

An Evaluation of the Maritime Silk Road Culture Curriculum's Impact on Student Awareness and Career Readiness

Ma Jian Feng¹, Sirisawas Thongkanluang², Phananoi Rotchu³

1 Master of Education in Curriculum and Instruction Suratthani Rajabhat University

2,3 Faculty of Education, Suratthani Rajabhat University

e-mail 67052535110@student.sru.ac.th

Abstract

The 21st-Century Maritime Silk Road is a core national opening-up strategy of China, and Quanzhou, as a world heritage site of ancient maritime trade, has unique cultural resources for vocational education. This study evaluates the impact of the Maritime Silk Road Culture curriculum on students' ideological awareness and career readiness. Adopting a one-group pretest-posttest quasi-experimental design, the study recruited 42 senior students from a vocational university in Quanzhou as participants, and collected data via the Ideological and Political Awareness Questionnaire, Industry Skills Test, and Workplace Readiness Questionnaire over an 8-week curriculum intervention. Results show that after the intervention, students achieved extremely significant improvements in ideological and political awareness, industry knowledge mastery, and overall workplace readiness (all $P < 0.001$, with large effect sizes). No gender difference was found in educational outcomes, while students with cross-border internship experience showed greater growth in professional skills. Based on the findings, optimization strategies are proposed for curriculum reconstruction and teaching improvement, providing empirical reference for coastal vocational colleges to integrate cultural education with ideological and vocational education.

Keywords: Maritime Silk Road; cultural curriculum; ideological awareness; workplace readiness; quasi-experimental research

1. Background and Significance of the Problem

As an important channel for economic and cultural exchanges between ancient China and the rest of the world, the Maritime Silk Road carries core values of peace, cooperation, openness, inclusiveness, and mutual benefit. Since China proposed the 21st-Century Maritime Silk Road Initiative in 2013, the demand for compound talents with relevant cultural literacy, international vision, and professional skills has increased sharply. Quanzhou, known as the "No.1 Port in the East" during the Song and Yuan dynasties, was inscribed on the World Heritage List in 2021 as "Quanzhou: Emporium of the World in Song-Yuan China", boasting unique regional cultural resources for local higher education.

As the main position of talent cultivation, higher vocational colleges bear the responsibility of inheriting excellent culture and serving national strategic needs. At present, Maritime Silk Road culture education in Chinese universities still has obvious deficiencies: most relevant courses exist in the form of sporadic electives or special lectures, failing to form a systematic education system; teaching relies heavily on theoretical indoctrination, lacking practical links; and there is no scientific evaluation mechanism for educational effects, making it impossible to accurately measure the impact of courses on students' ideological growth and career development.

This study has important theoretical and practical significance. Theoretically, it fills the gap in empirical research on the effectiveness of Maritime Silk Road culture education, expands the research perspective of the integration of ideological and political education and vocational education, and improves the methodological system of educational effect evaluation. Practically, it provides evidence-based guidance for students' career development, teaching reform of vocational colleges, regional talent supply, and the promotion of similar cultural education projects in other universities.

2. Research Objectives

The primary objectives of this research are twofold. First, to compare students' ideological and political awareness before and after the Maritime Silk Road Culture curriculum intervention, and clarify the magnitude and specific manifestations of the curriculum's impact on students' ideological cognition, including four dimensions: political identity, national pride, social responsibility, and openness and inclusiveness awareness. Second, to compare changes in students' career readiness indicators including industry knowledge mastery, professional skill confidence, and career planning ability after the curriculum, and verify the vocational empowerment effect of cultural curriculum on vocational college students.

3. Research Hypotheses

Based on existing theoretical foundations and practical observations, two core research hypotheses are proposed. The first hypothesis states that students' overall ideological and political awareness and all its sub-dimensions will be significantly improved after completing the Maritime Silk Road Culture education program. The second hypothesis states that students' career readiness, including their mastery of industry knowledge, professional skill competence, workplace adaptation confidence, and career development planning ability, will be significantly enhanced after participating in the 8-week curriculum intervention.

