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Vol.2, No.8, 2025

- 1** A Task-Based Needs Analysis: Mobile App User Interface Design For An English-Chinese Bilingual Course

Zhou Shen

- 16** Research on the Path to Ideological and Political Breakthroughs in Classroom Management and Education in Art Major Courses

Xinlei Cao Yubo Chen Wenqi Shi Chuanyu Zhou and Zhixin Zhang

- 23** Innovating Teaching Practice: A Study on Micro-Courses for the History of Physics under the “Internet+” Framework

Han Zang and Shuping Bai



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A Task-Based Needs Analysis: Mobile App User Interface Design For An English-Chinese Bilingual Course

Zhou Shen^a

^a School of Education, University of Michigan--Ann Arbor, USA

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Abstract

Purpose – The purpose of this paper is to conduct a task-based needs analysis for a Chinese–English bilingual elective course in mobile app UI design at Shanghai Shanda University. The study aims to identify the target UI design tasks required for entry-level practice and to anticipate the linguistic challenges learners may face when performing these tasks bilingually, drawing on task-based language teaching and needs analysis frameworks.

Design/Methodology/Approach – Based on a mixed-methods triangulation design, the study synthesises data from multiple sources, including insiders. Data were collected through an uninstructed interview, semi-structured interviews, and an online questionnaire administered via Qualtrics to prospective students.

Findings – The findings identified six priority target tasks for an introductory bilingual UI design course. While students showed the strongest interest in visually salient tasks, domain experts emphasised foundational process tasks as essential prerequisites for integrated interface design. Linguistically, results indicated generally low English proficiency and limited comfort with English production; learners reported relatively greater ease with English input-oriented activities than with speaking, listening to instruction in English, or presenting work in English.

Research Implications – For bilingual content course design, the study highlights the need to balance learner-perceived interests with target-situation demands through staged task sequencing and scaffolded language support. Pedagogically, it suggests prioritising domain-specific vocabulary and reading comprehension at the initial stage, while gradually increasing opportunities for structured English speaking and writing as learners' confidence and proficiency develop. More broadly, the study demonstrates the value of triangulating insider and outsider perspectives to enhance the validity of task-based needs analysis and to inform syllabus and materials development.

Keywords: task-based needs analysis; task-based language teaching (TBLT); bilingual education

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^a First Author, E-mail: sophiemmsz@gmail.com

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I. Introduction

Mobile app user interface (UI) design has become a rapidly expanding field in China over the past decade. By streamlining user interaction and enhancing usability, UI design has been adopted across sectors such as business, finance, healthcare, communication, and education. Alongside this growth, employers increasingly seek UI designers who can work bilingually in Chinese and English, particularly in major cities such as Beijing, Shanghai, Guangzhou, and Shenzhen, where English is frequently used in cross-border collaboration. Strong bilingual competence enables designers and firms to communicate with international clients, use English-language design tools and documentation, and distribute products to global markets. In response to this demand, the Department of Media and Communication at Shanghai Shanda University launched a task-based Chinese–English bilingual elective course in mobile app UI design in Spring 2016. This study conducts a task-based needs analysis to (a) identify key target tasks for entry-level UI design practice and (b) anticipate potential linguistic challenges when learners perform these tasks in Chinese and English. Findings are expected to inform subsequent syllabus design and materials development.

II. Review of Literature

Task-based syllabus has been widely adopted in English for Specific Purposes (ESP) courses, on the grounds that teaching content knowledge coincides with the fundamental idea of using real-world tasks in task-based curriculum (Huh, 2006). Needs analysis (NA), the first step in developing a task-based program (Long & Norris, 2000), is of fundamental importance, because a one-size-fits-all approach can no longer meet the diverse individual and societal needs (Long, 2005). A solid task-based curriculum, therefore, should build upon a reliable and valid needs analysis in identifying real-world activities and increasing learners' interest and engagement in performing the tasks (Robinson, 2001; Qian Liu, Yuanji Zhang, Xiaoqing Sun., 2025).

It is important to note that a reliable task-based needs analysis is learner or group specific, fluid and embedded in local context (e.g. Bartlett, 2005; Kellerman et al, 2005; Lett, 2005; Liu, Q., Xiang, R., Yang, Q., & Haq, S. ul. , 2025). stated that the diverse needs of individuals need to be aggregated into a workable number of needs profiles so that the world language education can remain affordable and practicable. 'Needs' therefore subdivides into objective needs and subjective needs, in which "objective needs can be deduced by parties other than the learners themselves" (p. 146) and subjective needs refer to learners' personal statement of language use. Van Avermaet and Gysen also mentioned that curriculum design should strike a balance between subjective and objective needs. On the one hand, needs analysis should not be solely pitched upon learners' subjective needs, because their linguistic needs are often based on their past experience, which may not provide a complete and clear picture of their real linguistic demand. On the other hand, needs analysis should not be solely based on the objective needs, because learners will become demotivated from performing tasks that are irrelevant to their personal needs and interests.

Therefore, a task-based needs analysis differs from the traditional needs analysis that only focuses on specific linguistic components. A task-based needs analysis treats tasks as the analytic units, and the analysis is set out to consider both individual needs and societal needs. Long (2005) convincingly argued that a reliable and valid needs analysis should include multiple sources and different methods. In particular, Long emphasized the need to triangulate different sources and methods, which include acquiring information from both insiders and outsiders through a mix-methods approach. In the overview of NA methodology from 2000 to 2014, Serafini et al. (2015) suggested that while more recent studies have tried to incorporate mix-methods design, the source of needs analysis remains incomprehensive. Only a few studies have incorporated triangulation methods and evaluated the validity of using multiple sources and methods (e.g. Spence & Liu, 2013; Mancho-Barés and Llorca, 2013; Lambert, 2010; Evans, 2010, 2013). In addition, both insiders' and outsiders' perspectives should be included (Long, 2005; Serafini et al. 2015) in order to better inform the analysis. Insiders include but are not limited to domain experts and in-service learners. Outsiders, on the other hand, include linguists, teachers, administrators, and so forth. However, few studies have compared and contrasted the insights and information from both sources.

In Spence and Liu (2013) study, needs analysis was conducted in response to the lack of English skills needed by engineers in Taiwan region's high-tech sector. Online questionnaires and semi-structured interviews were administered to assess the proficiency of integration engineers. Participants were asked several questions related to the use of English at workplace, such as the frequency of using the four English skills (reading, writing, speaking and listening) in performing specific tasks. Moreover, customer interviews and teleconference observations were conducted in order to achieve the triangulation of sources and methods in the analysis. Results indicated that email was the most frequently used mode of communication with foreign customers. In addition, it was recommended to use authentic work-related materials, imitate the workplace environment, improve public speaking skills, and provide genre and style based instructions in writing. However, Spence and Liu's study failed to obtain domain experts' insights, which are the group of people who are capable of supplying high quality information on high-tech English discourse. In addition, the interviews and questionnaires were delivered in English throughout the study. Since none of the informants had English as their native language, this condition imposed potential barrier for the participants to express thoughts and follow instructions.

Mancho-Barés and Llorca (2013) conducted a study that consulted with three sources in order to provide an effective business English course, namely, institutional foreign language policy, business English students, and local business representatives from different sectors. These sources were triangulated using both qualitative and quantitative methods. Results indicated that more attention should be allocated to speaking and specific vocabulary training. Additionally, study abroad was found to be linguistically and mentally beneficial and was therefore recommended in the study. They also suggested that more rich business routine tasks modeled by non-native speaker should be implemented. However, despite Mancho-Barés and Llorca's inclusion of the domain experts' perspectives, they failed to consider outsider's perspectives, which may bias the results. Though outsiders, such as teachers and applied linguists, were not able to offer domain-specific opinions, they served as

an important source in instrument and NA procedure development. The same problem resided in Evans (2013) needs analysis on business English course. Although he had investigated the perspectives from domain experts (business professionals) and potential learners (accountant and banker) through case study, interview and questionnaire, the study lacked outsiders' input.

