E-Learning on Career Development and Career Planning for Fourth-Year Undergraduate Students form Yunnan, China

Ningning WANG
Learning Technology and Innovation Division, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi, Pathum Thani, 12110, Thailand
ningning_w@mail.rmutt.ac.th
ORCID:0009-0008-3125-0340

Thosporn SANGSAWANG*(Corresponding author)
Educational Technology and Communications Division, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi, Pathum Thani, 12110, Thailand
sthosporn@rmutt.ac.th
ORCID:0000-0002-7926-6949

ABSTRACT
The objectives of this study were to: 1) investigate the efficiency of E-learning on Career Development and Career Planning undergraduate from Yunnan, China, 2) compare students' achievements before and after learning through earning on Career Development and Career Planning from Yunnan, China, and 3) examine students' satisfaction with of using learning on Career Development and Career Planning The sample comprised 30 undergraduate from Yunnan China, derived through a purposive sampling technique. The instruments used for data collecting were 1) The E-Learning on Career Development and Career Planning for undergraduate from Yunnan, China enhanced learning achievement, pretest and a post-test, and a teacher satisfaction form. The statistics used for analyzing the data were percentage, mean, standard deviation, and t-test for dependent sample. The research findings revealed that applying basic on Career Development and Career Planning to enhance learning achievement was efficient by E_1/E_2 (82.40/81.33). The evaluation of content e-learning on Career Development and Career Planning teaching by the experts was totally appropriate at the excellent level ($\bar{x}$=4.78, SD = .58), and the evaluation of media by the experts was totally appropriate at the excellent level ($\bar{x}$= 4.50, SD = .58). After learning the application, the students' achievements were higher than before. The mean and standard deviation for before learning were 8.80 and 2.33, while for after learning, they were 16.27 and 1.48. The t-test score between before and after learning was 20.68, with a significant difference at the .05 level. According to fourth-year students from Yunnan, China, students' satisfaction with e-learning on Career Development and Career Planning for enhanced learning achievement was high, with a mean of 4.51.
Keywords: e-learning, career envelopment and career planning, undergraduate students, Yunnan, China.

INTRODUCTION

Online learning, a rapidly changing digital technology advancement across the world, has transformed the way students learn and develop their professional competencies. In Yunnan Province, China, online learning has been used to develop fourth-year undergraduate students and is playing a key role in bridging the gap between academic learning and career development. Online learning enhances professional competence development. Learning effectiveness depends on learning abilities, learning environment, and participation. Online learning management in China provides students with access to flexible resources and links academic learning with professional competence development. Key factors influencing professional competence development Self-directed learning ability to develop online learning ability, students need to have self-discipline and self-directed learning skills (Shen, Y., Xie, W., Wang, X., Qu, J., Zhou, T., Li, Y., Mao, X., Hou, P., & Liu, Y., 2020). Students need to prepare for the transition from university to work, equipping them with the skills to engage with digital learning environments, enabling them to gain greater flexibility, access and exposure to career opportunities. Online learning platforms allow students to explore diverse career paths, access specialized training in appropriate career skills and engage in self-directed learning experiences tailored to their individual goals. In line with the research, this study applied the Self-Determination Theory and studied the self-regulation and perceived autonomy of Chinese students in online higher education learning using a mixed-method research method. Semi-structured interviews were conducted with French students studying at a university in Guangxi, southern China. The results showed that online learning has developed rapidly, showing a strong positive relationship between self-regulation and learning outcomes, and a moderate positive relationship between self-regulation and perceived autonomy. Chinese students with good academic performance have high levels of self-regulation and self-controlled regulation. These findings are of great significance for the development of information technology in China's

higher education and the development of students' self-regulation ability and the promotion of their perceived autonomy in online education(Gu, L., Lee, H., Song, Y., & Gu, Z., 2023).

Economic development and educational innovation are progressing rapidly. Online learning is a strategic way to enhance employability and improve the alignment between university curricula and market needs. Therefore, e-learning also promotes lifelong learning habits, critical thinking, and digital literacy, which are crucial skills required in today's rapidly changing labor market. The Chinese government promotes digital education through national policies and programs, including online teaching, and universities in Yunnan are adopting e-learning models to prepare students for diverse professional environments. Therefore, understanding the impact of e-learning on career development and career planning among fourth-year undergraduates is crucial for educators, policymakers, and institutions seeking to develop graduates' readiness for the modern workforce. Competency growth, access to online resources or platforms. Students who practice these skills will benefit from online education in terms of professional skills and job readiness. Learning environment and platform quality A supportive learning environment characterized by strong teaching capabilities, effective assessment, and robust platform support can significantly enhance learning behaviors such as participation, communication, and collaboration. These behaviors are closely linked to the development of professional competencies, interaction, and communication. Opportunities for communication and collaboration between students and teachers are essential for improving the quality of online learning and promoting competencies such as teamwork and problem-solving, technological support, and instruction. The effectiveness of online learning in developing professional competencies is maximized when institutions invest in digital infrastructure, train teachers in online courses, and design curricula that meet the diverse needs of their students.

