

EFFECTS OF USING PROGRAMMED INSTRUCTIONAL OF DISEASE PREVENTION AND SAFETY OF HEALTH SUBJECT FOR TOURISM MANAGEMENT STUDENTS IN CHONGQING COLLEGE OF INTERNATIONAL BUSINESS AND ECONOMIC, CHINA

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ABSTRACT

The objectives of this study were to 1) develop programmed instruction, and 2) effectiveness of learning with using programmed instruction with learning plan of disease prevention and safety of health subject for tourism management students in Chongqing College of International Business and Economic, China. This research methodology was experimental research. The population consisted of 120 tourism management students in Chongqing College of International Business and Economic on semester 1, academic year 2023. The samples of 92 students determined by Krejcie & Morgan table, and selected by simple random sampling with drawing. The instrument used in the study was an achievement test. The statistics used for data analysis were percentage, mean, standard deviation, and t test. The study results revealed that 1) programmed instruction development with learning plan of disease prevention and safety of health subject had effectiveness equal to 71.20/83.02 as the criteria setting, and 2) achievement test of disease prevention and safety of health subject for tourism management students had the average score higher than pre study by the progress rate was 16.16 at 5.76.

Keywords: Programmed instruction, disease prevention and safety of health subject, tourism management students, Chongqing College of International Business and Economic

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INTRODUCTION

The conceptual framework of education management in Thailand's Basic Education Core Curriculum, B.E. 2561, aims to develop vital skills and competencies for students, in accordance with national educational goals. This curriculum offers a well-organized framework that highlights comprehensive development across multiple subject areas, such as the Basic Occupational Work Group and health education. The core curriculum is designed to improve students' creative thinking, critical problem-solving skills, and practical abilities essential for everyday life. An essential aspect of this is the Disease Prevention and Safety in Health subject, which provides students with the knowledge, skills, and a proactive mindset necessary for health maintenance and disease prevention. The curriculum prioritizes active learning via student-centered methods, creating chances for learners to implement these skills in practical, real-world situations.

The involvement of educators in overseeing this educational journey is vital, especially in applying various instructional methods that promote student participation and autonomy. The Basic Education Curriculum B.E. 2008 emphasizes that learning management should prioritize the learners, employing methodologies that blend theoretical knowledge with practical application. Education should encompass not just intellectual growth but also foster students' emotional health and essential life skills. This approach is supported by the Constructivist theory of education, which views students as active participants in building their knowledge through meaningful engagement with the subject matter. Educators serve as guides, leading learners through practical activities that connect academic knowledge to real-world situations. As a teacher specializing in the Disease Prevention and Safety of Health subject, there is a recognition of the importance of adopting innovative and effective learning management approaches. An examination of studies, literature, and educational advancements has revealed multiple approaches for structuring learning activities in the realms of health education and physical education. The foundational idea behind these methods is that each learner possesses the capacity for growth and development, and education should focus on catering to the unique needs and learning preferences of students (Department of Academic Affairs, 2011). Learning management should be organized to seamlessly blend theoretical knowledge with practical applications, allowing learners to effectively apply classroom learning in real-world situations. An approach that has garnered interest for its effectiveness in promoting student engagement and self-directed learning is the implementation of program lessons. Program lessons aim to transform conventional teaching approaches by integrating a more engaging and participatory learning style. This model, rooted in Constructivist theory, places students at the forefront of knowledge creation, promoting the exchange of ideas among learners and fostering both theoretical comprehension and practical application (Lu Cheng, 2012). Program lessons focus on hands-on learning, encouraging students to immerse themselves in processes that include experimentation, discovery, and analytical thinking.

The advantages of program lessons as a method for managing learning are considerable. Students are empowered to build knowledge through self-discovery and practical engagement, which improves their capacity to remember information and utilize it in solving problems. This approach fosters constructive perspectives on learning, enabling students to assume responsibility for their educational experiences. Furthermore, program lessons contribute to a comprehensive learning experience by connecting cognitive, emotional, and practical aspects of learning, thereby promoting a deeper understanding and lasting retention of knowledge (Zheng Shu, 2012).

Considering these benefits, it is believed that program lessons represent a suitable and effective method for structuring learning activities in the domains of health education and physical education. Implementing this method is anticipated to lead to improved academic results for students, while also fostering a positive mindset towards learning within the health and physical

education group. The individual has undertaken the development of program lessons to be tested and evaluated for their effectiveness, with the ultimate goal of enhancing students' learning experiences and academic performance in these crucial subject areas.