Finally, while a substantial number of recent second language task-based NA studies have been conducted on language course in academic sector (e.g. Mancho-Barés and Llurda, 2013; Lambert, 2010; Hill & Tschudi, 2011; Chaudron et al., 2005), language for specific content course (e.g. Xhaferi and Xhaferi, 2011; Kassim and Ali, 2010; Chostelidou, 2010; Kaewpet, 2009; Hoekje, 2007; Huh, 2006; Pritchard & Nasr, 2004; Sullivan & Girginer, 2002; Bosher & Smalkoski, 2002), and language training in industrial sectors (e.g. Serafini et al., 2015; Spence & Liu, 2013; Evans, 2011, 2013; Lockwood, 2012; Wozniak, 2010; Sesek, 2007; Cowling, 2007; Gilabert, 2005; Chew, 2005; Li So-mui and Mead, 2000; Frank, 2000; Edwards, 2000), few needs analysis studies have been conducted on bilingual content courses. Therefore, the current study intends to build the gap and contribute to the existing NA literature by exploring learners' needs in a Chinese-English bilingual setting by triangulating multiple sources and multiple methods with both insiders' and outsiders' insights. Interviews and questionnaires were administered in a bilingual format to increase the validity of sources. Data pertaining to each source collected through quantitative or qualitative methods will be compared and contrasted within and across groups in order to generate a reliable finalized result. This study also attempts to shed light on future task-based syllabus and curriculum design on the basis of a list of identified target tasks and potential linguistic challenges detected in the study.

III. Research Questions

The current study intends to identify target tasks for the mobile App UI design bilingual course and anticipate the potential language challenges by addressing the following research questions:

- 1.What are the target tasks that will enable the students to perform mobile App UI design in the industrial sectors?
- 2.What are the potential linguistic challenges when students perform the target tasks within and outside of the classroom settings?

IV. Context and the UI Bilingual Course

In the spring semester of 2016, the Department of Media and Communication at Shanghai Shanda University will start to offer a task-based Chinese-English bilingual elective course in mobile App UI design for the purpose of preparing students for jobs in bilingual UI design. The class will meet twice a week for two hours each time. The class will be held in a computer lab for nine weeks. The majority of the students are

undergraduate students majoring in Visual Art and Design or in Journalism with a traditional track or Internet and new media track. The average size of the class is expected to be 60 students. The UI bilingual course is offered for the first time at this school, therefore a wide range of challenges is expected even before the course starts. For example, considering the majority of students enrolled in this course are non-UI major students, the course is set to be an introductory level course. In addition, the overall English proficiency of the students at Shanda is estimated to be quite low. Needs analysis, therefore, will help to identify and predict the potential challenges underlying the bilingual curriculum implementation.

V. Methodology

Table 1 illustrates the methods used in the study. Inspired by Long's (2005) and Serafini et al.'s (2015) notion of a valid and reliable NA, the current study triangulated multiple sources (both insiders and outsiders) and methods (qualitative and quantitative). Moving from an inductive to a more deductive approach, this study started with conducting uninstructed and semi-structured interviews with the course instructor, bilingual teachers, pre-service students, and domain experts. Preliminary results were compared within interview groups, and were further utilized in the close-ended questionnaires intended for the potential students. Results from the interview and the questionnaire were compared to generate the final results. The following sections discuss the details of each facet.

Table 1. Needs Analysis: Sources, Methods, and Triangulation

| Category | | Content |
|---------------|-----------------|--|
| Sources | Insider | UI design experts in academia and industrial sectors; pre-service and potential students |
| | Outsider | The course instructor; experienced bilingual course teachers; applied linguists |
| | Others | Books, bilingual program documents, UI design discourse samples from online resources |
| Methods | Qualitative | Uninstructed interviews; semi-structured interviews; |
| | Quantitative | Online questionnaires |
| Triangulation | | Uninstructed interview * course instructor |
| | Source x Method | Semi-structured interviews * course instructor, experienced bilingual teachers; pre-service students; domain experts |
| | | Questionnaires * potential students |

VI. Uninstructed and Semi-structured Interview Procedures and Results

The data collection was preceded by uninstructed and semi-structured interviews. The interview data was collected through email, online Skype, Wechat voice chat, and a face-to-face interview at the faculty office at Shanghai Shanda University. Interviewees included the UI bilingual course instructor, two experienced bilingual course teachers, a group of applied linguists who had taken the task-based language teaching course at Georgetown University, one UI design expert working in the academia, three experts working in the industrial sectors, and five pre-service learners in UI design courses.

The principle investigator first contacted the course instructor and arranged a one-hour online in-depth uninstructed interview in Chinese. The purpose of this uninstructed interview was to familiarize the interviewee with the context, explore the potential challenges and identify problems. The probing questions were designed to be as open as possible, on the grounds that non-directive interviews are in general less constrained by pre-determined questions and response options, and therefore would allow more detailed, valid opinions and valuable insights to emerge (Lincoln & Guba, 1985; Chaudron et al., 2005; Kellerman et al., 2005; Long, 2005).

The uninstructed interview was followed by several semi-structured interviews with both insiders (domain experts and pre-service learners) and outsiders (course instructor and bilingual teachers). The principle investigator and a group of applied linguists brainstormed a series of pre-formulated questions based on the uninstructed-interview with the course instructor. Questions relevant to the UI design content were revised according to the course instructor's feedback before conducting the semi-structured interviews.

Five pre-service learners (2 females and 3 males) aged between 24 and 27 years ($M = 25.2$; $SD = 1.304$) volunteered to participate in the current study. They are current or past graduate students at the University of Michigan, majoring in Information Science. All five pre-service learners are native speakers of Chinese, who have taken at least two UI design courses in their second language English. Their coursework in UI design ranged from introductory level to advanced level. The semi-structured interview was conducted through email. Appendix A shows the semi-structured interview questions with pre-service learners. Questions covered a list of skills that attracted the learners' interest, skills they wanted to learn, challenges in carrying out certain tasks, and their language barriers in performing potential target tasks. These pre-formulated questions were delivered in English and were emailed to all five learners. Return rate was 100%, though some questions were left unfinished.

Although pre-service learners can provide valuable suggestions from the learners' perspective, they are also likely to provide biased information due to a lack of expert knowledge (Beatty & Chan, 1984). More often than not, their responses are inadequate in describing their language needs (Long, 2005). Accordingly, domain experts from the academic and industrial sector were included to inform the current study in order to obtain well-informed and objective insiders' knowledge. It is suggested that domain experts are able to provide insiders' knowledge (Tarone, 1981), and are reliable sources for identifying the target tasks (Gilabert, 2005). Serafini et al. (2015) also noted that insider knowledge from the domain experts is the barest minimum

condition for validity. The domain expert from academia in the current study is a Chinese professor in the School of Information at Shanghai Shanda University who has been teaching UI design course for more than 10 years. Semi-structured interview was conducted face-to-face in Chinese by a trained research assistant. Audio sound was recorded under the consent of the informant. The semi-structured interview intended to discuss potential challenges of teaching UI design courses at Shanda University and seek for feedback and suggestions, based on a preliminary list of target tasks that emerged from the uninstructed interview. Another group of domain experts were from the industrial sectors, including three alumni from the School of Information of the University of Michigan. They have all worked at UI design companies in the U.S. Semi-structured interview questions included the language use at their workplaces, useful skills and tasks, and potential challenges of implementing these tasks. Data was collected through Wechat (a messaging and calling app) voice chat and emails. All the domain experts from the academic and industrial sector were given a list of preliminary target tasks and were asked to rank the importance and usefulness of the tasks in order.

With regard to the semi-structured interview with outsiders, it was conducted with the course instructor and two instructors who teach bilingual course at Shanghai Shanda University. Data was collected through Wechat voice chat and Skype. The purpose of the interviews was to discuss linguistic challenges they had encountered in the past. Since the App mobile UI design course will be offered for the first time at this school, no bilingual instructor with previous experience is available. Therefore, two instructors who have taught bilingual course at the Department of Media and Communication were selected in order to inform the current study. Questions included challenges and suggestions of teaching a bilingual course, the proportion of use of English and Chinese in reading, listening, speaking and writing. In addition, the professor and a group of graduate students in applied linguistics from TBLT course served as outsider sources for providing feedback and comments on the installment.