Based on the above background and significance, the researcher conducted a study on online learning on career development and career planning for fourth-year undergraduate students from Yunnan Province, China, to develop an online learning platform to enhance students' professional competencies. In Yunnan Province, China, online learning has been used to develop fourth-year undergraduate students and plays a key role in bridging the gap between academic learning and career development. This digital approach supports career planning by enabling students to assess their skills, identify career interests, and participate in virtual internships or professional development projects. In regions such as Yunnan Province, China.

LITERATURE REVIEW
In this study, the researcher reviewed the following literature. Online learning for career development, career skill development planning, and related literature by synthesizing the research results, emphasizing theoretical perspectives, summarizing empirical findings, and identifying gaps related to research in Yunnan Province.

Online learning in China's higher education system.
As policy changes and institutions in China focus on accelerating the adoption of online and blended learning in higher education, national policy frameworks and ministry guidelines have relaxed restrictions on online services and promoted the concept of "Internet and education", which aims to build a strong online learning infrastructure and legitimacy that can support students' learning and employment opportunities. The development of China's online education policy over the past 20 years has designed, created guidelines and designing methods for online education, designing content to be appropriate for professional skills, China's online education policy framework, and divided the development into 4 stages: the pilot exploration stage from 1999 to 2002, the standards development stage from 2002 to 2012, the transition stage from 2012 to 2017, and the governance improvement stage from 2017-present. China's online teaching policy development has three characteristics: meeting the needs of the times, shifting from a single-minded approach to a multi-stakeholder approach, and moving from a single-goal approach to a universal approach. The policy focuses on regulating institutions, content, and products, as well as guiding social capital to participate in online education, initiatives, and values. It promotes development from the perspective of educational policy and governance (Jiang, Y., Shang, J., & Jiao, L., 2022). Theoretical Concepts for Online Learning and Career Skill Development Outcomes.

This study examined the impact of online learning on career skill development using social cognitive career theory, self-perception of career skills and outcome expectations, self-determination theory, autonomy, competence, relationships, and self-regulated learning models. The online intervention promoted self-perception of career skill development competence, autonomy based on self-directed learning modules, and self-regulated planning, decision-making, and career readiness, online self-efficacy, learner-instructor interaction, and self-perception of career decision-making competence in practice. Online learning can significantly enhance career skill development, self-efficacy, and readiness by promoting independence, competence, and self-regulation. The impact of online learning on career skill development is well supported by social-cognitive career theory (SCCT), self-determination theory (SDT), and the self-regulated learning (SRL) model. Meeting the psychological needs

of autonomy, competence, and relatedness in an online environment can enhance students' intrinsic motivation, self-perceived efficacy, and engagement in self-directed learning activities (Brenner, C., 2022).

Online Career Planning Courses

Online vocational skills instruction and structured career courses can significantly improve job readiness, reduce career decision-making difficulties, and enhance job search performance. The combined impact of information on labor market knowledge, skills training, resumes, interviews, networking, and reflective activities, including self-assessment, values clarification, and program evaluation analysis, complements face-to-face and hybrid vocational skills counseling. The online career skills curriculum structure includes the following: Developing job readiness, career decision-making, job search enhancement, labor market knowledge, job skills training, resume writing, interview techniques, networking, reflective activities, self-assessment, values clarification, program evaluation analysis, and integrated career skills counseling. Job Readiness, Career Decision-Making, Curriculum Mechanisms and Features Key components driving the effectiveness of the online career curriculum include self-exploration and reflection, activities that help students identify their skills, interests, and values and relate them to career opportunities. Career Management and Planning Modules on job search skills, interview preparation, and goal-setting directly improve job performance, efficiency, and adaptability. The curriculum promotes confidence in career decision-making and the ability to adapt to a changing job market (Cao, H., & Han, C., 2024).

METHODOLOGY

Purpose of the Study

The objectives of the study are as follows: 1) To investigate the efficiency of E-learning on Career Development and Career Planning undergraduate Yunnan, China, 2) To compare students' achievements before and after learning through earning on Career Development and Career Planning Yunnan, China, 3) To examine students' satisfaction with of using learning on Career Development and Career Planning.