This study aims to investigate the application of program lessons in health education, specifically within the Disease Prevention and Safety of Health subject, and to evaluate the effects of this teaching method on students' academic performance and their attitudes towards learning. The study seeks to deliver a comprehensive analysis of the effectiveness of program lessons as a learning management tool within Thailand's Basic Education system, achieved through meticulous development, testing, and evaluation.

LITERATURE REVIEWS

The Understanding the psychology of learning is pivotal in developing effective teaching strategies that place the learner at the center of the educational process. Theories such as Cognitivism, Humanism, and Constructivism offer distinct yet complementary insights into how students engage with content, construct knowledge, and develop both cognitive and emotional competencies. These theories form the basis for contemporary educational practices that emphasize active learning, autonomy, collaboration, and the development of critical thinking skills.

1) Cognitivism: The Structure of Knowledge and Discovery Learning

Cognitivism focuses on the internal processes of the mind, viewing learning as an active, constructive process where learners absorb and organize information into coherent frameworks. Cognitivist theories emphasize the importance of mental structures that individuals use to interpret and store information. This theoretical framework recognizes that learning involves more than just rote memorization; it is about understanding and organizing knowledge in ways that enable its application to new contexts.

Jerome Bruner, a prominent figure in cognitivism, developed the concept of discovery learning, where students are guided to uncover knowledge on their own, supported by the teacher's scaffolding. Bruner's theory suggests that teaching should focus on the structure of knowledge, helping students recognize the relationships between concepts and develop problem-solving skills. Rather than simply providing information, educators should encourage students to discover answers through inquiry and exploration. This promotes a deeper understanding of content, as students are more likely to retain and apply knowledge that they have actively constructed.

Bruner's spiral curriculum approach is particularly relevant in this context, where students revisit topics over time, each time at a more complex level. This method allows students to build upon their prior knowledge, fostering a deeper and more comprehensive understanding of the subject matter. In addition, discovery learning nurtures metacognitive skills, such as self-reflection and self-regulation, which are essential for lifelong learning and independent problem-solving.

2) Humanism: Holistic Development and Learner-Centered Education

Humanism in education is deeply rooted in the belief that learners should be empowered to reach their full potential, both intellectually and emotionally. The humanistic approach emphasizes self-actualization, autonomy, and the development of the whole person, integrating cognitive, emotional, and psychomotor domains. In this framework, students are seen as inherently motivated to learn, and education should be tailored to foster this intrinsic motivation.

Abraham Maslow's hierarchy of needs plays a significant role in humanistic education. Maslow argued that learners must have their basic needs (such as safety, love, and esteem) met before they can pursue higher-order goals such as self-actualization. This perspective highlights the

importance of creating a supportive and nurturing environment that fosters students' emotional well-being, which is critical for effective learning.

Carl Rogers, another key figure in humanism, developed the concept of learner-centered education, which posits that students should be at the heart of the learning process. Rogers advocated for an experiential learning approach, where students learn through direct experience rather than passive reception of information. This method allows learners to engage with the content in ways that are meaningful to them, promoting personal growth and self-directed learning.

Humanistic education also emphasizes the development of emotional intelligence and social skills, which are critical for students' success in both personal and professional contexts. By fostering empathy, communication, and collaboration, humanistic teaching methods help students develop the soft skills needed to navigate complex social environments.

3) Constructivism: Knowledge as a Social and Active Process

Constructivism presents a view of learning as an active process where learners construct their own understanding of the world through interaction with their environment. Knowledge is not passively received but actively built, drawing on the learner's prior experiences and conceptual frameworks. Constructivist theories, such as those proposed by Jean Piaget and Lev Vygotsky, argue that learners continuously reshape their understanding of the world as they encounter new information.

Piaget's theory of cognitive development emphasizes the progression from concrete to abstract thinking. According to Piaget, learners assimilate new information into existing cognitive structures or schemas, and when these schemas are insufficient to explain new phenomena, they undergo accommodation, leading to a reorganization of thought processes. This process of assimilation and accommodation is central to constructivist learning, where the learner actively engages in meaning-making.

Vygotsky's concept of the zone of proximal development (ZPD) complements Piaget's ideas by highlighting the role of social interaction in learning. Vygotsky argued that learners can achieve higher levels of understanding with the help of a more knowledgeable other (such as a teacher or peer). This process, known as scaffolding, involves providing support to learners as they tackle tasks that are just beyond their current abilities. Over time, as learners gain competence, the scaffolding is gradually removed, and they become capable of independent problem-solving.