Table 2 shows a list of preliminary target tasks from the interviews with insiders and outsiders. A total of eight potential target tasks in App UI design were selected as of paramount importance in an introductory level course. Tasks were sequenced in the natural content progression order. Four tasks were indicated as interesting and crucial skill to learn by pre-service learners. Most learners expressed their interest in designing dynamic icons and animated effects. Comparing to pre-service learners' intuition, domain experts suggested five tasks: draft preliminary ideas, draw wireframes and prototypes, design dynamic icons and animatic effects, design a range of app icons, and design an integrated UI interface. The first four skills are listed as fundamental stepping-stones for designing an integrated App. Designing a personalized logo, which was not perceived as a prerequisite skill for UI design by the domain experts, was regarded as an interesting and useful skills to pick up by pre-service learners.

Table 2. Results from Uninstructed and Semi-Structured Interview

| Potential Target Tasks | Pre-service learners | Domain Experts |
|--|----------------------|----------------|
| Draft preliminary ideas about the functions of the mobile app | √ | √ |
| Draw wireframes and prototypes: familiarize with the design procedure for the first draft of the app interface | | √ |
| Design a personalized logo | √ | |
| Design dynamic icons and animatic effects | √ | √ |
| Create infographics for data presentation | | |
| Design banners and pop-up notifications | | |
| Design a range of app icons | | √ |
| Design the app interface and integrate all other elements | √ | √ |

Note: task with the check mark indicated important as perceived by respective sources

The semi-structured interviews unveiled some unexpected challenges for implementing the bilingual course. First, the students' involvement and commitment in previous elective bilingual courses was low. Specifically, some students missed classes occasionally, or they were reluctant to participant in discussions, and some students were even doing homework from other courses. Another challenge was that the length of the semester might be too short to cover all the skills required for an integrative task. The course therefore should strive to balance between the depth and breadth of the content. It was suggested that more energy and attention should be devoted to drawing wireframes and prototypes, because enhancing the basic skills for the following sections is critical. With respect to the linguistic challenges, the bilingual instructors stated that the overall English proficiency of the students was between the beginner and intermediate level. One of the bilingual course instructors explained that students felt more comfortable in reading English materials than speaking. She said "I used English in my slides, and my students can understand it, though sometimes they need to look up some words. However, when it comes to speaking, it was really difficult for them. Uhh. I think they are probably also too shy to speak up in front of almost 60 students." She also indicated that using domain-specific English with these students will probably add more challenges.

VII. Questionnaire Procedures and Results

An online questionnaire was created to investigate the interests and challenges of prospective students in

carrying out the target tasks. Preliminary findings from the interviews were incorporated into the questionnaire. Pilot questionnaire included basic information, a list of preliminary target tasks, self-reported Chinese and English proficiency in reading, writing, listening and speaking, frequency of performing related academic activities in both languages, and potential linguistic challenges when performing the target tasks.

The questionnaires were first administered to 5 volunteers, including three experienced applied linguists, one domain expert, and one native speaker of English. The purpose of piloting the questionnaire was to obtain feedback and comments on the design and content. Modifications were made accordingly based on feedback. The finalized version was delivered in Chinese and English through Qualtrics to 120 students from the Department of Media and Communication at Shanda University. A total of 73 questionnaires were returned. Students who indicated no interest in taking the course in 2016 were excluded from the analysis, and the final pool was reduced to 48 students (female = 35; male = 13) aged between 18 and 26 years ($M = 20$; $SD = 1.142$). They were all Chinese native speakers.

Table 3 shows the percentage of students' interest in the potential target tasks. Students were asked in the questionnaire to "indicate the degree to which you think the following tasks are interesting and useful to you." Results indicated that most students were interested in designing a personalized logo, which was in line with previous findings from the semi-structured interviews with pre-service students. Designing dynamic icons and animated effect, app icons, integrative interface were ranked as secondary important and interesting to the prospective learners. Students showed slightly less interest in drafting preliminary ideas about mobile App function and drawing wireframes and prototypes, which were regarded as of primary importance by the domain experts. Students expressed the least interest in creating info-graphics for data presentation and design banners and pop-up notifications, which were considered as important but not requisite by domain experts and pre-service learners.

Table 3. Rankings of Potential Students' Interest in the Target Task (n = 48)

| Preliminary Target Tasks | Not at all | Not very | So-so | Somewhat | Very much | M | SD |
|--|------------|----------|--------|----------|-----------|-------|--------|
| Draft preliminary ideas about the functions of the mobile app | 0.00% | 0.00% | 8.30% | 54.20% | 35.40% | 4.277 | 0.6151 |
| Draw wireframes and prototypes: familiarize with the design procedure for the first draft of the app interface | 0.00% | 0.00% | 6.30% | 56.30% | 37.50% | 4.313 | 0.5891 |
| Design a personalized logo | 0.00% | 2.10% | 4.20% | 25% | 68% | 4.604 | 0.676 |
| Design dynamic icons and animatic effects | 2.10% | 2.10% | 12.50% | 39.60% | 43.80% | 4.208 | 0.898 |
| Create infographics for data presentation | 0.00% | 2.10% | 22.90% | 35.40% | 39.60% | 4.125 | 0.841 |
| Design banners and pop-up notifications | 6.30% | 8.30% | 33.30% | 25.00% | 27.10% | 3.583 | 1.164 |

| | | | | | | | |
|---|-------|-------|--------|--------|--------|-------|-------|
| Design a series of app icons, such as wechat icon | 0.00% | 2.10% | 16.70% | 37.50% | 43.80% | 4.229 | 0.805 |
| Design the app interface and integrate all other elements | 0.00% | 2.10% | 8.30% | 45.80% | 43.80% | 4.313 | 0.719 |

The results of the self-reported language proficiency indicated that the majority of the students' overall English proficiency was below the intermediate level ($n = 37$, or 77.1%). More learners reported that their English proficiency in reading ($n = 17$, or 35.5%) was above intermediate level than in speaking ($n = 15$, or 30.4%), writing ($n = 12$, or 25%) and listening ($n = 14$, or 29.2%) proficiencies. In addition, learners were asked to indicate the frequency of a series of academic activities in both languages, such as reading books or academic materials in English or Chinese, or present work in English or Chinese. Results indicated that most students never or rarely read in English ($n = 39$, or 81.3%), discussed questions in English with peers and professors ($n = 39$, or 81.2%), or presented work in English ($n = 37$, or 77.1%). With regard to specific challenges in performing the task in English (see Table 4 below), results suggested that students were more comfortable in reading academic materials and using UI design software in English than performing activities that involved English language production. Consistent with previous findings, students were not willing to speak English in class. In addition, the students may have difficulties in understanding the instructor if the teachers delivered the lessons in English.

Table 4. Rankings for Comfortable Level of Performing Tasks in English ($n = 48$)

| Tasks | Not at all | Not very | So-so | Somewhat | Very much | M | SD |
|--|------------|----------|--------|----------|-----------|-------|--------|
| Instructor teaches in English | 20.80% | 41.70% | 33.30% | 4.20% | 0.00% | 2.208 | 0.824 |
| Read slides and materials in English | 27.10% | 37.50% | 22.90% | 10.40% | 0.00% | 2.17 | 0.9628 |
| Discuss with peers in group in English | 20.80% | 47.90% | 20.80% | 8.30% | 0.00% | 2.17 | 0.8678 |
| Present my work in English | 20.80% | 50% | 20.80% | 4.20% | 2.10% | 2.149 | 0.884 |
| Answer questions in English | 18.80% | 52.10% | 16.70% | 8.30% | 0.00% | 2.152 | 0.842 |
| Use UI design software in English | 18.80% | 41.70% | 20.80% | 14.60% | 0.00% | 2.326 | 0.9673 |

VIII. Discussion

The current study sets out to identify target tasks and explores linguistic challenges in performing these tasks. With regard to the first research question, namely, “what are the target tasks that will enable the students to perform mobile App UI design in industrial sectors,” several target tasks emerged from the analysis as a result of triangulation. Both pre-service learners and potential learners acknowledged that designing a personalized logo, dynamic icons and an integrative interface were both important and useful. However, as noted before, learners’ needs were subjective and were usually subject to previous experiences. Therefore, the analysis was complemented with domain experts’ and outsiders’ perspectives. Results indicated a broader scope of target tasks. Specifically, domain experts suggested devoting more attention to drafting preliminary ideas and drawing wireframes and prototypes. Taken together, a total of six target tasks emerged from the analysis, as jointly proposed by a triangulation of different sources and methods.

