

Research on the Integration Model of "Post-Course-Competition-Certificate" for the Cruise Steward Major in Vocational Colleges from the Perspective of Industry-Education Integration: Based on the Talent Demand of Hainan's Cruise Industry Chain

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Abstract: One of the severe problems in the development of quality programmes for vocational colleges is that the structure of talent training in the major of cruise steward does not meet the actual requirements of the job chain in the industry. First, this paper will present the demand for talent in the chain of the cruise industry in Hainan, and then construct an integration model for "post-course-competition-certificates" for the major of cruise stewards in vocational colleges. First, in accordance with the vocational qualification framework, a hierarchical competency model for job positions will be established; then, we will analyze the mapping relationship between course modules and vocational skills competitions, clarify the equivalent exchange conditions of academic certificates and vocational level certificates, and so on. Second, there is a skills gap in the vertical links of the cruise industry chain in Hainan, so dynamic rules for job and teaching standards have been introduced, and a screening threshold has been set for the competition content course. Based on the process of job operation, a curriculum cluster restructuring plan has been developed; there has been an optimisation of the overlap in certificate assessment and course completion standards, and a scheme for allocating credit mutual recognition weights in competition results and certificate acquisition has been established. Based on the above research, an integrated model for "post-course competition certificates" can be constructed to organise the standards of competencies, teaching content and evaluation in an orderly manner, providing a practical basis for the cultivation of talent in the major of cruise stewards at vocational colleges.

Keywords: Cruise Steward Major, Integration of post-course competition certificates, Hierarchical competency model, Skill gap, Credit mutual recognition

Introduction

With the high-quality development of the cruise industry, many new demands have arisen for the talents of cruise stewards, and the traditional training model at vocational colleges is no longer suitable for the changes in the work environment, the speed of skill updates and the efficiency of certificate acquisition. Hainan is a cluster area for the cruise industry chain, and due to the different demands of tropical routes and inter-island operation, stewards need to be proficient in cross-cultural service, emergency response and multilingual communication; therefore, programs should be developed in close coordination with the talent needs of the industry chain. The purpose of this paper is to study the internal links among the factors of job competency, the structure of course content, the features of competition tasks and standards for certificate evaluation in building an integration model for "post-course-competition certificates", construct an embedded integration mechanism for these four elements, and thus improve the accuracy and dynamism of talent cultivation. The structured Design of the integration model will be introduced here; there will be no abstract theoretical explanations, but rather, we will directly carry out an organised study of the three dimensions of competency architecture, adaptation mechanisms and pathway design to provide a theoretical basis for curriculum reform and optimisation of the evaluation system in the cruise steward major at vocational colleges.

1. Competency Architecture and Integration Element Analysis of the Cruise Steward Profession

1.1 Hierarchical Competency Model for Cruise Steward Positions Based on the Vocational Qualification Framework

The hierarchical competency model for the position of cruise steward should be based on the vocational qualification framework, and the job tasks are divided into operational level, supervisory level and strategic level. At the operational level, the basic positions are cabin service, food and beverage service, recreational activity guidance, etc., and standard service procedures and emergency response skills are required. Supervisory work usually covers departmental coordination, dealing with passenger complaints and small-group management, etc., and also needs cross-cultural communication and resource allocation skills. To improve the efficiency of cruise operations and the quality of service, data analysis should be conducted and decisions should be based on this data. All the components of competence at all levels should be broken down into observable and measurable behavioural indicators, and a graded scale of competencies from elementary to advanced should be established^[1].

In light of the actual demands of the chain in the Hainan cruise industry, the top-down model should integrate regional tourism products and the maritime safety environment. Stewards of the Xisha Route and Southeast Asian Route for cruise products need to be knowledgeable about the characteristics of passengers from island tourism, emergency response procedures in the event of a tropical route accident, and multilingual service skills. The chain of competencies does not have to be in order; one can learn skills at the lower level and, by obtaining special qualifications such as cruise revenue management or advanced lifesaving certificates, be appointed to take on more difficult tasks at the higher level. The model will be used as the basis for the design of the following curriculum and certificates, and the competency structure will align with teaching units.

1.2 Mapping the Relationship between Course Modules and Vocational Skills Competitions for the Cruise Steward Major in Vocational Colleges

Most of the course modules in the major of cruise stewards are basic professional modules (Introduction to Cruises, Tourism Psychology), core skills modules (Cabin Service Practice, Banquet Design, Maritime English), and extension modules (Cruise Marketing, Cross-cultural Management). The Design of competition items for vocational skills competitions includes the restoration of the service process, crisis scenario simulation and impromptu English conversation; although some of these competition items have some overlap with the content of the courses, they are organised differently. Course modules provide a complete and organised system of knowledge; competition items need to be answered quickly, accurately and flexibly in all circumstances, and the former serves as a knowledge base for the latter, and feedback from the latter can be used to increase the operation training intensity of the former.