4. Scope of the Research

Conceptually, this study is guided by the framework of cultural education effectiveness evaluation, focusing on two core outcome variables: ideological and political awareness, and career readiness. The research constructs a dual-dimensional evaluation system covering ideological value guidance and vocational ability improvement, and explores the educational effect of the integrated curriculum.

Geographically, the research is conducted at a vocational university in Quanzhou, Fujian Province, a core city of the Maritime Silk Road with abundant world heritage cultural resources and developed maritime-related industries. In terms of participants, the study adopts convenient sampling to select 42 full-time senior students from majors including international trade, cross-border e-commerce, and port logistics as the research sample, all of whom are approaching graduation and have clear demands for career preparation.

The intervention cycle of the research is 8 weeks, with 2 class hours per week, and the evaluation covers short-term changes immediately after the curriculum, as well as demographic difference analysis across gender and internship experience. The study only focuses on the short-term effect of the curriculum, and does not involve long-term follow-up tracking after graduation.

5. Research Methodology

This study adopts applied research as its overall orientation, combined with a one-group pretest-posttest quasi-experimental design to empirically evaluate the implementation effect of the curriculum. Quasi-experimental design is suitable for natural educational scenarios, as it avoids disrupting normal teaching order while comparing pre- and post-intervention changes of the same group of subjects, effectively controlling the interference of individual differences on research results.

The study also integrates mixed research logic, combining quantitative measurement of scales and skill tests with supplementary qualitative analysis of teaching practice observations and typical student cases, to complement and verify quantitative results, ensuring the comprehensiveness and reliability of research conclusions.

6. Research Instruments

Three standardized research instruments are used for data collection, all of which have passed reliability and validity tests before formal implementation.

First, the Ideological and Political Awareness Questionnaire, a self-designed 5-point Likert scale with 20 items across 4 dimensions: political identity, national pride, social responsibility, and openness and inclusiveness awareness. The overall Cronbach's α coefficient of the scale is 0.856, with all sub-dimensions above 0.8, indicating good internal consistency. Content validity was verified by three experts in ideological education and Maritime Silk Road cultural studies.

Second, the Industry Skills Test, consisting of 20 multiple-choice questions covering Maritime Silk Road history, initiative policy, related industry knowledge, and cross-cultural communication skills. The split-half reliability of the test is 0.812, with good content validity confirmed by industry practitioners and vocational education experts.

Third, the Workplace Readiness Questionnaire, a 5-point Likert scale with 20 items across 4 dimensions: industry knowledge mastery, professional skill confidence, workplace adaptation confidence, and career development planning. The overall Cronbach's α coefficient is 0.863, with all sub-dimensions meeting psychometric requirements, and content validity verified by vocational education and human resource experts.

7. Data Collection

Data collection is divided into three standardized stages. First, the pre-test stage: one week before the curriculum launch, all participants completed the three research instruments in a centralized classroom setting. Researchers explained the anonymous and confidential nature of the survey in advance to eliminate students' concerns and ensure authentic responses, with a total test duration of 60 minutes.

Second, the intervention stage: the 8-week Maritime Silk Road Culture curriculum was implemented, with 2 class hours per week. The curriculum covered five modules: Maritime Silk Road history and culture, interpretation of the 21st-Century Maritime Silk Road initiative, analysis of related industries, cross-cultural communication skills, and practical teaching activities including enterprise visits and heritage site field trips. Teaching methods combined theoretical lectures, case analysis, group discussion, and immersive practice.

Third, the post-test stage: one week after the curriculum ended, the same set of instruments was administered to all participants under identical conditions as the pre-test, to ensure data comparability. Invalid questionnaires with incomplete or logically inconsistent responses were excluded during data sorting, and finally 42 valid samples were retained with an effective recovery rate of 100%.

8. Data Analysis

SPSS 26.0 statistical software is used for all data processing and analysis, with four core analysis procedures. First, descriptive statistical analysis is conducted to calculate the mean, standard deviation, maximum and minimum values of each indicator, to present the basic characteristics of the sample and pre-post test data.

Second, paired-samples t-test is applied to compare the differences in total scores and sub-dimension scores of all instruments before and after the intervention, to test the significance of the curriculum's effect. Normality and homogeneity of variance tests are conducted prior to the t-test, and non-parametric tests are adopted if assumptions are not met.