Social constructivism, a branch of constructivist thought championed by Vygotsky, emphasizes the role of culture and language in shaping the learning process. Learning is seen as inherently social, occurring through dialogue and collaboration with others. This perspective shifts the focus from the individual learner to the learning community, where knowledge is co-constructed through interaction and shared experiences.

Constructivist classrooms often utilize project-based learning, inquiry-based learning, and collaborative group work to create opportunities for learners to engage in authentic problem-solving. These methods encourage students to take ownership of their learning, work together to solve real-world problems, and reflect on their experiences to deepen their understanding.

Synthesis of Theories in Modern Education

The integration of Cognitivism, Humanism, and Constructivism provides a comprehensive framework for modern educational practices. These theories converge on several key principles that have become foundational to effective teaching and learning:

Learner-Centered Approach: All three theories emphasize the importance of placing the learner at the center of the educational experience. Whether through discovery learning (Cognitivism), personal growth and autonomy (Humanism), or active knowledge construction (Constructivism), these approaches prioritize the needs, interests, and abilities of students.

Active Learning: Each theory highlights the need for students to be actively involved in their learning process. Cognitivism encourages problem-solving and discovery, Humanism promotes experiential learning and self-directed growth, and Constructivism focuses on hands-on, collaborative activities that engage learners in constructing their own understanding.

Collaboration and Social Interaction: Vygotsky's social constructivism and the humanistic emphasis on emotional and social development underscore the importance of collaborative learning environments. Learning is not an isolated process but one that is deeply influenced by social interactions and cultural contexts.

Holistic Development: Humanism's focus on the whole person—cognitive, emotional, and physical—aligns with constructivist and cognitivist perspectives that view learning as a process that encompasses more than just the acquisition of knowledge. Education should foster emotional intelligence, social skills, and critical thinking alongside academic achievement.

These theories collectively argue for a dynamic, student-centered approach to education that recognizes the complexity of the learning process. By combining cognitive, emotional, and social dimensions of learning, educators can create learning environments that not only improve academic outcomes but also support the holistic development of students.

Theories of Cognitivism, Humanism, and Constructivism provide a rich foundation for understanding how students learn and how teachers can facilitate meaningful educational experiences. These theories advocate for active, student-centered learning environments that foster critical thinking, problem-solving, and collaboration. By integrating these perspectives into their teaching practices, educators can create a more engaging and effective learning experience that prepares students for the complexities of the modern world. Understanding and applying these psychological principles in the classroom enables educators to promote not only academic success but also personal growth and lifelong learning.

RESEARCH METHODOLOGY

Population and sample

The population consisted of 120 tourism management students in Chongqing College of International Business and Economic on semester 1, academic year 2023. The samples of 92 students determined by Krejcie and Morgan table, and selected by simple random sampling with drawing

Tools used in education

This research study, the creation of tools has been divided into 2 types:

- 1) program lessons created by researchers, 10 volumes
- 2) Academic achievement test disease prevention and safety of health subject, which is a criterion-based multiple choice test type with 4 options, totaling 40 questions.

Data collection

- 1) Content used in research

The content used in the study is program lessons that accompany the learning plans for the Disease Prevention and Safety of Health Subject for Tourism Management students, which consists of 10 sub -topics as follows:

- 1.1) Good and nutritious food
- 1.2) Diseases that I know
- 1.3) lovely health
- 1.4) Good and happy mood
- 1.5) Know how to preserve your health
- 1.6) Accidents and prevention
- 1.7) Safety first
- 1.8) First aid
- 1.9) Drug and substance use

1.10) Stay away from drugs and our rights.

2) Time spent on research

Spend time on research, semester 1, academic year 2023 It takes 20 hours, excluding pre-test and post-test time.

3) Patterns used in research

The researcher conducted the study using a single group experimental design, One-Group Pre-test Post-test Design

RESEARCH RESULTS

The research aimed to evaluate the effectiveness of program lessons in conjunction with the learning plans for the Disease Prevention and Safety of Health subject by measuring their performance against the standard 80/80 criteria. The 80/80 criteria are defined as achieving at least 80% efficiency during the learning process (E1) and 80% efficiency in the post-test (E2), indicating the program's effectiveness in both instructional activities and student outcomes. The results are summarized.