Research Questions and Hypothesis

1) E-learning on Career Development and Career Planning undergraduate Yunnan, China
, was posttest higher that pretest after study form E-learning on Career Development and Career Planning ungraduated Yunnan, China, enhances the learning achievement which is different significantly on statistics at the level .05.

2) The satisfaction of the students towards e-learning on Career Development and Career Planning ungraduated Yunnan, China, enhances the learning achievement of undergraduate Yunnan is in average of 4.50, considerable level.
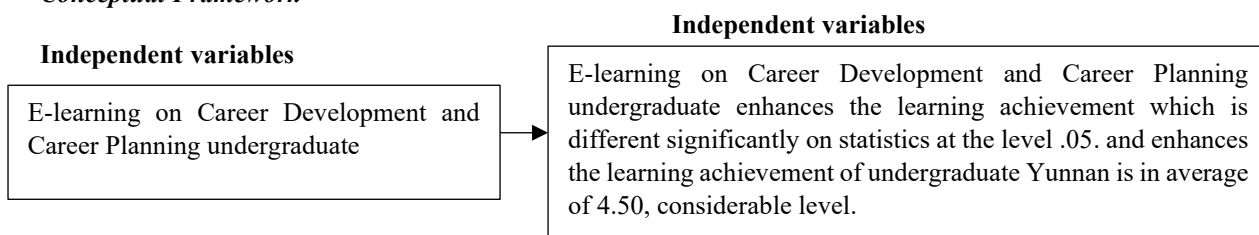
Conceptual Framework

Independent variables

Independent variables
E-learning on Career Development and Career Planning undergraduate

$\rightarrow$

Independent variables

E-learning on Career Development and Career Planning undergraduate enhances the learning achievement which is different significantly on statistics at the level .05. and enhances the learning achievement of undergraduate Yunnan is in average of 4.50, considerable level.

Figure 1: *E-learning of Career Development Conceptual Framework*

Population and Sample groups

The population consisted of 100 recent college students. The sample consisted of 30 recent college students from Yunnan Province, China, and was obtained using a purposive sampling technique. The research instrument was validated by experts to identify the main factors influencing self-identity development. Nine experts, selected for their expertise in vocational education, educational psychology, and student development, participated in four iterative rounds of sampling. In each round, the experts rated the importance of the considered factors using a Likert scale and measured statistical consensus. An iterative feedback mechanism allowed for improvements to the indicators, ensuring that the final set of indicators reflected both theoretical robustness and professional consensus.

$$W = \frac{12 \sum_{j=1}^{n} x(R_j - \frac{m(n+1)}{2})^2}{m^2(n^3-n)} \tag{1}$$

Kendall's W formula is a formula for measuring the level of expert consensus opinion. The coefficient values range from 0 to 1, indicating that subjective expert judgments are converted into objective reliability measures.

For example, a factor with Kendall's W greater than 0.7 is a stable indicator suitable for inclusion in the next step. Discussion of this formula emphasizes the scientific foundation of the consensus building process. The data collection instruments included e-learning on career development and career planning for graduates from Yunnan Province, academic achievement gains, pre- and post-tests, and teacher satisfaction tests. Statistics used for data analysis included percentages, means, standard deviations, and t-tests for independent samples.

RESEARCH RESULT

Plash I: The investigate the efficiency of e-learning on Career Development and Career Planning undergraduate Yunnan, China

Table 1: Efficacy of e-learning in enhancing student achievement in career development and career planning.

Efficiency Indicators	Criteria Standard	Experimental Result	Interpretation
E^1 (Efficiency of Learning Process)	80	82.40	Higher than standard – Effective
E^2 (Efficiency of Learning Achievement)	80	81.33	Higher than standard – Effective
Overall Efficiency (E1/E2)	80/80	82.40/81.33	Meets and exceeds standard

Table1: The research results found that the application of e-learning to enhance students' academic achievement in career development and career planning was effective. The efficiency of the learning process (E_1) and the efficiency of the learning outcomes (E_2) were evaluated according to the standard efficiency criteria (80/80). The research results found that e-learning to enhance students' academic achievement in career development and career planning was effective at $E_1/E_2 = 82.40/81.33$, which was higher than the specified standard. Therefore, e-learning enhances students' academic achievement in career development and career planning is effective and appropriate for developing students' understanding and success in career development and career planning.

