the digital ecosystem.

This situation indicates a strong shift among students toward proactive learning methods by leveraging official resources. The university's "Mass digital literacy campaign" system plays a pivotal role by providing standardized lectures and materials with scientifically tiered access rights by user groups (staffs, faculty, students), ensuring content aligns closely with professional requirements.

The clear separation of digital knowledge and skills materials enables systematic training pathways. This is a typical learning method in the "Mass digital literacy campaign" at Le Huu Trac Medical University, fostering self-study habits and digital knowledge self-equipment capacities amid new demands.

Table 2. Evaluation of Importance of Focused Group Learning Methods on Q-LMS (N=331)

Learning Method Content	Very Important (%)	Important (%)	Somewhat Important (%)	Not Important (%)	Undecided (%)
Learning digital knowledge in groups	87.5	2.5	5.0	0	5.0
Scheduling focused digital knowledge learning sessions	82.0	5.3	6.0	3.7	1.0
Review access after each digital knowledge course	97.6	2.4	0	0	0

(Source: Research team survey data)

Besides personal learning methods, focused and group learning models are crucial for enhancing digital knowledge absorption of students. Survey results show a notable rate, 87.5%, of students deem group learning "Very important." This model divides learning units into dedicated teams, creating an interactive, synchronized training environment.

Through aligned progress, students gain opportunities for exchange and discussion, mutually supporting critical thinking development and professional knowledge consolidation. The effectiveness of this interactive cooperation is evidenced by 97.6% of students routinely conducting post-course reviews. This activity is vital for applying digital knowledge to practical unit work.

Particularly at Le Huu Trac Medical University, group learning integrates discipline and specialized seriousness. With 82% agreeing on scheduled focused sessions, it demonstrates proactive time and efficiency optimization. This model ensures theoretical mastery for professional and training tasks while sparking vibrant emulation movements. Individual and group efforts create widespread momentum, promoting deep learning across the university.

➢ *Current State of Digital Knowledge Learning Outcomes on Q-LMS*

Learning outcomes not only reflect assimilation capacity but also demonstrate students' serious attitudes in the "Mass digital literacy campaign", evidenced by proactive determination, persistence in completing modules, and efforts to master knowledge essence beyond rote learning.
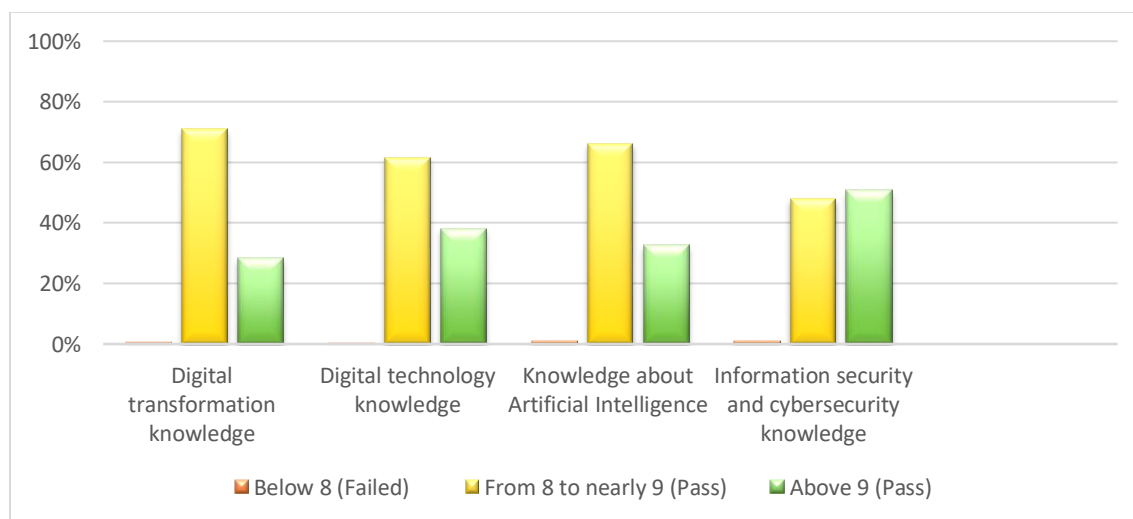

Fig 1. Periodic Test Results for Students' Digital Knowledge Courses (N=331)
(Note: Research team survey data)

The collected data from Q-LMS indicates highly optimistic results: the vast majority completed first-attempt tests with high scores. Specifically, 61.7% scored 8.0 to under 9.0, and 37.5% achieved excellent scores of 9.0 or above.

These outcomes affirm students' profound awareness of digital competencies' importance, fostering self-motivated, sustained learning drive. At the same time, the above impressive statistics also validate the correctness and efficiency of implemented learning methods, particularly combining focused official resource self-study and group discussions.