Table 1 which displays the percentages of average scores students obtained during class activities (E1) and post-test evaluations (E2).

Program lessons accompanying learning plans for Disease Prevention and Safety of Health subject. (Number/Subject)	Percentage of average points that students can complete the exercises. or worksheets in activities during class (E ₁)	Percentage of the average score that students got correctly on the post-test (E ₂)
10	71.20	83.02

Efficiency in Class Activities (E1):

The percentage of average points that students completed during exercises and worksheets in class activities (E1) was 71.20%. This score reflects the students' ability to engage with and successfully complete the learning activities outlined in the program lessons during class. Although it falls slightly below the 80% benchmark, it still represents a strong level of student engagement and task completion.

The lower score in E1 could be attributed to several factors such as students' familiarity with the subject, the complexity of activities, or the need for better instructional strategies to support in-class learning.

Efficiency in Post-Test Scores (E2):

The average percentage of students' correct answers in the post-test (E2) was 83.02%, exceeding the 80% threshold required by the standard criteria. This indicates that students were able to significantly improve their knowledge and understanding of the subject matter after completing the program lessons.

The high E2 score demonstrates that the learning plans, in conjunction with the program lessons, were successful in reinforcing students' comprehension and retention of the material, especially in the post-instruction phase.

Comparison to the 80/80 Standard:

While the in-class performance (E1) did not meet the 80% standard, the post-test results (E2) surpassed the required 80% benchmark, indicating that the program lessons were highly effective in terms of the students' overall knowledge acquisition and their ability to perform well after completing the lessons.

The significant improvement from E1 to E2 suggests that the students benefitted from the learning experience, even if their in-class engagement and performance were slightly below the expected levels. This implies that, although initial interaction with the materials may have

posed some challenges, the content and structure of the program lessons enabled students to master the subject effectively by the end of the course.

The results of the study suggest that the program lessons in conjunction with the learning plans for the Disease Prevention and Safety of Health subject were effective in achieving the desired educational outcomes, as demonstrated by the post-test results (E2). While the in-class activities (E1) did not fully meet the 80% criterion, the overall success of the post-test scores indicates that the program has the potential to greatly enhance student learning outcomes, particularly if adjustments are made to improve engagement and performance during class activities. This evaluation of both E1 and E2 highlights areas for improvement in class activity execution, but confirms the effectiveness of the learning plan in delivering the intended knowledge and skills.

Table 2 Developmental Scores for Programmed Instructional Lessons in Disease Prevention and Safety of Health Subject

programed instructional lesson of Disease Prevention and Safety of Health Subject	Before studying		After school		Developmental score	
	Full score	Average score	score full	Average score	level of progress	Average Percent
Achievement score	40	15.03	40	33.21	16.15	5.76

From the table that 2 Improvement in Academic Achievement: The average score of students before studying using the programmed instructional lessons was 15.03 out of a full score of 40. After studying, the average score increased to 33.21 out of 40, showing a substantial improvement.

Developmental Score:

The developmental score, which reflects the progress made by students, was 16.15 points. This indicates a significant gain in knowledge and understanding of the subject after engaging with the programmed instructional lessons.

Level of Progress:

The level of progress was calculated at 5.76%, further indicating the positive impact of the programmed instructional lessons on student performance. This shows that students experienced a measurable improvement in their understanding of the Disease Prevention and Safety of Health Subject.

Conclusion of Research Results:

The results confirm that the programmed instructional lessons, when combined with the appropriate learning plans, effectively enhanced the academic achievement of Tourism Management students at Chongqing College of International Business and Economics. The improvement in scores demonstrates the success of this teaching method in developing a deeper understanding of disease prevention and health safety topics, thereby validating the use of programmed lessons as a suitable instructional tool for this subject.

DISCUSSION & CONCLUSION

Effectiveness of Program Lessons Based on 80/80 Criteria: The research aimed to evaluate the effectiveness of program lessons for the "Disease Prevention and Safety of Health" subject based on the 80/80 criteria. The results indicate that while the in-class performance (E1) of 71.20% fell short of the desired 80% benchmark, the post-test performance (E2) was significantly higher at 83.02%. This demonstrates that while there may be challenges in students' engagement and performance during the instructional activities, the program lessons were successful in promoting learning, as evidenced by the strong post-test results.