Thus, the development of e-learning courses on a career development and career planning platform demonstrated effectiveness exceeding the $80/80$ benchmark, indicating that instructional design, learning content, and digital delivery effectively enhance student engagement and learning outcomes. The results confirm the suitability of e-learning as a means to develop career skills competencies for undergraduate students in Yunnan Province, China. The research findings revealed that applying basic on Career Development and Career Planning to enhance learning achievement was efficient by E_1/E_2 (82.40/81.33).

Plash II: The compare students' achievements before and after learning through earning on Career Development and Career Planning Yunnan, China.

Table 2: Comparison of Academic Achievement of Students Before and After Learning via E-learning on Career Development and Career Planning Undergraduate Program from Yunnan, China.

Evaluation Aspect	n	$\bar{x}$	SD	Level/ Interpretation	t	Sig. (p)	Result
Evaluation Aspect	5	4.78	0.58	Excellent	-	-	Appropriate
Experts' Evaluation of Content Appropriateness	5	4.50	0.58	Excellent	-	-	Appropriate
Experts' Evaluation of Media Design	30	8.80	2.33	-	-	-	-
Students' Achievement (Pre-test)	30	16.27	1.48	-	20.68	.05*	Significant Difference

Significant at the 0.05 level

Table 2: Comparison of Academic Achievement of Students Before and After Learning via E-learning on Career Development and Career Planning Undergraduate Program from Yunnan, China. The results revealed that the content and format of the e-learning media were rated by experts as being highly appropriate. The average score for the content appropriateness assessment was $\bar{x} = 4.78$, SD $= 0.58$, and the average score for the media assessment was $\bar{x} = 4.50$, SD $= 0.58$, both of which fall within the "excellent" range on a 5-point Likert scale. Students' post-learning achievement scores were significantly higher than their pre-learning scores, with the average pre-learning score being 8.80 (SD = 2.33) and the average post-learning score being 16.27 (SD = 1.48).

A t-test value of 20.68 indicated a statistically significant difference at the $.05$ level, confirming that the online learning format effectively improves student academic achievement.

The evaluation of content e-learning on Career Development and Career Planning teaching by the experts was totally appropriate at the excellent level ($\bar{x}$=4.78, SD = .58), and the evaluation of media by the experts was totally appropriate at the excellent level ($\bar{x}$= 4.50, SD = .58). After learning the application, the students' achievements were higher than before. The mean and standard deviation for before learning were 8.80 and 2.33, while for after learning, they were 16.27 and 1.48. The t-test score between before and after learning was 20.68, with a significant difference at the .05 level.

Plash III: The examine students' satisfaction with learning on Career Development and Career Planning.

Table3: Report on the evaluation of student satisfaction level with e-learning on Career Development and Career Planning ungraduated Yunnan, China.

Evaluation Aspect	$\bar{x}$	SD	Interpretation
1. Content quality and relevance	4.60	0.52	High
2. Ease of use and accessibility	4.48	0.61	High
3. Interaction and engagement	4.45	0.57	High
4. Visual and media design	4.50	0.55	High
5. Usefulness for career development	4.52	0.49	High
Overall Satisfaction	4.51	0.55	High

Table3: The research results found that students had a high level of satisfaction with e-learning on Career Development and Career Planning ungraduated Yunnan, China. The satisfaction score was $\bar{x} = 4.51$, which corresponded to a high level according to the 5-level Likert scale. This indicated that students were satisfied with the content of the e-learning system on Career Development and Career Planning ungraduated Yunnan, China, the user interface, the flexibility of learning, the interactivity, and the relevance of the course content to the needs of career planning and development. According to Yunnan, China, students' satisfaction with e-learning on Career Development and Career Planning for enhanced learning achievement was high, with a mean of 4.51.

The results of the study revealed that students were highly satisfied with all aspects of the e-learning on Career Development and Career Planning ungraduated Yunnan, China. The highest-rated aspect was the quality and relevance of the content ($\bar{x} = 4.60$), indicating that students found the learning materials to be relevant to their academic and career needs. Other highly rated aspects included career development usefulness ($\bar{x} = 4.52$) and media design ($\bar{x} = 4.50$), indicating that the e-learning on Career Development and Career Planning ungraduated Yunnan, China approach effectively promoted students' engagement and motivation in learning.

CONCLUSION AND DISCUSSION
Conclusion
This study, titled "E-learning on Career Development and Career Planning for Undergraduate Students in Yunnan, China," aimed to design, implement, and evaluate an e-learning model that would enhance student academic achievement and career readiness. The results of the study from all three phases demonstrated the effectiveness and suitability of the developed e-learning system.

