The Logic and Path of Constructing a Course Group on Digital Trade with Russia for the International Trade Major in Applied Undergraduate Education

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Abstract: *The development of digital trade and the deepening of China–Russia economic and trade cooperation put forward new requirements for the talent cultivation in the International Trade major in applied undergraduate education. Overemphasis on trade documents and theory without content such as cross-border platform operations, digital marketing, and foreign trade big data causes imbalances between the talent supply and job demand. This paper investigates the construction of a course group on digital trade with Russia. At the logical foundation level, we define its functional positioning and cultivate alignment; deconstruct the competency map and knowledge modules; explain the logic of interdisciplinary integration and competency progression. We construct a modular system from the structured design level which includes the underlying architecture of general competencies, the embedding of the Russia-oriented economic and trade direction, and the integrated configuration of Russian-language digital business. And finally, we propose mechanisms for course objective matrix alignment, cross-disciplinary resource collaboration, and content iteration monitoring at the construction path level. Our research can serve as a framework reference for curriculum reform in the International Trade major in applied undergraduate education.*

Keywords: *Applied undergraduate education; International Trade major; digital trade with Russia; course group; competency map; modular design*

Introduction

The digital trade using data as a factor of production and digital delivery as the main mode is changing the job competency structure of international trade: skills such as cross-border e-commerce operations, foreign trade data analysis, and cross-border digital compliance are becoming increasingly important competences for practitioners. The International Trade major in applied undergraduate education shoulders the responsibility of cultivating talents for cross-border business practice which needs dynamic adaptation to the requirements of industry job clusters. Because digital trade with Russia has great regional market and linguistic-cultural features, general digital trade courses can not cover its specialized knowledge. Course groups on digital trade with Russia combine resources in international trade, data science, and regional studies through competency map deconstruction and knowledge module reorganization, promote the transition of courses from discipline logic dominated to jointly leading competency logic and industry logic, provide an implementation path and methodology reference at the course level for the specialized transformation of the major.

1. The Logical Foundation for Constructing a Course Group on Digital Trade with Russia for the International Trade Major in Applied Undergraduate Education

1.1 Functional Positioning and Cultivation Coupling of the Course Group on Digital Trade with Russia for the International Trade Major in Applied Undergraduate Education

Functional Positioning of Course Group Based on Professional Education System. In the International Trade major in applied undergraduate education, the cultivation of the skill of cross-border business practice has been greatly extended by the context of digital trade as its main characterizing feature while traditional courses over-emphasizes the study of import and export documents and international trade theory without including modules about new business forms like

cross-border platform operations, overseas digital marketing, and foreign trade big data so that it fails to match talent output with the demand for regional digital foreign trade positions. Functional positioning of the course group includes three aspects: Industrial Dimension Matches Talent Demand from Three Major Areas (i.e., cross-border e-commerce, cross-border payment and logistics, and service trade and technological cooperation), Competency Dimension Combines Digital Literacy, Composite Knowledge, Practical Skills into Course Objectives, Regional Dimension Embedding Contextualized Knowledge Such As Russian Market Characteristics, Russian Language Business Communication, Cross-Border Compliance With Russia[1].

Functional positioning requires the coupling mechanism between the course group and the cultivation objectives. Coupling does not only perform as a simple linear mapping but systematically implement cultivation objectives via knowledge integration within the course group: Objective coupling prevents course content deviation from specifications required by applied International Trade talent; Knowledge coupling eliminates the knowledge fragmentation due to separation design of traditional courses; Contextual coupling synchronizes course cases and practical training projects with real business scenarios of digital trade with Russia. Synergy of all three makes the course group a structured carrier for implementation of cultivation objectives.

1.2 Deconstruction of the Competency Map and Knowledge Modules for Digital Trade with Russia

The competency map plays a key role for the course group moving from functional positioning towards course design. The competency map on digital trade with Russia takes the core tasks of job clusters as analytical units, breaks down the skill elements based on those tasks, and then organizes them into competency domains forming a matrix structure of "core competencies + job skills". Cross-border digital trade operations competency domain covers elements such as cross-border e-commerce platform operations, digital store management, overseas social media marketing, and smart logistics customs clearance; cross-border data analysis and decision-making competency domain including elements such as foreign trade big data collection and cleaning, user behavior analysis, product selection data modeling, and market trend assessment; cross-border digital compliance and risk control competency domain covering elements such as interpreting digital trade rules, compliance of cross-border data flows, identification of payment and settlement risks, and cross-border protection of intellectual property rights.