With respect to the second question, “what are the potential language challenges when students perform the target tasks in and outside of the classroom settings,” the current study revealed some unexpected challenges. The results from the potential learners’ questionnaires showed that the learners’ English proficiency was not only quite low, but they were also not comfortable using English, as the majority of students had rarely conducted academic activities in English, such as discussing ideas and presenting work in English. Therefore, the use of English in bilingual courses may upset the learners by forcing them into an uncomfortable learning environment. This finding is in line with findings in Spence and Liu (2013) about Taiwan region engineers’ lack of public speaking skills. They proposed to use authentic world-related materials to overcome speaking anxiety and boost confidence. Additionally, the triangulated data revealed that although the students were uncomfortable in performing the target tasks that pertain to speaking, writing, and listening, they tend to be more comfortable in reading academic materials and using UI design software in English. Therefore training in domain-specific vocabulary in English is recommended in order to prepare the learners in understanding content materials and following instructions while using UI design software. This suggestion aligns with Mancho-Barés and Llorca’s (2013) suggestions on the design of a business English course. Taken together, greater attention to reading and vocabulary training in English is needed at the initial stage, considering learners’ low language proficiency and individual demand. During this period, Chinese may be the dominant language in performing the tasks, especially those related to language production. As learners advance and become more familiar with domain-specific knowledge, more speaking, listening, and writing exercises should be integrated into the curriculum design, as the learners are expected to perform the target tasks bilingually at the end of the course.

IX. Conclusion and Limitations

This article identified six target tasks for a Chinese–English bilingual course in mobile app UI design through triangulation of three methods (an uninstructed interview, semi-structured interviews, and a questionnaire) and six sources, including both insiders and outsiders. The methodological design closely aligned with the needs

analysis (NA) validity criteria outlined by Serafini et al. (2015), which many previous NA studies have only partially met. Findings highlighted an urgent need to strengthen learners' domain-specific vocabulary and English reading comprehension before introducing more intensive training in English language production (e.g., speaking and writing). In addition, ongoing assessment was recommended for the bilingual course instructor in order to monitor students' development in both domain knowledge and bilingual performance. Continuous assessment would allow instruction to be adjusted responsively over time, for instance by gradually increasing the proportion and complexity of English use in speaking and writing activities as learners' confidence and competence grow.

Despite these contributions, the study had several limitations. First, convenience sampling was used, and stratified random sampling (Long, 2005) was not feasible due to limited access to a broader participant pool. As a result, the findings may not be generalizable beyond the local context. Future studies should employ stratified random sampling where possible to improve representativeness and reliability. Second, discourse analysis was not conducted at this stage to examine prototypical language use in authentic UI design settings. This was largely because participants were not sufficiently proficient to perform fully integrated UI design tasks in English. Nevertheless, discourse analysis remains necessary for subsequent materials development. Future work could collect naturally occurring workplace discourse (e.g., design meetings, critiques, documentation, and client communication) and extract recurrent linguistic features and genre conventions to inform task design and instructional materials.

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Appendix A

Semi-Structured Interview Questions With Pre-Service Learners

1. For the UI design course you took in the past, what were you interested in learning about? What are the useful skills you have learned? You may answer in Chinese or English.

2. While you were taking the UI design course, what else you might have wanted to learn? What worked in your class and what was challenging?

- a. Generate ideas about the functions of an app
- b. Draw wireframes and prototypes for App
- c. Design a logo
- d. Create dynamic icons
- e. Create infographics
- f. Design a banner, such as advertisement and notice
- g. Design a series of app icons, such as wechat icon
- h. Design an App interface

3. Above is a list of App UI design tasks. If you were to carry out these tasks in **English**, which would you think are the more **challenging** ones and why? (list 2-3 items and reasons)

4. If you were to carry out these tasks in **English**, which ones would you think are the **easier** ones and why?

5. If you were to carry out these tasks in **Chinese**, which would you think are the more **challenging** ones and why?

6. If you were to carry out these tasks in **Chinese**, which ones would you think are the **easier** ones and why?

Research on the Path to Ideological and Political Breakthroughs in Classroom Management and Education in Art Major Courses

Xinlei Cao^a Yubo Chen^b Wenqi Shi^c Chuanyu Zhou^d and Zhixin Zhang^e

^{abcde}Apparel Design and Engineering, Shaanxi University of International Trade & Commerce, China

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Abstract

Purpose – The purpose of this paper is to investigate the ideological and political pathway for classroom management in art majors, specifically focusing on the critical transition from a traditional "order control" model to a more progressive "value guidance" approach.

Design/Methodology/Approach – Based on the foundational 'management-education' double helix model, this research first diagnoses the current managerial landscape through methodical empirical investigation. It then systematically develops and validates a suite of practical tools, encompassing refined system design, purposeful situation creation, constructive conflict transformation, and a multidimensional evaluation loop.

Findings – This paper studies and confirms that the implemented classroom management path leads to substantial improvements. Key outcomes include a marked enhancement in students' proactive participation and intrinsic rule recognition, a measurable reduction in management conflicts.

Research Implications – In the management context, this study provides a structured theoretical framework alongside actionable practical tools, directly supporting classroom management reform for art majors.

Keywords: classroom management, curriculum ideological and political, art education, management education, double helix model

JEL Classifications: I23, A14

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^a Teaching Assistant, Apparel Design and Engineering, Shaanxi University of International Trade & Commerce, China, First Author, Corresponding Author, E-mail: caoxinlei@csiic.edu.cn

^b Associate Professor, Apparel Design and Engineering, Shaanxi University of International Trade & Commerce, China, Second Co-Author, E-mail: cheniyubo@csiic.edu.cn

^c Associate Professor, Apparel Design and Engineering, Shaanxi University of International Trade & Commerce, China, Third Co-Author, E-mail: shiwenqi@csiic.edu.cn

^d Associate Professor, Apparel Design and Engineering, Shaanxi University of International Trade & Commerce, China, Fourth Co-Author, E-mail: zhouchuanyu@csiic.edu.cn

^e Associate Professor, Apparel Design and Engineering, Shaanxi University of International Trade & Commerce, China, Fifth Co-Author, E-mail: zhangzhixin@csiic.edu.cn

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I. 引言

高校课堂作为人才培养的基本单元，其管理方式直接影响教学效果和育人质量。在艺术类专业教学中，传统课堂管理模式往往侧重于维持表面秩序和确保教学流程的顺利推进，这种以技术性和工具性为主要特征的管理方式，在一定程度上保证了教学活动的有序开展，却忽视了课堂管理本身所蕴含的育人价值（杨歆，刘汝卿，陈怡婷，胡洁，2025；谢天，郭斐，2025）。艺术类专业学生普遍思维活跃、崇尚自由、个性鲜明，对刻板的纪律约束容易产生抵触情绪，而单纯依靠制度约束的管理方式难以适应其专业学习特点和发展需求。

随着课程思政理念的深入推行，如何在专业教学中实现价值引领与知识传授的有机融合，成为高等教育改革的重要课题（姜嫄，2025）。课堂管理作为教学过程中的重要环节，不仅关系到教学秩序的维护，更承载着塑造学生价值观、培养专业伦理、促进人格发展的重要功能（林晓丹，2025）。艺术类专业的课程教学具有较强的实践性和创造性，学生在学习过程中表现出的行为特征、思维方式都与普通专业存在显著差异，这就要求课堂管理必须突破传统的规范模式，探索更加符合艺术教育规律、更能促进学生全面发展的新型管理范式（刘金刚，余心悦，2023）。

本研究立足于艺术类专业的教学实际，深入分析当前课堂管理面临的困境与挑战，尝试构建一种将秩序维护与价值引领相结合的新型管理模式，并通过教学实践验证其有效性，以期为同类专业的教学改革提供参考。