The main construction point of the two-way mapping matrix for courses and competitions is to determine the consistency of the skill nodes in the course units with the assessment points in the competitions. For example, there is a high degree of correspondence between the "banquet table setting standards" in the core skills module and the "themed table design and table-setting timing" in competitions; thus, the scoring criteria of the competition can be directly applied to evaluate the practical training in this course. Cruise revenue management has received very little attention in the previous competitions of the extension module, so miniature on-campus skill challenge competitions need to be organised to make up for this deficiency. Clarifying the mapping relationship among them can maintain the basic knowledge foundation of the course stably, and at the same time, extracting frequently occurring skill demands from competitions can help adjust the general direction of teaching^[2].

1.3 Equivalent Exchange Conditions between Academic Certificates and Vocational Level Certificates

Academic certificates show that a person has obtained organised disciplinary knowledge and general abilities, and vocational-level certificates indicate that one can carry out tasks in normal circumstances. The equivalent exchange of the two in the cruise steward major should be based on competency unit matching; that is, after verifying the credit hours and assessment methods of a module in the academic curriculum (such as "Maritime Passenger First Aid"), it can be used to substitute the training hour requirements for the corresponding level certificate. The main items of the exchange

conditions are the statistical consistency of the course assessment pass rate and the certificate examination pass rate, the percentage threshold for course content coverage of the certificate syllabus, and the technical homology of practical training equipment and certificate assessment equipment.

Given the structure of the chain in the Hainan cruise industry, the spread of academic and vocational certificates should meet the skill recognition demands of local enterprises. Some cruise companies give more weight to the Basic Safety Training Certificate approved by the Maritime Safety Administration than to the grades of academic courses; thus, the equivalent exchange should differentiate between two types: "full substitution" and "partial substitution". Full substitution is used for modules that have more than 85% overlap between the course content and the certificate assessment content, and both assessment methods are practical evaluations; partial substitution replaces some competency units in the certificate with the corresponding parts of the academic course, but the rest of the course still needs to be assessed independently. Build a substitution catalogue and update it regularly to reduce the training burden on students, but still meet the quality requirements of both types of certificates.

2. Characteristics of Talent Demand in Hainan's Cruise Industry Chain and Adaptation Mechanisms for Integration

2.1 Gradient Analysis of Skill Gaps in the Vertical Links of the Cruise Industry Chain

The three links in the vertical chain of the cruise industry are: at the top is the upstream end of design, construction and material supply; in the middle is route operation and fleet management; and at the bottom is port services and passenger reception. The Distribution Pattern of Skill Gaps at Different Levels is Gradual. At the top level, there should be knowledge of cruise engineering, supply chain integration ability and marine equipment maintenance technology; this part is almost entirely missing from the current training programs for the cruise steward major at vocational colleges in Hainan. In general, the middle stage is to deal with route revenue management, application of maritime regulations, multi-port dispatch coordination ability, etc.; currently, professional courses cover some of these areas to a certain extent, and more emphasis is being placed on on-the-job training. The main shortcomings in the skills of the downstream passenger reception staff are cross-cultural service ability, promotion methods for cruise-specific products and cabin handling procedures during public health emergencies^[3].

Based on the comparison of gap gradients across the three links, it can be seen that the main reason for the skill gap in downstream passenger reception is a lack of personnel and high turnover at the operational level; the gaps at the midstream and upstream levels are due to a shortage of talent types at the competency level. Downstream reception links in the chain of Hainan's cruise industry, such as Sanya Phoenix Island and Haikou Port, have been well-developed, and now that local cruise brands have been established, so too has the demand for talent in the midstream and upstream links. Based on the results of the skill gap gradient analysis, a single integration model for the "Post-Course-Competition-Certificate" will not meet the demands of the new types of positions that have arisen due to the vertical extension of the industry chain, and thus, additional course modules, such as supply chain management and cruise safety assessment, need to be added to make up for this deficiency.