At Le Huu Trac Medical University, strong outcomes are associated with political responsibility and individual discipline. High scores not only advance personal development but also contribute to collective achievements, positively spreading the "Mass digital literacy campaign" university-wide. Consolidated digital competencies here form the core foundation for advanced courses and medical practice applications.

➤ *Current State of Digital Skills Learning Methods on Q-LMS*

Unlike theoretical knowledge absorption, digital skills learning is a distinctive process requiring persistence and endurance in practice. To develop proficient skills and techniques, students must embrace a "do-error-correct" cycle for self-perfected digital action capacities.

Table 3. Survey on Importance of Digital Skills Practice Methods (N=331)

Manifestation (Operations on apps/software)	Very important (%)	Important (%)	Somewhat important (%)	Not important (%)	Undecided (%)
Artificial intelligence (ChatGPT, Clauade, Gemini, etc.)	98.0	1.0	1.0	0	0
Communication software (Zoom, Google Meet, MS Teams, etc.)	90.3	4.7	2.4	1.6	1.0
Content creation software (PowerPoint, Canva, etc.)	86.0	5.7	4.3	2.0	1.0
Academic research software (Google Scholar, etc.)	82.0	16.0	2.0	0	0
Situational handling support software (Siri, Google Assistant, etc.)	73.5	12.5	6.2	4.8	4.0

(Source: Research team survey data)

Survey data shows over 70% of students recognize the special importance of practice post-theory. Notably, mastering AI tools tops priorities at 98% "Very important," reflecting students' acumen towards modern tech trends.

In the "Mass digital literacy campaign", students are encouraged to practice directly on platforms and software alongside lectures. The "practices achieve understanding, understanding to practice" method is specialized through working on case-based situations individually or in groups, helping learners specify knowledge of exploited data, create content and ensure information security. Repeated practice not only builds proficiency but also deepens technology understanding for flexible real-world application.

➤ *Investigation of Digital Skills Learning Outcomes on the "Mass Digital Literacy Campaign" Platform (Q-LMS) Among Students at Le Huu Trac Medical University*

In the current context, digital skills are a mandatory foundation for effective learning, adaptation to the university's digitized environment, and national digital transformation integration. Basically, contemporary students show high demand for digital technologies and possess certain skills, but these remain at basic single-tool usage, lacking deep digital thinking, analysis, and advanced digital work skills.
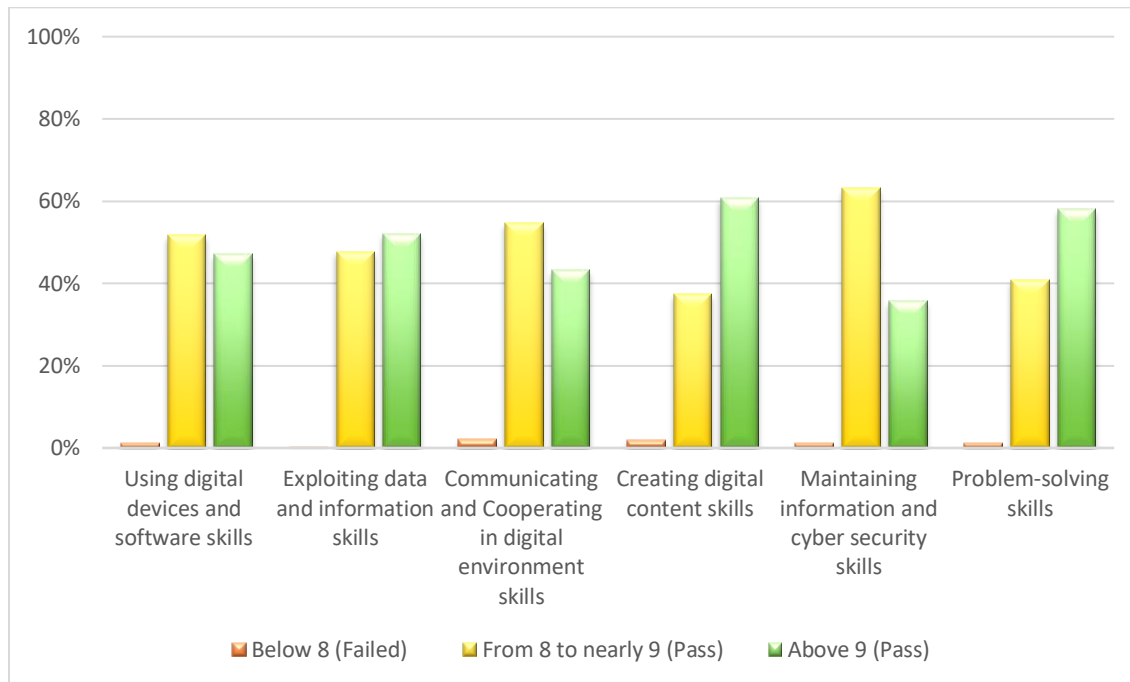
Fig 2. Post-Course Skills Test Results for Students at Le Huu Trac Medical University (N=331)