II. 理论框架的构建

1. 课堂管理的理论发展

课堂管理理论经历了从行为控制到关系建构的演变过程。早期行为主义理论将课堂管理视为一种外部控制手段，强调通过奖惩机制塑造学生的行为模式（郎瑞琼，张可之，2025）。这种管理方式虽然能够快速建立秩序，但忽视了学生的主体性和内在需求。随着人本主义教育思想的兴起，课堂管理的重点逐渐转向师生关系的构建，强调通过营造支持性环境促进学生的自我实现（凌华明，2025）。进入 21 世纪，建构主义和社会文化理论为课堂管理提供了新的视角，将课堂视为学习共同体，强调通过协商合作建立共享的规范和价值（徐建华，2016）。

在中国教育语境下，课堂管理既受到传统文化中尊师重道观念的影响，又面临着现代化教育理念的冲击。传统的课堂管理强调教师的权威和纪律的严格执行，而现代教育理念则倡导民主、平等、对话的师生关系。如何在继承优秀传统文化的同时吸收先进理念，构建具有中国特色的课堂管理模式，成为当前教育研究的重要课题（赵守山，2000）。

2. 课程思政与课堂管理的融合

课程思政要求所有课程都要发挥育人功能，将价值引领融入教学全过程（姜嫄，2025）。课堂管

理作为教学活动的重要组成部分，其本身就蕴含着丰富的教育价值。管理规则的制定和执行过程体现了公平、正义、责任等价值理念；师生在管理中的互动方式反映了尊重、信任、合作等道德要求；对课堂事件的处置过程也是培养学生解决问题能力和道德判断能力的重要机会（高娜，2020）。

艺术类专业的课程教学具有特殊性，学生的价值观念往往通过审美选择、创作态度、职业行为等具体形式表现出来（陆庆军，2008）。与理论说教相比，艺术类学生更倾向于通过实践体验和情境感悟来接受价值引导。因此，艺术类专业的课堂管理不应停留在行为规范的层面，而应该深入挖掘管理过程中的育人元素，将专业伦理、文化自信、创新精神等价值导向融入管理实践（刘薇薇，虞莉，常敬忠，2005）。

3. “秩序—价值”双维互嵌模型

基于对课堂管理理论发展和课程思政要求的理解，本研究提出了“秩序—价值”双维互嵌模型。该模型认为，有效的课堂管理应该实现秩序维护与价值引领两个维度的有机融合，二者相互支撑、相互促进（李志强，张娜，祝成林，2022）。

秩序维度关注的是课堂的基本运行，包括学习环境的营造、教学流程的保障、行为规范的执行等，这是教学活动得以顺利开展的基础。价值维度关注的是通过管理过程培养学生的价值观念、道德品质和专业素养，这是实现育人目标的关键。两个维度不是相互分离的平行系统，而是通过具体的实践环节相互嵌入（王韶芳，张广君，2018）。

在实践中，这一模型主要通过四个界面实现：规则生成界面，将价值要求转化为具体可行的行为规范；情境塑造界面，通过环境布置和活动设计营造育人氛围；矛盾转化界面，将管理冲突转化为教育契机；评价引导界面，在评价反馈中体现价值导向（田国秀，万瀚龙，2025）。这四个界面共同构成了课堂管理育人功能的实现路径。

III. 研究设计与实施

1. 调研与问题分析

本次调研采用问卷调查、教师访谈和课堂观察相结合的方法，面向针对服装与服饰设计、环境设计、动画等多个艺术设计类专业的在校大学生，共发放问卷 200 份，回收有效问卷 186 份。教师访谈选择了 10 位具有代表性的专业教师，深入了解他们在课堂管理中遇到的困难和采取的策略。课堂观察覆盖了 4 门不同类型的专业课程，重点记录了课堂管理的实际过程和师生互动情况。

调研发现，当前艺术类课堂管理主要存在以下问题：管理目标过于注重秩序维持，忽视了育人功能的发挥；管理方式单一，难以适应艺术类学生的心理特点；评价体系侧重结果考核，缺乏对学习过程和综合素养的关注；矛盾处理简单化，错失了教育引导的良好机会。这些问题反映出传统管理模式与艺术教育特点之间的不适应，也揭示了课堂管理育人功能缺失的普遍现状。

2. 实践工具箱的开发

针对调研发现的问题，基于“秩序—价值”双维互嵌模型，开发了艺术类专业课堂管理实践工具箱。该工具箱不是一套固定的操作程序，而是一组可供教师根据具体情境灵活运用的策略和方法。

工具箱包含四个主要模块。规则共建模块提供了课堂公约协商制定的具体流程和参考样例，强调通过师生共同参与将价值要求转化为行为规范。情境浸润模块设计了“课前三分钟”专业故事分享、教室文化墙建设等活动方案，旨在通过环境营造和仪式设计潜移默化地传递价值理念。矛盾转化模块提供了常见课堂冲突的应对指南，指导教师将管理冲突转化为培养学生沟通能力和责任意识的教育机会。评价导向模块开发了融合专业能力和综合素养的评价量规，帮助教师在评价反馈中体现价值引领。

每个模块都包含理论说明、实践案例和反思问题三个部分。理论说明简要阐述该模块的设计理念和理论依据；实践案例提供具体应用场景和操作方法；反思问题帮助教师在使用后进行总结和提升。这种设计既保证了工具箱的理论深度，又增强了其实践操作性。

3. 教学试验的实施

为了验证工具箱的实际效果，选择了 A 班级作为试验组，在某门课程中应用工具箱的管理策略。同时选择了 B 班级作为对照组，采用传统的管理方式。

试验过程中，试验组教师接受了工具箱使用培训，并在研究团队的指导下进行实践。研究团队定期收集试验数据，包括课堂观察记录、学生问卷调查结果、教师反思日志等。为了确保试验的客观性，所有数据收集和分析工作都由研究团队独立完成，避免任课教师的主观影响。

试验设计注重过程性与发展性的结合。在试验开始前、中期和结束后分别进行数据收集，以观察管理策略实施的动态变化。同时，研究团队建立了教师协作机制，定期组织试验组教师交流经验、讨论问题，促进管理策略的不断优化。

IV. 研究发现与分析

教学试验数据表明，“秩序—价值”双维互嵌模型在艺术类课堂管理中取得了显著成效。试验组学生在课堂参与度、规则认同感和冲突处理能力等方面都表现出积极变化。

1. 课堂生态的积极转变

试验组班级的学生主动参与行为从平均每课时 2.1 次增加到 3.5 次，且参与质量明显提升。学生从被动应答转向主动发起讨论和创意分享，课堂氛围更加活跃开放。这种变化不仅体现在数量上，更体现在学习方式的转变上。

在规则认同方面，试验组学生的认同度得分显著提高。调研发现，通过参与规则制定过程，学生对规则的理解从外在约束转变为内在认同。他们认识到规则不仅是行为规范，更是维护良好学习环境

的共同约定。

值得注意的是，学生开始尝试运用协商、倾听等方式自主解决课堂管理分歧，教师从裁判者转变为引导者，反映了学生自我管理能力的提升和转变。

2. 管理策略的实施效果

规则共建实践取得了良好效果。试验班级通过师生协商制定班级管理制度，包含了建设性反馈、协作责任等约定。这一过程本身就是一堂生动的民主教育和价值观培养课。

情境营造方面，“课前三分钟”专业故事分享成为有效的价值引领载体。学生通过分享艺术家的创作故事，潜移默化地接受专业精神和文化自信的熏陶。

教师引导学生按照“陈述－倾听－共识－方案”的流程处理分歧，将冲突转化为培养学生沟通能力和责任意识的教育契机。这种方法虽然耗时较多，但教育效果更为持久。

评价体系的改革引导了学生的全面发展。新的评价量规不仅关注作品质量，还考察学习过程中的态度、协作和反思能力。教师在反馈中会有意识地肯定学生在专业成长中表现出的良好品质，强化价值导向。

3. 师生关系的重塑

教师角色从秩序维护者转变为学习促进者和成长引导者，教师的工作重心从行为管理转向学习支持。这种转变带来了更高的职业成就感和教学满足感。

学生通过参与课堂管理、承担共建责任，学生从被管理对象转变为课堂共同体成员。这种身份认同的变化提升了学生的责任感和归属感。

师生关系从“管控－服从”向“协作－共生”转变。建立在共同目标和相互尊重基础上的新型师生关系，为深入的教学互动创造了良好条件。教师成为学生可以信任和对话的伙伴，而不是需要防范的对立面。