Phase 1: The learning effectiveness evaluation found that the e-learning on Career Development and Career Planning undergraduate students in Yunnan, China achieved an E_1/E_2 effectiveness level of $82.40/81.33$, exceeding the standard score of $80/80$. This confirmed that the e-learning on Career Development and Career Planning undergraduate students in Yunnan, China effectively supported the learning process and outcomes of students.

Phase 2: The comparison of pre- and post-learning scores showed that students' academic achievement significantly improved after participating in the e-learning on Career Development and Career Planning undergraduate students in Yunnan, China. The pre-test mean score ($\bar{x} = 8.80$, $SD = 2.33$) increased to the post-test mean score ($\bar{x} = 16.27$, $SD = 1.48$), with a t-test value of 20.68 ($p < 0.05$). This statistically significant difference indicates that the e-learning on Career Development and Career Planning undergraduate students in Yunnan, China Development and Career Planning undergraduates in Yunnan, China, had a significant positive impact on students' understanding and effectiveness in career development and planning. Expert evaluations also rated both content and materials as excellent ($\bar{x} = 4.78$ and 4.50, respectively).

Phase 3: Student satisfaction results revealed high levels of satisfaction with the e-learning experience on Career Development and Career Planning undergraduates in Yunnan, China ($\bar{x} = 4.51$). They were particularly impressed by the clear structure of the e-learning on Career Development and Career Planning, its relevance to real-world career planning, and the interactive design that supported self-directed learning. These results indicate that e-learning on Career Development and Career Planning not only improves academic achievement but also enhances user motivation, engagement, and satisfaction.

Discussion

The findings are consistent with research highlighting the effectiveness of e-learning on Career Development and Career Planning in promoting active learning, self-regulation, and personalized learning. The results of this study are consistent with the research of (Ally, 2019, & Means et al., 2020), which found that digital learning environments significantly improve student achievement and satisfaction compared to traditional classroom instruction in e-learning on Career Development and Career Planning. Constructivist learning theory enhances the effectiveness of learning based on assumptions that it helps learners learn actively through interaction, reflection, and application. The use of multimedia elements, online discussions, and career-focused case studies in the e-learning on Career Development and Career Planning platform facilitated deeper understanding and critical thinking. The high level of satisfaction indicated that students valued flexibility and autonomy, which are important factors in successful online learning. Consistent with the findings of (Sangsawang, T., 2020), self-directed learning (SRL) was found to be effective in improving student achievement. Developed through learner-directed online instructional design, it is beneficial for teaching and career training. Teaching styles such as firm focus, orientation, or intention comprise all teaching behavior patterns. This study demonstrated that self-directed learners can be described as those who manage themselves in situations where learners are engaged in learner-centered instruction. Career development and career planning are effective, efficient, and well-received by students, promoting academic achievement, providing career guidance, and promoting digital learning skills relevant to the 21st century workforce. They aim to develop students' career readiness and lifelong learning capabilities.

RECOMMRNDATION

The e-learning on Career Development and Career Planning. The following recommendations are offered for educators, curriculum developers, and future researchers to improve the usability and impact of e-learning on Career Development and Career Planning in higher education.

    1) Implementation. Universities and colleges should integrate e-learning on Career Development and Career Planning platforms as a supplementary method to career development and planning courses. Instructors should be encouraged to adopt blended learning approaches, combining online modules with practical guidance, career counseling, and real-world case studies.

    2) E-learning on Career Development and Career Planning should be used to support personalized learning, enabling students to explore career paths that align with their interests, strengths, and career goals.

    3) E-learning on Career Development and Career Planning content and systems should be regularly updated to reflect labor market trends, emerging industries, and the digital competencies employers require.

    4) E-learning on Career Development and Career Planning should integrate interactive media, simulations, and hands-on learning. and self-assessment tools to increase engagement and promote self-directed learning. A user-friendly, user-centered design should be developed to improve accessibility for students in diverse learning environments.

    5) Support for Teachers and Students: Instructors should receive training in digital pedagogy and instructional design to manage and deliver effective online learning experiences. Institutions should provide technical support and orientation to students to ensure sustainable use of the Career Development and Career Planning e-learning platform. Online career mentoring and coaching should be integrated to help students apply their learning to real-world career planning and decision-making.

    6) Continuous Evaluation and Improvement of Career Development and Career Planning e-learning: Continuous monitoring and evaluation should be conducted to assess learning outcomes, user satisfaction, and usability of the Career Development and Career Planning e-learning platform. Student and instructor feedback should be used to improve course design, enhance learning materials, and enhance system functionality. Quantitative and qualitative research should be conducted.

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