Third, Cohen's d is calculated as the effect size indicator to quantify the magnitude of the curriculum's impact, with $d=0.2$ defined as small effect, $d=0.5$ as medium, and $d=0.8$ as large effect.

Finally, independent-samples t-test is used to analyze differences in intervention effects across demographic characteristics including gender and internship experience, to explore the boundary conditions of the curriculum's effect.

9. Research Summary

9.1 Sample Basic Information

A total of 42 valid samples were retained, including 23 male students (54.8%) and 19 female students (45.2%). 27 participants (64.3%) had relevant internship experience, and the majors covered international trade (42.9%), cross-border e-commerce (33.3%), and port logistics (23.8%). Most students had limited understanding of Maritime Silk Road culture before the intervention.

9.2 Changes in Ideological and Political Awareness

The total score of ideological and political awareness increased from 65.38 (pre-test, $SD=7.25$) to 78.64 (post-test, $SD=6.83$), with a mean difference of 13.26. Paired-samples t-test showed an extremely significant difference ($t=11.537$, $df=41$, $P<0.001$), with a Cohen's d of 1.789 (large effect). All four sub-dimensions showed extremely significant improvements with large effect sizes, among which political identity had the largest mean increase of 3.57 points.

9.3 Changes in Industry Skills

The average score of the Industry Skills Test rose from 9.76 (pre-test, $SD=2.38$) to 15.83 (post-test, $SD=2.15$), with a mean increase of 6.07 points. The pass rate increased from 33.3% to 92.9%, and the excellent rate rose from 7.1% to 54.8%. The difference was extremely significant ($t=15.628$, $df=41$, $P<0.001$), with a Cohen's d of 2.431 (large effect).

9.4 Changes in Workplace Readiness

The total score of workplace readiness increased from 62.57 (pre-test, $SD=8.12$) to 76.83 (post-test, $SD=7.35$), with a mean difference of 14.26. The difference was extremely significant ($t=12.369$, $df=41$, $P<0.001$), with a Cohen's d of 1.921 (large effect). All four sub-dimensions showed extremely significant improvements, with industry knowledge mastery showing the largest increase of 3.86 points.

9.5 Demographic Difference Analysis

Independent-samples t-test showed no significant gender differences in all outcome indicators (all $P > 0.05$), indicating the curriculum has universal applicability. For internship experience, students with internship experience had significantly higher post-test scores in the Industry Skills Test than those without ($t = 2.834$, $P = 0.007$), while no significant differences were found in ideological awareness and overall workplace readiness.

10. Discussion

10.1 Discussion of Ideological Awareness Improvement

The extremely significant improvement in students' ideological and political awareness fully verifies the first research hypothesis. The prominent growth in political identity stems from the curriculum's in-depth interpretation of the 21st-Century Maritime Silk Road initiative, which helps students understand the strategic significance of national policies, consistent with previous findings on the integration of traditional culture and national strategic education.

The improvement in national pride is closely related to Quanzhou's local world heritage cases integrated into the curriculum, which allow students to intuitively perceive the historical achievements of Chinese civilization. The enhancement of social responsibility and openness and inclusiveness awareness reflects the core value transmission of Maritime Silk Road culture, which advocates mutual benefit, peaceful cooperation, and multicultural integration. The reduced coefficient of variation in post-test scores also indicates that the curriculum has universal educational effects for students with different baseline levels.

10.2 Discussion of Career Readiness Improvement

The significant growth in industry skills and workplace readiness verifies the second research hypothesis. The improvement in professional skills benefits from the curriculum's "theory + case + practice" teaching model, which makes up for the fragmentation of students' original industry knowledge. The significant improvement in industry knowledge mastery is mutually confirmed by the skill test results, while the growth in professional skill confidence aligns with Bandura's self-efficacy theory, as practical teaching links provide students with positive feedback of ability improvement.

The enhancement of career planning ability is of great value, indicating that the curriculum not only imparts knowledge, but also provides clear career development references for students in Maritime Silk Road-related industries, helping them clarify career goals and reduce employment anxiety.