V. 结论与建议

1. 结论

研究表明，艺术类专业课堂管理需要突破传统模式，实现秩序维护与价值引领的有机融合。“秩序－价值”双维互嵌模型为这种融合提供了可行的理论框架和实践路径。柔性、协商、嵌入式的管理方式比刚性管控更符合艺术生的心理特点和专业学习规律。通过精心设计的实践环节，价值观教育可以自然地融入专业教学全过程。在提升管理效能的同时，还能促进学生的全面发展和健康师生关系的构建，实现管理育人的双重目标。

2. 建议

教育者需要认识到课堂管理的育人价值。管理不仅是维持秩序的手段,更是实现立德树人目标的重要途径。其一,管理策略设计应体现专业特色。针对不同艺术专业的特点和学生需求,开发个性化的管理方案,避免简单套用其他学科的模式。其二,学校应建立系统的支持体系。通过教师培训、经验交流、资源支持等方式,帮助教师掌握新的管理理念和技能。同时完善评价机制,鼓励教师在课堂管理创新方面的探索。

课堂管理的育人功能探索是一个持续的过程,从行为规约到价值浸润的课堂管理转型,不仅关乎教学秩序的优化,更关系到人才培养质量的提升。只有将价值引领深度融入课堂管理的每一个环节,才能真正实现全员、全程、全方位育人,培养出既有精湛专业技能又有高尚品格修养的艺术人才。

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Innovating Teaching Practice: A Study on Micro-Courses for the History of Physics under the “Internet+” Framework

Han Zang^a Shuping Bai^b

^aJunior High School Physics, Gaoliying School, Shunyi District, Beijing China

^bSenior High School Physics, Shunyi Branch of Beijing No.4 High School China

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Abstract

Purpose – This study adopts “Internet+” micro-courses to eliminate the bottleneck in teaching traditional physics history and develop the senior high school students’ physics disciplinary core competencies.

Design/Methodology/Approach – Based on the context of the “Internet+” information age, the concept of new curriculum standards and researchers’ teaching practice, this study constructs the “Internet+” micro-course teaching model of physics history and achieves the deep integration of online platforms and micro-courses.

Findings – The advantages of micro-courses, such as conciseness, compactness as well as flexibility in learning, enable students to conduct independent learning freely, arousing their interest in physics learning and providing support for the cultivation of core competencies.

Research Implications – It provides a new approach to teach physics history, helps students deepen their understanding of physics, optimizes high school physics teaching models and thus promotes quality of education.

Keywords: micro-courses; “Internet+”; history of physics; core competencies in physics

JEL Classifications: I21, L86, O33

^a First Author, E-mail: zanghan9822@sina.com

^b Corresponding Author, E-mail: zanghan9822@sina.com

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1 问题的提出

1.1 核心素养研究目标是新时代教育发展的趋势

核心素养研究的兴起和发展是新时代教育发展的国际趋势。为满足时代所需，深化教育体制改革，人们越来越注重学生核心素养的培养。2014 年 4 月，教育部颁布了《关于全面深化课程改革落实立德树人根本任务的意见》，明确培养学生核心素养是育人的重要目标，是推进课程改革深化发展的关键环节（教育部，2014）。

1.2 普通高中学校物理教学培养学生的核心素养具体问题陈述

通过问卷调查、学生谈话、自我剖析，我们逐渐认识到原有的教学方式中存在着教师主动教，学生被动学，学习兴趣不浓；学生缺少亲身体验过程的问题。“互联网+”信息时代微课程改变了人们的学习方式，设计物理学史微课程，通过网络平台，学生可以随时随地建构物理观念，训练科学思维，开展跨地域实验，在真实问题解决中培养科学态度与责任，实现物理核心素养的全域提升。

2 核心概念的界定

2.1 物理学史

物理学史是研究人类对自然界各种物理现象的认识史，研究物理学发生和发展的基本规律，研究物理学概念、思想发展和变革的过程（郭奕玲，沈慧君，2025）。它研究的内容广泛，包括物理学产生、发展的规律、物理学概念、思想、方法等的发展和变革，物理学演变成一门独立学科的过程，以及它新的分支的产生、各个分支的联系、区别和综合等。

2.2 物理学科核心素养

经合组织将核心素养界定为：个人融入主流社会、充分就业、实现自我、终身发展所必需的知识、技能及态度的集合（OECD，2005）。物理学科的核心素养，是学生在接受物理教育过程中，逐步形成的适应个人终身发展，和社会发展需要的必备品格和关键能力，是学生通过物理学习内化的带有物理学科特性的品质，是学生科学素养的关键成分。物理学科核心素养主要包括“物理观念”“科学思维”“科学探究”“科学态度与责任”四个方面。

2.3 微课程

微课程 (Microlecture) 这一概念最早是 2008 年由美国新墨西哥州圣胡安学院的戴维彭罗斯

(David Penrose) 教授正式提出,并运用于在线课程。他认为,微课是以建构主义为指导思想,以在线学习、移动学习方式,基于某个简要明确的主题或关键概念为教学内容,通过音频或视频录制的课程 (TPKee, TheOneMinuteLecture, 1995)。国内率先提出微课概念的是佛山市教育局信息技术中心的胡铁生老师,他认为:微课是“微型教学视频课例”的简称,以微型教学视频为核心,包含与教学相配套的微教案、微课件、微练习、微反思、微点评等支持性和扩展性资源,从而形成一个半结构化、情景化、开放性的资源动态生成与交互教学应用环境 (胡铁生, 2011)。

根据国内外文献归纳微课程,是支持移动及碎片化学习、以视频为主要载体的教学资源与活动。以学习者为中心、知识建构为目标,围绕教学环节或特定知识点,涵盖讲解、解题、实验演示等内容,借助专业工具制作,时长 5-8 分钟 (最长 10 分钟),所占存储空间较小。

3 建构“互联网+”应用物理学史微课程发展高中生核心素养研究的有效途径:

高中物理新课标中也明确指出:教师要结合物理课程学习,推荐物理科普、物理学史、科学家故事、著名物理实验、中国古代科技、现代科技前沿等方面的书籍和报刊 (教育部, 2025)。所以课堂教学中借助信息技术,通过课前推送物理学史微课程,实现随时随地自主学习,课中融合时空对话技术解决抽象概念难讲、复杂实验难做的问题。这种虚实结合模式,可有效促进学生物理观念建构、科学思维训练、科学探究实践及科学态度养成,实现核心素养的全域提升。

3.1 课前精心设计课堂任务和问题

应用物理学史微课程的课堂教学就是一种有目的的对话。那么为课堂教学做准备就是为这种对话做准备,从而形成一个对教师和学生双方有利的计划。

3.1.1 教师要寻找知识形成的详尽过程

把物理学史微课程应用到高中物理教学中需要教师弄清相关课物理知识形成的详尽过程。授课教师掌握住物理概念、定律发展的历史脉络,站在历史发展的角度去分析相应这段历史的发展与现行教材或其他材料提供的物理知识的关系。

3.1.2 课前准备工作要把握课程标准对物理学史微课程在教学中应用的要求

《全日制普通高中物理新课程标准》(以下简称《标准》),提出了教师要加强阅读指导,激发学生学习兴趣,扩展学生视野,帮助学生更好地理解 and 运用所学物理知识,引导学生学习科学家精神,勇于探索创新 (教育部, 2025)。可见对物理学史及科学家精神的传承的重视,教师要按照要求进行物理学史微课程设计。

3.2 物理课型多元融合与物理学史教学模式助力核心素养培养

3.2.1 物理观念课型融合实现学史资源贯穿

规律课以物理学史为脉络循序渐进拓展知识，概念课借助学史背景引导学生自主构建概念，实验课重演学史经典实验强化互动理解，习题课创设学史情境习题强化概念应用，形成系统化认知。

3.2.2 科学思维发展依托课型互补

规律课用学史框架图梳理知识逻辑，概念课还原学史思维路径稚化思考过程，实验课暴露学史实验缺陷引发批判性改进，习题课设计学史论证型题目训练高阶思维，激活深层认知加工。

3.2.3 科学探究能力培养通过课型创新实现

规律课模拟学史探究过程让学生亲历规律发现，概念课增设经典探究实验培养问题意识，实验课放手让学生主导学史实验方案设计，习题课将习题转化为探究项目，实现从解题到解决问题的升级。