The deconstructed result of the competency map should be operable course knowledge modules in the form of "competency domain—knowledge cluster—course unit" Three levels. For example: Under the operations competency domain there are three knowledge clusters (cross-border e-commerce platform operations, digital marketing promotion, and cross-border supply chain management) subdivided into several course units, respectively undertaking knowledge imparting task and skill training. The curriculum system can build up a three-tier architecture of "traditional foreign trade foundation module + digital commerce core module + cross-border practical training module", break down course barriers through modular design. Knowledge modules need a dynamic adjustment mechanism, it is updated dynamically according to changes in platform rules, technological tools, and market structure; transform frontier industry operating models and job competency requirements into materials for course updates, ensuring that the competency map will always anchor to actual industry needs[2].

1.3 The Interdisciplinary Logic and Competency Progression Logic of Course Group Construction

The organizational structure of the course group must meet two logical requirements: the first one – interdisciplinary logic that addresses "what disciplinary knowledge constitutes the course group" is based on an interdisciplinary feature of digital trade with Russia itself. The use of data as a factor of production and digital delivery as a main form requires business knowledge of international trade, technical capabilities of data science and rule literacy of digital governance by practitioners. An interdisciplinary character of the course group means not just merging courses from different disciplines but integrating them at the level of knowledge modules (ternary interdisciplinary structure of "international trade + data science + regional studies") and integrate regional knowledge like Russia's digital economy institutional environment, China–Russia cross-border data governance rules or consumer behavior characteristics in Russian-speaking regions into the interdisciplinary knowledge modules.

The competency progression logic arranges the knowledge in the course group in sequence and

carries out the vertical stratification according to the phased characteristics of competency development: focusing on studying international trade theory and the foundation of foreign language communication at the lower grade; systematically studying core skills such as operating cross-border platforms and analyzing foreign trade data at the middle grade; undertaking comprehensive practical training by linking with real business projects at the upper grade. Because practical competencies for digital trade are hierarchically dependent (the higher level ones such as data analysis and making decisions need the theoretical foundation of trade and the ability to use digital tools). The synergistic effect between them indicates the structural optimization of the course group—the interdisciplinary logic provides diversity in knowledge sources which enables the course to cover all competency requirements of the job clusters in digital trade with Russia; and the competency progression logic ensures orderliness in knowledge organization which makes the learning sequence conforming to the inherent laws of competency development. By their unification in modular design, the course group transforms from a loose collection of courses into one with internal logical consistency.

2. Structured Design of the Course Group on Digital Trade with Russia for the International Trade Major in Applied Undergraduate Education

2.1 Underlying Architecture of the General Competency Course Module for Digital Trade with Russia

General competency course module cultivates the basic literacy of digital trade talent. Knowledge content does not target any particular national market but focuses on the general laws and technical tools of digital trade activities. Module content covers course units including: Introduction to Digital Trade, Fundamentals of Cross-Border E-Commerce, International Trade Practice, Fundamentals of Data Analysis, General Education in Digital Marketing, and Introduction to Digital Governance forming a dual foundation of a digital trade cognitive framework and technical operational capabilities. Architecture's design basis lies in the fact that job competencies in digital trade are transferable – knowledge like platform operation logic, data collection methods or digital payment process is universal within different national markets, and the previous general competency cultivation provides knowledge anchor for further direction-specific modules[3].

Underlying architecture is as follows: "theoretical cognition—tool operation—scenario simulation" Theoretical cognition layer: Students understand the basic categories and processes of digital trade by taking Introduction to Digital Trade and International Trade Practice; Tool operation layer: Students practice their technical application skills via Fundamentals of Data Analysis and General Education in Digital Marketing; Scenario Simulation layer: Students integrate and apply what they have learned at the above two layers within a simulated business environment by taking the Comprehensive Practical Training in Cross-Border E-Commerce course. Each layer matches with each other's knowledge interface so that students will have complete foundational literacy in digital trade before specializing into competency modules. Course units for the general competency module follow a standard development path which unify teaching syllabi, case libraries, and assessment standards to guarantee quality consistency of the course group among multiple teaching classes.

2.2 Directional Embedding of the Specialized Competency Course Module for Russia-Oriented Economic and Trade

Specialized competency course module for Russia-oriented economic and trade embeds regional direction based on general competencies transforming specific knowledge about digital trade with Russia into course content. It includes such course units as: Overview of Russia's Digital Economy, China–Russia Cross-Border Trade Practice, Operations of Cross-Border E-Commerce Platforms with Russia, China–Russia Cross-Border Logistics and Payment, Compliance in Digital Trade with Russia. Directional sources are regional specialized knowledge (platform ecosystem and consumer behavior characteristics of the Russian digital market), currency structure and channel mechanisms of China–Russia cross-border settlement, applicable boundaries of Eurasian Economic Union digital trade rules. Such content is not deducible by general digital trade courses – it should be systematically taught via a separate module.