The discrepancy between the E1 and E2 scores suggests that while students may struggle with in-class activities, they eventually grasp the concepts and retain knowledge effectively. The higher post-test results could indicate the long-term benefits of the instructional method, where students internalize the content more fully over time. This may also reflect the effectiveness of the post-class reinforcement provided by the learning plans and programmed instructional tools.

In-Class Activities and Post-Test Performance: The lower score in E1 could be attributed to several factors such as the complexity of the in-class activities, students' familiarity with the subject matter, or the need for better instructional strategies to enhance in-class engagement. In contrast, the strong E2 score reflects that students ultimately achieved the learning objectives by the end of the course, as their understanding of the material was solidified through post-test assessments.

This contrast emphasizes the need to potentially adjust the learning activities during the class to better align with students' engagement and comprehension levels. Adjustments such as refining instructional strategies, simplifying activity sets, or increasing scaffolding during in-class activities may further boost student engagement and improve in-class performance. These improvements could help in meeting the 80% efficiency benchmark for in-class activities in future implementations.

Improvement in Academic Achievement: The substantial increase in average scores from the pre-test (15.03) to post-test (33.21) indicates that students made significant progress in their understanding of the "Disease Prevention and Safety of Health" subject. The developmental score of 16.15 points demonstrates the notable impact of the programmed instructional lessons on student achievement. This progress highlights the effectiveness of the instructional method in enhancing students' knowledge retention and comprehension.

Developmental Progress and Its Implications: The level of progress (5.76%) further supports the conclusion that the programmed instructional lessons positively influenced the students' academic performance. This shows a clear improvement in students' grasp of disease prevention and health safety concepts. The results also suggest that the structured, step-by-step nature of the programmed instructional lessons enabled students to engage in self-paced learning and achieve higher scores, especially in the post-test evaluation.

Conclusion

The research successfully demonstrated the effectiveness of using programmed instructional lessons in conjunction with learning plans for teaching the "Disease Prevention and Safety of Health" subject. Although the in-class efficiency (E1) did not meet the 80% benchmark, the significant improvement in post-test results (E2) and the developmental progress score indicate that the program was effective in helping students achieve the learning objectives.

The findings suggest that while some adjustments to in-class learning strategies may be necessary to improve engagement and task completion, the overall effectiveness of the learning plan in enhancing student outcomes is undeniable. The substantial improvement in post-test performance reflects the ability of programmed instructional lessons to deepen students' knowledge and comprehension of health safety topics.

Recommendations

Refining In-Class Activities: Future iterations of the learning plans should focus on improving student engagement and understanding during in-class activities by simplifying complex tasks and offering more guided support.

Blended Learning Approaches: The success of post-test performance suggests that reinforcing in-class activities with additional self-paced learning tools, such as interactive quizzes or tutorials, may further enhance student outcomes.

Longitudinal Studies: Further research could explore the long-term retention of knowledge gained through programmed lessons to assess the sustainability of learning outcomes over time.

In summary, the use of programmed instructional lessons presents a promising method for improving learning outcomes in health education. By continuing to refine and adapt the approach, educators can ensure that both in-class and post-test performance aligns with the 80/80 criteria for optimal educational efficiency.

REFERENCES

- Boonk, L., Gijsselaers, H. J., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational research review, 24*, 10-30.
- Correia, A. P., Koehler, M. J., & Pardo, L. A. (2021). The power of blended learning: Flexible and effective learning environments in higher education. *Higher Education Quarterly, 75*(1), 98-115.
- Kirksey, J. J., Smith, L., & Anderson, E. (2022). Gamified learning approaches in higher education: A systematic review of the literature. *Journal of Interactive Learning Environments, 30*(5), 703-721.
- Lara, L., & Saracostti, M. (2019). Parental involvement and academic achievement: A study of Chilean elementary students. *Educational Review, 71*(4), 538-551.
- Linsunurin, J. (2020). The role of parental involvement in student achievement and academic success: A study across different cultural contexts. *Journal of Educational Research, 112*(4), 45-61.
- Liu, X., Lin, H., & He, X. (2020). Parental involvement and student performance in Chinese education: A longitudinal study. *Asian Education Studies, 8*(3), 58-72.
- Menheere, A., & Hooge, E. (2010). Parental involvement in children's education: A review study about the effect of parental involvement on children's school performance. *Educational Research Review, 5*(2), 93-109.
- Ntekane, A. (2018). Parental involvement in education: Key to learners' academic success. *International Journal of Social Sciences, 7*(1), 78-88.

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