3.2.4 科学态度与责任塑造贯穿全课型

规律课联结学史与科技前沿，概念课结合生活案例与多媒体，实验课鼓励创新改进学史实验，习题课渗透学史争议性问题，厚植科学伦理与家国情怀。

4 建构出应用物理学史微课程发展学生核心素养的教学模式及效果

4.1 建构出应用物理学史微课程发展学生核心素养的教学模式

物理学史体现了人类认识自然界的过程，其中包含了许多科学家的认识论和方法论，以及他们的智慧结晶。因此，教师有必要让学生亲身体验科学家的探究过程。学生是学习的主人，教师是学习的组织者、引领者和合作者。在课堂教学中，教师要转变角色，从“知识传授者”转变为“学生学习的合作者”，根据教学内容精心设计特定的物理情境，模拟历史片段，让历史人物和历史事件“穿越时空”，走进课堂教学，进入学生的视野和心灵，引导学生参与情感体验（应俊，2021）。应用物理学史微课程发展学生核心素养的教学模式注重学生的体验。

模式一：物理学史中具有影响力事件回顾微课程教学模式

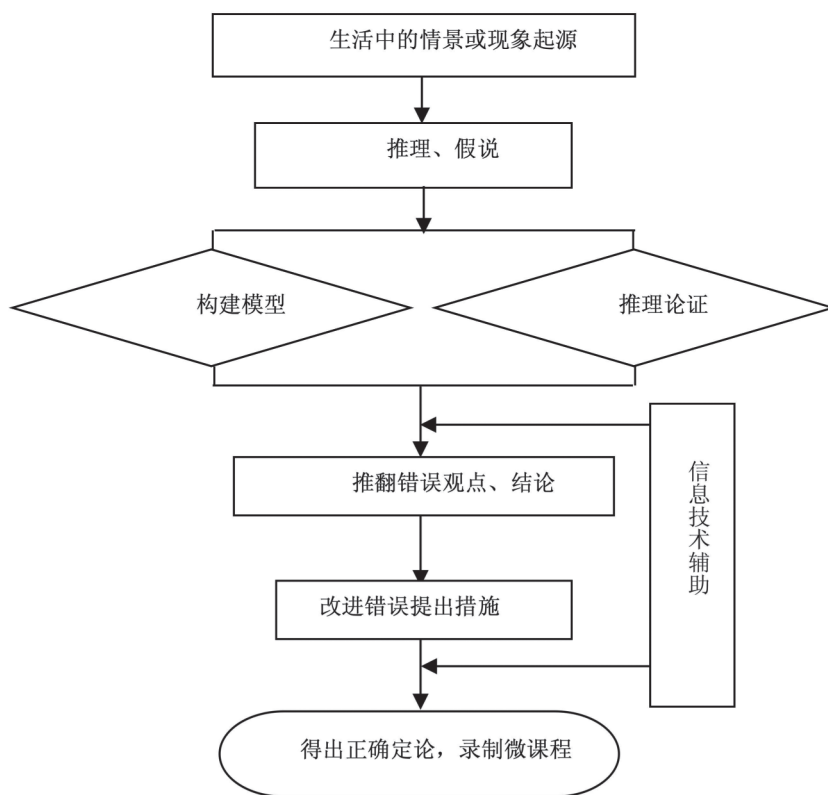


图 1-1 物理学史中具有影响力事件回顾微课程教学模式流程图 (作者自行整理)

所谓“物理学史中具有影响力事件回顾教学微课程模式”，是一种创新且富有教育意义的教学模式。它主要是围绕某一物理教学内容展开，针对该部分内容所涉及的物理学史上那些具有深远影响力的事件，按照兼顾历史脉络与逻辑关系的顺序进行精心组织。这种组织方式能够赋予这些事件时空连续性，完整地呈现出物理学发展的过程性和发展性特征。在这种教学模式下，学生不再局限于对物理知识的死记硬背，而是能够深入探究物理知识形成的根源与发展脉络。当他们沉浸于物理学史事件的学习时，就仿佛穿梭于时空，与物理学家们一同踏上探索真理的奇妙征程。在这个过程中，学生可以清晰地看到物理学家们是如何对事物提出质疑，如何在不同观点之间产生争议，又是如何运用思辨与实证的方法去探寻答案的。更重要的是，这种教学模式旨在引导学生理解物理学家们在探索过程中所经历的自我建构过程。物理学家们在面对新的现象和问题时，不断地对自己已有的认知进行修改和完善，从而形成更加准确和深入的理论。通过这种回顾式教学模式，学生能够更好地理解物理学的内在逻辑，培养科学思维和探究精神，进而提升自身的科学素养和学习能力。这种模式为学生打开了一扇了解物理学发展历程的窗户，让他们在学习物理知识的同时，深刻体会到科学发展道路的曲折坎坷与波澜壮阔。

模式二：相关历史事实展开微课程模式

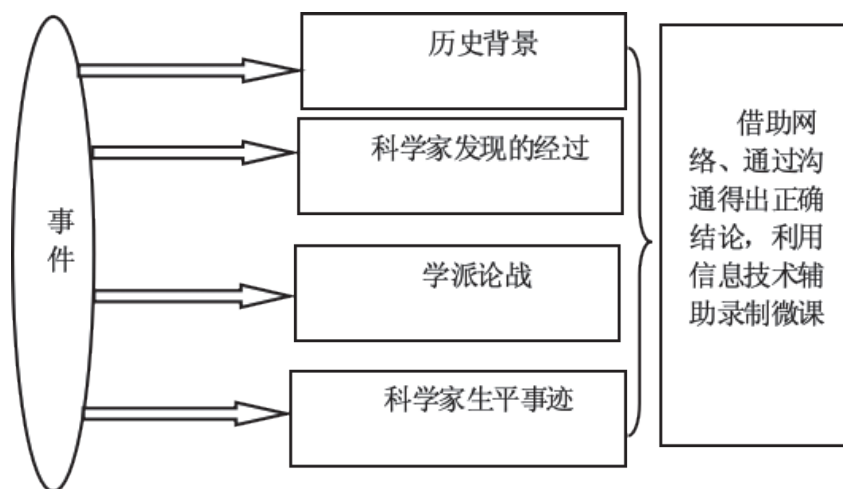


图 1-2 相关历史事实展开微课程模式流程图（作者自行整理）

所谓“相关历史事实展开微课程模式”主要是针对某一物理教学内容,找出其核心的物理理论,围绕其把相关的历史事实展开,借助信息技术手段尽量把相关信息呈现给学生,使学生对教学内容全面认识,帮助学生建构相关物理情境。下面以库仑定律的发现为例展示此微课程模式的流程图。

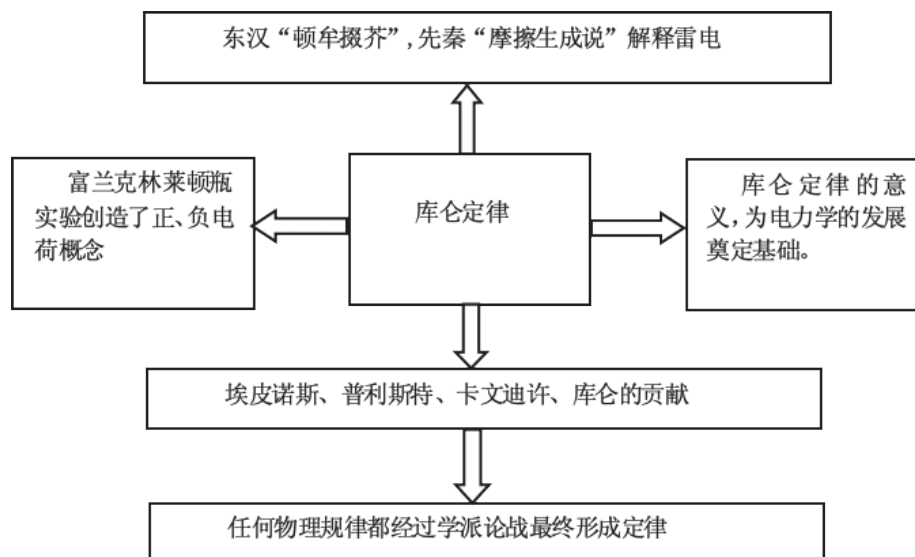


图 1-3 库仑定律的发现流程图（作者自行整理）

模式三：学史推进串式结构微课程模式

所谓学史推进串式结构微课程模式就是具有影响力事件回顾模式与相关历史事实展开模式相结合的一种模式（石雷先，2006）。我们注意到，模式一中的每一个“事件”在横向上总可以展开一些史实，而模式二中的物理理论在其纵向发展的每个阶段也总有一些重大事件发生。这样我们就可以将二者合而为一得到第三种模式。