The directional embedding is reflected by these three phases: "market cognition—business operation—rule adaptation", where in the first stage (market cognition), students have their basic

judgment ability on the target market via the courses Overview of Russia's Digital Economy and China–Russia Cross-Border Trade Practice; in the second stage (business operation) they get practical skills under a certain market environment via the courses Operations of Cross-Border E-Commerce Platforms with Russia and China–Russia Cross-Border Logistics and Payment; in the third stage (rule adaptation) they develop their capability to understand and react to regional trade rules and data governance requirements via the course Compliance in Digital Trade with Russia. There is a clear definition of course prerequisites between the specialized competency module and the general competency module; Fundamentals of Data Analysis and General Education in Digital Marketing in the general module are prerequisite courses for the specialized module whereas the platform operations course in the specialized module supports business scenarios for the next Russian-language digital business module.

2.3 Integrated Configuration of the Russian-Language Digital Business Competency Course Module

Integration role of Russian-language digital business competency course module between language competence and business competence (different design as one-way language training mode of traditional business Russian courses) - Course units such as Russian-Language Digital Business Communication, Practical Russian-Language Cross-Border E-Commerce Customer Service, Russian-Language Digital Marketing Copywriting, Writing Russian-Language Business Data Analysis Reports, embedded Russian-language application into specific business links of digital trade are included. Essence of integrated configuration – when Russian is not just separate foreign language course but it's also operating language of digital business activities, applied functionally in cases like: platform operations, customer communication, marketing promotion, data analysis etc.

The realization of integration implies synchronization of the progress design of language competence and business competence. A set of course units has been designed according to two dimensions including language complexity and business complexity: Low order units cover tasks that have relatively simple language structures (e.g., standardized customer service scripts or product information translation); High order units cover tasks which are complex both from the point of view of language and business (e.g., business negotiations, dispute communication, etc.), and also need writing data analysis reports. There exists a content correspondence relationship between this module and the specialized competency module: Store Management Tasks in the course Operations of Cross-Border E-Commerce Platforms with Russia corresponds to Russian-language Product Information Editing and Customer Service Communication Training in the Russian-language module, Promotion tasks in the Digital Marketing with Russia course corresponds to Russian-language marketing copywriting training. Matching the knowledge interfaces, these three modules make up the whole structure of the course group – the general competency module provide knowledge foundation for digital trade, the specialized competency module embeds direction-specific knowledge about the Russian market, finally the Russian-language module complete the integrated use of language tools and business scenarios. It forms a modular system during operation of the course group, sharing common foundations at the bottom layer, differentiating at the middle layer, integrating at the upper layer[4].

3. Construction Paths for the Course Group on Digital Trade with Russia for the International Trade Major in Applied Undergraduate Education

3.1 Matrix-Based Alignment Between Course Objectives for Digital Trade with Russia and the Indicator Points of Graduation Requirements

Alignment of course objectives with the indicator points of graduation requirements is a precondition for legitimation of the course group by institutions. Matrix-based alignment consists of rows - the indicator points of graduation requirements and columns – the course units belonging to the course group, where the mark at their intersection indicates the strength and support mode of how each course supports an indicator point. There are three kinds of support strengths (strong support, moderate support, auxiliary support) and three kinds of support modes (knowledge imparting, skill training, comprehensive application). A matrix design for the course group on digital trade with Russia shall include all the indicator points in the graduation requirements involving international trade practice competency, data analysis competency, cross-cultural communication competency, and digital tool application competency so that each indicator point has its corresponding course carrier.

Technical key for matrix-based alignment: Measurable decomposition of indicator points. Indicator

points of graduation requirements usually take form of competency description that need to be decomposed into measurable statements of learning outcomes according to which specific contents and assessment methods of course objectives will be decided upon. Statements of course objectives are in the format of action verb + knowledge content + contextual condition such that the attainment level of course objectives could be measured directly from assessment data. Operation and maintenance of the matrix shall have a regular review system to update the support relationship in the matrix at the same time as there is revision of the cultivation program, adjustment of course content, or change of industry competency demands to ensure no drifting of the correspondence between course objectives and the indicator points of graduation requirements.

3.2 Collaborative Configuration of Cross-Disciplinary Teaching Resources and Faculty Teams

Considering that this course group is an interdisciplinary one, it requires us to breach the boundary of a major in teaching resources. The collaboration includes three aspects as follows: First, the cross-discipline application of course resources refers to integrating the course units of data science, foreign languages, law, etc., majors into the course group system so as to achieve cross-departmental provision of teaching content by credit recognition and course sharing; Secondly, the cross-disciplines sharing of laboratory resources refer to including cross-border e-commerce practical training platforms, data analysis laboratories, language training centers into shared teaching facilities for the course group according to uniform schedule based on course progress to prevent duplicate construction of resources and idleness. Third, cross-disciplines development of case resources refers to joint development of comprehensive teaching cases focused on real business scenarios of digital trade with Russia by teachers from three directions (international trade, data science, and Russian)[5].