10.3 Discussion of Demographic Differences

The absence of gender differences indicates that the curriculum design has good universality and is suitable for students of different genders, with no need for gender-differentiated content design. The more prominent skill improvement among students with internship experience suggests that practical experience can promote the absorption and transformation of theoretical knowledge, indicating that the curriculum needs to further strengthen practical teaching links to improve the learning effect of students without internship experience.

The study also identified deficiencies of the current curriculum: insufficient alignment between the curriculum system and industrial job demands, over-reliance on theoretical teaching models, lack of a multi-dimensional evaluation mechanism, and a shortage of interdisciplinary teaching faculty.

11. Suggestions/Recommendations

11.1 Curriculum Optimization Recommendations

First, reconstruct a modular curriculum system aligned with industrial demands. Integrate professional skill content of Maritime Silk Road-related industries into the curriculum, and build a modular system covering cultural literacy, industry knowledge, and practical skills, to improve the matching degree between curriculum content and job requirements.

Second, develop immersive practical teaching. Expand off-campus practical bases including heritage sites, port enterprises, and cross-border trade companies, and add teaching forms such as virtual simulation, scenario simulation, and project-based learning, to reduce the gap between theoretical learning and practical work, and improve the learning effect of students without internship experience.

Third, improve a full-process multi-element assessment system. Break the single theoretical assessment model, incorporate performance in practical activities, group projects, and cross-cultural communication tasks into the evaluation system, to realize multi-dimensional evaluation of students' learning effects.

Fourth, build an interdisciplinary teaching team. Introduce industry practitioners and cultural heritage experts as part-time instructors, and carry out systematic training for existing teachers to improve their interdisciplinary teaching ability.

11.2 Practical Promotion Recommendations

For vocational colleges in coastal regions along the Maritime Silk Road, it is recommended to fully tap local cultural resources, integrate Maritime Silk Road culture into talent training programs, and build a characteristic education system that combines ideological education and vocational empowerment. For regional education authorities, it is suggested to promote school-enterprise-government collaborative education, and provide policy and resource support for the construction of Maritime Silk Road culture education systems, to deliver more compound talents for the construction of the 21st-Century Maritime Silk Road.

For future research, it is recommended to expand the sample size, add a control group to improve the internal validity of the study, and carry out long-term follow-up to explore the sustained effect of cultural education on students' career development.

12. References

- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Cook, T. D., and Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Houghton Mifflin.
- Chen, H. P. (2005). The cultural characteristics and contemporary significance of the "Maritime Silk Road". *Journal of Fujian Provincial Party School of the Communist Party of China*, (2), 68-72.
- Guan, Y., et al. (2023). Unlocking learning potential: The impact of integrated cognitive strategies on vocational students' academic performance. *Journal of Educational Learning*, 15, 208-220.
- Li, J. G. (2020). Empirical research on integrating traditional culture into college ideological and political education. *Ideological and Theoretical Education*, (8), 78-83.

- Quanzhou Municipal People's Government. (2025). Report on the protection and development of the world heritage "Quanzhou: Emporium of the World in Song-Yuan China".
- Qiu, Y. L. (2025). Exploration on the path of integrating Maritime Silk Road culture into college ideological and political education. *Qinzhi*, (4), 19-21.
- Wu, W., and Liu, Y. (2022). Compilation and reliability and validity test of the vocational readiness scale for vocational college students. *Vocational and Technical Education*, 33(33), 56-61.
- Zhang, J. (2026). Research on the "Maritime Silk Road" and the "21st-Century Maritime Silk Road": Construction of a knowledge system from a world history perspective. *Journal of Ocean University of China (Social Sciences Edition)*, (1), 1-12.
- Zhang, M. (2021). Industry culture education and career planning guidance for college students. *China University Students Career Guide*, (12), 45-50.
- Zhuang, Y. M., Pei, D. L., and Zhuo, L. L. (2024). Exploration and practice of the inheritance and education model of Maritime Silk Road intangible cultural heritage in the new era. Summary Report of Fujian Vocational Education Teaching Achievement Awards.