Basic digital skills tests are more challenging and complex than common digital knowledge tests, requiring solid theory and practice to grasp essence and achieve high results. The survey shows 98.7% of students scored 8-9 or above—a relatively high outcome. This indicates that despite difficulties in absorbing digital skills knowledge, students at Le Huu Trac Medical University remain proactive, diligent, and persistent in mastering basics, applying them practically for strong test performance.

However, the survey reveals some students with incomplete awareness of the "Mass digital literacy campaign" and suboptimal basic knowledge/skills test results. Causes include: first, some view it as supplementary or campaign-driven rather than foundational for medical-pharmaceutical learning, research, and practice; second, diverse regional backgrounds lead to varying prior tech exposure, with some lacking proactivity, self-discipline, and creativity, causing performance disparities.

IV. PROPOSED SOLUTIONS TO ENHANCE ABSORPTION AND APPLICATION OF BASIC DIGITAL KNOWLEDGE AND SKILLS AMONG STUDENTS AT LE HUU TRAC MEDICAL UNIVERSITY IN THE "MASS DIGITAL LITERACY CAMPAIGN"

Drawing from findings and identified issues, we propose the following fundamental solutions to improve learning methods for basic digital knowledge and skills courses, enhancing absorption and application in students' studies and work:

➢ *First Solution: Establish "Digital Technology Teams" as the Core of Basic Digital Knowledge and Skills Course Learning in the "Mass Digital Literacy Campaign"*

This key solution plays not only as a basis but also a premise for students to optimize the university environment's strengths-unity, strict discipline, high collectivism, solidarity, and mutual aid. In each "Digital technology team", members not only study, discuss, and analyze lessons during "Mass digital literacy campaign" courses, but also assist in improving digital skills, resolving digital environment issues in daily work and activities. Additionally, members are responsible for acknowledging peers' sentiments, promptly detecting negative online interaction signs to prevent adverse digital influences.

➢ *Second Solution: Establish Dedicated "Digital Self-Study Hours" For Basic Digital Knowledge and Skills Courses in the "Mass Digital Literacy Campaign"*

This measure which aims to unify study schedules maintains continuous "Mass digital literacy campaign" learning time for students, which is a specific study timetable for mass digital literacy. This ideal timetable is created based on individual, team, class, and university aligned schedules, these hours focus on concentrated study, research, and discussion. about both digital knowledge and skill courses and basic digital skills in "Mass digital literacy campaign". Fully developed self-study hours guarantee continuous, rational, flexible learning, optimizing outcomes.

➢ *Third Solution: Launch High-Intensity "Mass Digital Literacy Campaign" Emulation Drives, Positioning it as a Focal Point in the University's Class-Level "Decisively Victorious" Emulation Movement*

This significant measure demonstrates institutional attention to the campaign's role, spurring class-wide active participation and high achievements. It requires synchronized will and action from leadership to classes, paired with reward preparations to motivate students. Leadership support provides strong impetus for deep, extensive, substantive campaign implementation.

➢ *Fourth Solution: Periodically Organize Collective Activities and Reviews of "Mass Digital Literacy Campaign" Implementation*

This solution ensures effective course delivery meeting campaign goals. Sessions, standalone or integrated into democratic or "Decisively victorious" reviews, involve broad student participation for evaluation, experience-sharing, and feedback reception on an open, adaptive basis. Cadres must vigilantly address student input for timely, innovative adjustments.

➢ *Fifth Solution: Form Dedicated Technical Teams to Operate and Resolve Issues*

This facilitates continuous, smooth campaign learning. The team coordinates with training, logistics, IT departments, etc to ensure robust internal networks supporting simultaneous multi-user access, preventing congestion or lag during learning/tests, and swiftly handling incidents—critical for successful campaign execution.

V. CONCLUSION

Overall, students' basic digital knowledge and skills course performance at Le Huu Trac Medical University is relatively high, evidencing correct, scientific learning methodologies among most learners. However, uneven development and limitations in theory-to-practice conversion persist. Some students undervalue digital competencies, leading to unfocused group activities and application barriers. Accordingly, the authors propose synchronized solutions to optimize approaches, aiding students in elevating "Mass digital literacy campaign" effectiveness amid new medical digital transformation and integration demands.

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