The organization form of faculty team consists of two types: dual-teacher collaboration and cross-disciplinary teaching and research groups. The former refers to the joint staffing of business major teachers and Russian major teachers for the Russian-language digital business module to teach courses (business teachers explain business logic; Russian teachers do language application training) forming a teaching division of labor within one course. The latter refers to organizing cross-disciplinary teaching and research groups based on the course group including international trade, data science, Russian, and cross-border e-commerce enterprises doing such things as reviewing course syllabi, preparing teaching cases, formulating assessment standards etc., to guarantee knowledge articulation and standard consistency with the course group through regular teaching and research activities. The teacher development mechanism helps to configure the faculty: arranging teachers from the International Trade major to take part in practical training on operation of cross-border e-commerce platforms and advanced study in applying data analysis tools, and arranging Russian teachers to take part in digital trade business training, thus matching the teachers' teaching capability to the requirement of modules in the course group.

3.3 Normalized Mechanisms for Content Iteration and Quality Monitoring of the Course Group

In face of ever-changing platform rules, technological tools and market structure in digital trade, we should move away from occasional adjustments toward normal operations when updating course group content. Sources of the iteration mechanism include 4 channels: industry survey data, enterprise feedback, graduate follow-up surveys, and monitoring of platform rule changes. Industry surveys are carried out once a year to obtain information about the changes in demand for skills in job clusters in digital trade with Russia; Enterprise feedback is obtained via internships bases or university-enterprise cooperation projects reflecting the degree of matching between course content and actual business; Graduate follow-up surveys acquire evaluation of the practical usefulness of course knowledge in career development; Monitoring of platform rule changes monitor the updates of the operating rules and tools of mainstream cross-border e-commerce platforms which provides basis for immediate adjustment of course content. Aggregated information will be classified and processed based on the hierarchy of knowledge modules: adjustments at the course unit level can be immediately implemented by the teaching and research office but those at the knowledge cluster and competency domain levels need to go through the review of Course Group Construction Committee before they could be incorporated into the revision of the cultivation program.

Evaluation of course objective attainment is used by Quality monitoring which constructs a closed loop operating system of "evaluation – feedback – improvement", Data collection from course assessment, practical training project rating, calculate the attainment of graduation requirement indicator points and survey of employer satisfaction. Separate attainment evaluations at levels: course

unit level, course module level, course group level. Evaluate the extent of achievement of individual course objectives at course unit level; evaluate the effectiveness of knowledge articulation across courses in this module at course module level; evaluate the overall support level for the indicator points of graduation requirements at course group level. According to the evaluation result, we construct an annual quality report, it becomes the basis for adjustment of course content, improvement of teaching methods and optimization of faculty configuration. Establish a data interface between the monitoring mechanism and the iteration mechanism, expose weak indicator points through attainment evaluation will be directly fed into the iteration process, form a linkage relationship so that quality monitoring drives content update such that the course group dynamically aligns itself with industry needs and educational objectives while being continuously operated.

Conclusion

According to its function position, competency map, logical organization; considering three modules (general competencies, specialized competencies, Russian language digital business) as structural carriers; considering matrix alignment, resource collaboration, and iterative monitoring as operational safeguards—course group on digital trade with Russia is an overall framework in which logic, design, and paths are interconnected so as to achieve structured alignment between the talent cultivation specifications of the International Trade major and the competency requirements of digital foreign trade job clusters. Future optimization: establish a dynamic mapping mechanism between industry needs and course content, deepen the university–enterprise collaborative development, explore a long-term operating model for interdisciplinary teaching teams, improve diversified evaluation methods, expand inter-university course sharing and credit recognition, transform the course group from static scheme design to a dynamic educational system maintaining effective adaptation to the development of digital trade and regional economic and trade needs through continuous iteration.

Fund Projects

Research on the Construction of a Course Group on Digital Trade with Russia for the International Trade Major in the Context of "Opening to the North," 2026 Annual Planning Project (Annual Youth Project) of the "15th Five-Year Plan" for Education Science in Heilongjiang Province, GJD1526021

Research on the Construction of a "Digital Trade" Course Group and Innovation in Teaching Models for the International Economics and Trade Major in the Context of New Liberal Arts, 2026 "Four New" Special University-Level Teaching Reform Project of Harbin Cambridge University, JQSX2026003

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