2.2 Dynamic Calibration Rules between Job Standards and Teaching Standards in the Integration Model

Most of the job standards are set by the cruise company in line with its operating rules, passenger complaint data and safety regulations, and need to be promptly implemented according to the specific service indicators. The basis of the teaching standards is the professional teaching standards and the principles of credit-hour allocation; gradually, the goal is to cultivate students' cognitive patterns and abilities. Dynamic calibration of the two in the integration model needs to be carried out regularly; that is, every six months or a year, the key performance indicators of job standards (such as the pass rate for cabin cleanliness and English response time) should be converted into benchmark achievement levels for teaching standards. At the bottom of the calibration rules, decide which items in the job standard are transferable, exclude brand-specific operating details related to particular cruise lines, and keep the general skill components.

The peak and off-peak seasons for cruise operation in Hainan Province are far apart, so there will be a large fluctuation. During the busy season (winter and the time around the Spring Festival), there is a

relatively high demand for jobs at cruise companies, so we can add a filing-based rapid certification module to the practical training courses during this time to allow students to take the job standard test directly and count it as some of their on-campus practical training hours. During the off-season, it is appropriate to add competition training content that has been accumulated in the teaching standards to fine-tune job standards; for example, students' innovative solutions for special passenger services can be added to the enterprise's job training manuals. An automatic adjustment rule will be added to periodically revise the job and teaching standards in light of changes in circumstances, and a continuous improvement cycle will be established^[4].

2.3 Setting of Screening Thresholds for the Transformation of Skills Competition Content into Course Teaching

Most of the materials in the skills competition are difficult operation tasks, complex scenario cases and time-limited stress tests. If I present all this content directly in class, it will exceed the capacity of the regular teaching materials, and we may lose focus on the goal of developing basic abilities. Based on the three discriminant indices, set a screening threshold for the index of task recurrence frequency (the number of competition tasks a person has in their daily work) and content frequency, and only content with a frequency exceeding 60% will be selected for teaching. The resource adaptation rate index indicates how well the equipment for the competition content matches the actual training facilities at the school; if this rate is less than 30%, the content will be reduced to elective or demonstration teaching. The Cognitive Prerequisite Index shows whether support from the knowledge in prerequisite courses is needed for the competition task; if there are no such prerequisite courses, basic training modules must be created first.

More attention should be paid to the regional competition content of the cruise industry chain in Hainan during the transformation process, as it can directly meet the different employment demands of local cruise enterprises, such as lifeboat rapid-release operations on tropical island routes and impromptu bilingual tour guide commentary in Chinese and English. A fluctuating screening threshold will also be set; for new competitive products, an observation period of one semester will be added, and only 30 per cent of the content will be included in the supplementary course exercises at that time. Confirm that the degree of job matching for this content meets the company's requirements, and then raise the threshold to the normal level. Set some screening standards for including the content of skills competitions in the course teaching system in an organised and effective way, and avoid excessive disruption to the structure of the curriculum due to a focus on competition.

3. Structured Pathway Design for the Integration Model of "Post-Course-Competition-Certificates"

3.1 Curriculum Cluster Restructuring Based on Job Operation Processes and Embedding of Competition Tasks

Given that the typical job operation process of cruise steward positions (from embarkation reception and cabin service to food and beverage supply, etc.) forms the main chain, the original curriculum clusters organised according to disciplinary logic can be rearranged into "process-driven" course modules. All the process nodes are connected to a set of relevant courses, and for example, the embarkation and reception node combines the content of three courses: "Cruise Service Etiquette", "Baggage Handling Procedures" and "Key Card Activation and Cabin Orientation" to avoid knowledge redundancy with the traditional courses. The restructured curriculum cluster will gradually promote the all-round development of students, and after completing all the steps of this operation, they will have acquired comprehensive knowledge in this area rather than scattered theoretical facts^[5].

Competition tasks in the process nodes should be chosen as the competition targets to have a high level of operation density or a high error rate in the operation process. The error rate of the cruise industry chain in Hainan for embarkation temperature screening and health declaration on tropical routes is relatively high, so it can be set up as a timed, scenario-based competition task, and students need to complete the verification and guidance of five groups of simulated passengers within one minute.

The embedding method is a "post-processing-node competition unit"; that is to say, after students complete the course learning and the basic practical training for a particular node, they directly enter the simulated competition site for the corresponding competition task, and the result of the competition

serves as the threshold condition for passing that node. The Design will integrate the competition into the course content and conduct it as part of the curriculum rather than organising it separately; at the same time, it can also be used as a formative assessment tool to find out if there are any weaknesses in students' abilities at different times and provide a basis for individualised training later.

3.2 Optimisation of the Overlap Between Vocational Level Certificate Assessment Content and Course Completion Standards

Most of the content in the assessments for vocational-level certificates is in the form of theoretical computer-based tests (service standards, maritime English vocabulary) and practical tests (emergency drills, Chinese and Western table setting). The three parts of the course completion criteria are class attendance, mid-term exams and the final comprehensive project. The first goal of overlap optimisation is to find the fully overlapping part in the two types of evaluations. For example, the "cruise cabin inspection procedure" in the certificate and the "final practical examination of housekeeping service" in the course have very similar operating steps and scoring rubrics; therefore, they can be combined into a single assessment that is both counted for the course score and the certificate module grade. For partially overlapping content (e.g., "lifeboat operation" in the certificate assessment and "Introduction to Ship Safety" in the course, where the latter only covers theory and not practice), practical training sessions should be added to increase the degree of overlap. Based on the above, overlap optimisation can also be used to conduct cross-validation; that is, the same competency item is given the same scenario case bank in both course assessments and certificate evaluations to improve the comparability and mutual recognition basis of the two.

Given the structure of the cruise industry chain in Hainan, some vocational-level certificates, such as the Basic Safety Training Certificate issued by the Maritime Safety Administration, have legal requirements and the overlap in the content of assessment and course completion standards is less than 40%. The optimisation path can be to "front-load certificate content", that is, the core competency indicators in the certificate syllabus are divided into several teaching units, and each unit is placed within the course chapters to which it is most closely related, and corresponding adjustments are made to the weights in the course completion standards. After one round of optimisation, the overlap can be increased to more than 65%, so students do not need to prepare separately for the basic requirements of course completion and certificate acquisition; thus, time will not be wasted on redundant assessments^[6].

3.3 Credit Mutual Recognition Weight Allocation Scheme for Competition Results and Certificate Acquisition

To convert the results of the competition into credits, we need to build a map that links the competition level, rank and credit weight. The first place in a foreign-class cruise skills competition (such as the Restaurant Service category of the WorldSkills Competition) will be exchanged for 3 credits of a core professional course, and second place will be exchanged for 2 credits. The first place winner of the provincial cruise steward competition will be allowed to reduce the fee for the elective professional course by 2 credits. A school-level competition can only be substituted by 1 credit of practical training or a reduction in class time. The same competition result should not be applied to credit substitution in different courses, and a special subject correspondence rule needs to be established to prevent an excessive accumulation of credits.

For the regional competitions in the Hainan cruise industry chain, such as the Hainan Cruise Service Skills Invitational and the Sanya International Cruise Steward English Speaking Competition, the weight given should be based on how well these events are recognised by local cruise enterprises. Students in the top three of the regional competition will be exempt from the practical operation module in certificate acquisition; that is to say, they will not need to take the corresponding practical assessment items for the vocational level certificate and can apply directly for certification of that module based on their award certificates. The weight allocation scheme should also set an upper limit for credit substitution, and the total credits substituted through competitions for a single student should not exceed 15% of the total graduation credits to keep the main goal of systematic course learning. An Allocation Plan for dispute resolution has also been established: If there is a disagreement about whether the content of the competition aligns with what is stipulated in the certificate assessment, both the on-campus professional teaching committee and representatives of the cruise company will jointly investigate the issue, and the basis for their decision will be the degree of consistency between the competition scoring standards and the certificate assessment rubrics at the item level, as well as job performance tracking data of previously awarded students.

Conclusion

This paper studies the integration model of "post-course competition certificates" for the major of cruise steward at vocational colleges and builds a theoretical system based on the three dimensions of competency architecture, demand adaptation and pathway design. A hierarchy of competencies for all positions in the organisation has been established, a map of courses and competitions has been developed, and equivalent exchange regulations for academic degrees and vocational qualifications have been introduced to provide the foundation for this integration model. According to the characteristics of the skill gap in the vertical links of the Hainan cruise industry chain, this paper proposes dynamic calibration rules for job and teaching standards, as well as screening thresholds for competition content, to improve the adaptability of the model to various regional industrial conditions. At the level of the structured pathway, this paper puts forward a process-oriented curriculum cluster restructuring plan, an optimisation strategy for assessment overlap, and a credit mutual recognition weight allocation scheme for competition results and certificate acquisition to provide an operational implementation framework for integration. First, we need to decide how to coordinate the talent cultivation standards for the midstream and upstream links in the cruise industry chain (design and construction, route operation) with the current demand of the professional system. Second, in line with the process of work, we will develop competency diagnostic tools and quantify the results of this integration. Finally, all the structures of the "Post-Course-Competition-Certificate" integration model in the different regional cruise industry ecosystems will be compared to verify the external validity of this framework.

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