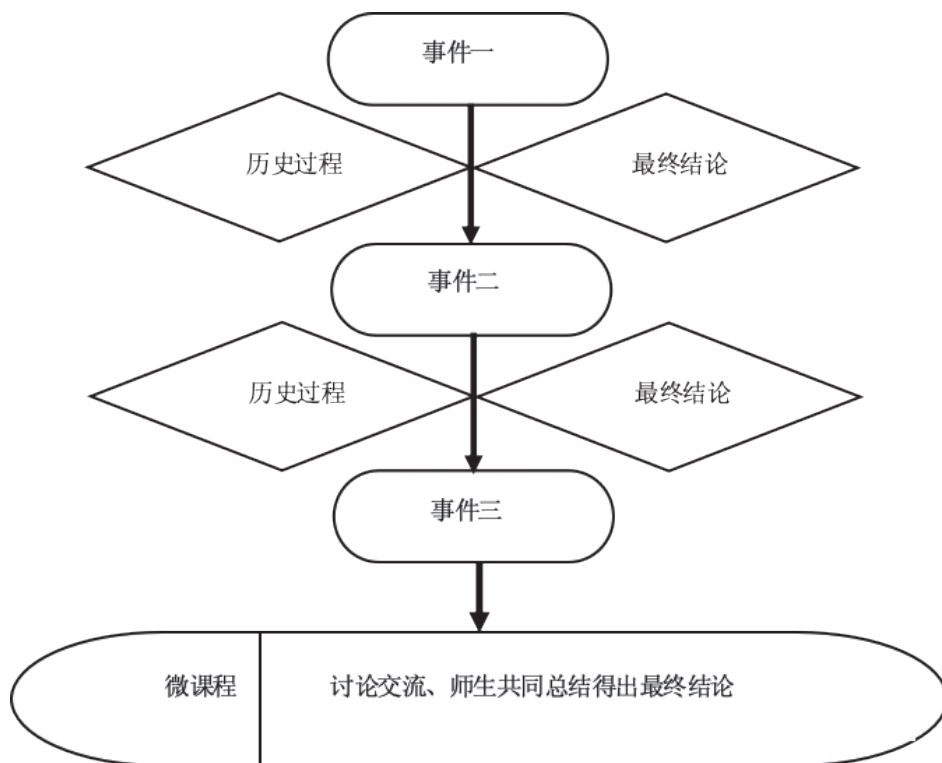


图 1-4 学史推进串式结构微课程模式流程图（作者自行整理）

在历史学习的推进过程中，串式结构模式从理论层面来讲堪称最为理想的一种模式。它能够以一种连贯、系统的方式将历史事件、知识体系串联起来，使学习者仿佛置身于历史发展的长河之中，清晰地目睹各个历史元素之间的因果关联与演进脉络。然而，在实际的学习与教学实践中，由于受到资料占有量的多寡、可投入的时间精力有限等多种因素的制约，我们在运用串式结构模式时，不必过于拘泥，非要在每一个细节之处都严格遵循这一模式。例如原子结构模型的建立过程可以应用此种模式。我们完全可以在不影响对核心历史脉络把握的前提下，适当地对内容进行简化处理，依据具体的教学或学习需求酌情对某些环节进行优化调整，从而在理想与现实之间找到一个平衡点，以更高效地达成历史学习与教学的目标。

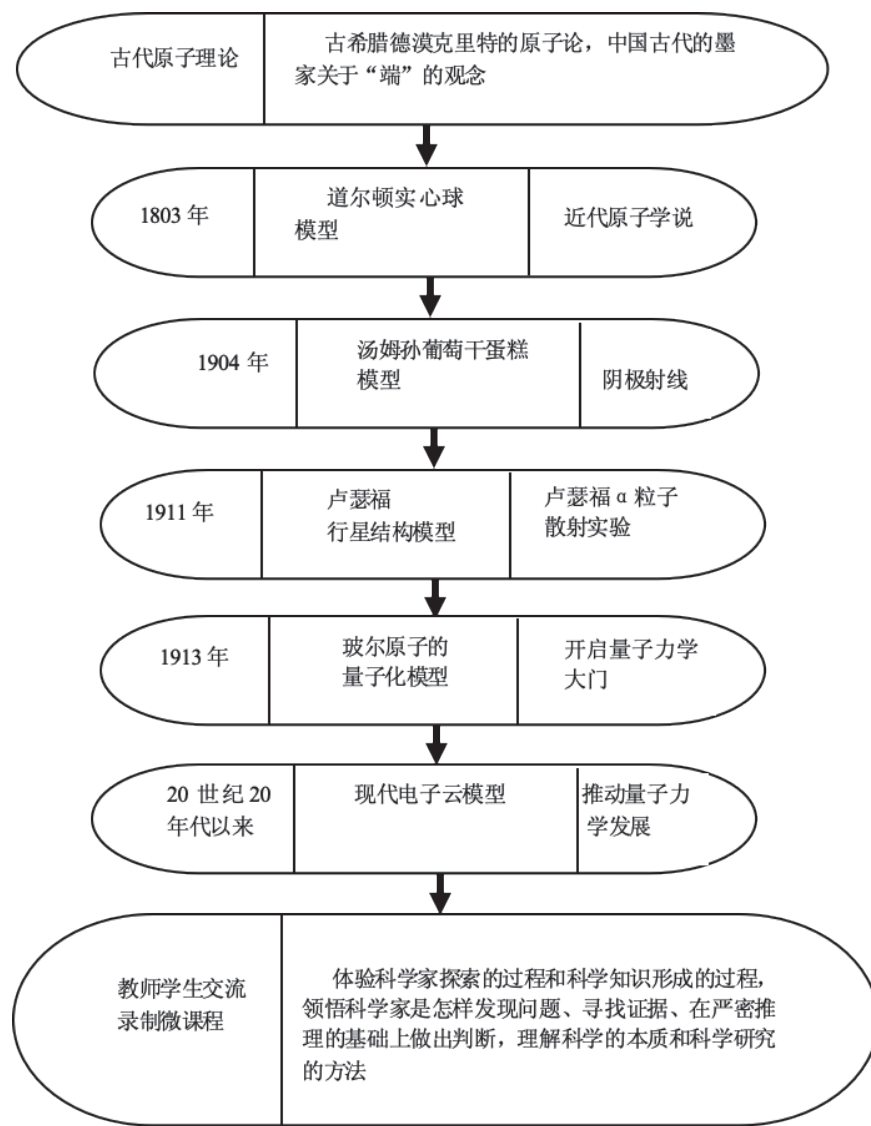


图 1-5 原子结构模型的建立过程流程图 (作者自行整理)

模式四：重走物理学史过程自主学习微课程模式

重走物理学史自主学习微课程模式是学生依据自己的兴趣，选择与课堂教学相关的内容，利用各种资源和媒体，积极、主动地去搜集有关科学发展的历史资料，完成对科学事实、科学家、科学过程及科学事业的深刻理解，培养学生在学习、研究和应用科学的过程中，尊重事实、严谨认真、实事求是、不迷信权威、敢于质疑、善于反思、勇于创新的科学态度（张泊，2022）。学生在教师的帮助下进行微课程的录制。促进知识内化，提升语言表达、团队协作及信息技术能力，增强学习主体性与创造性，

同时通过师生角色反转,深化对学科的理解,实现从“被动接受”到“主动建构”的能力跃迁。此模式将自主学习和前置性任务进行整合,借助现代化的信息技术以学生自主学习为主体,采用教师设置的前置性任务为引导的教学模式,此模式关注学生的个体差异,帮助不同的学生能认识自我、帮助他们建立自信,改进学习方式和学习方法,最终提高学生物理学科核心素养。

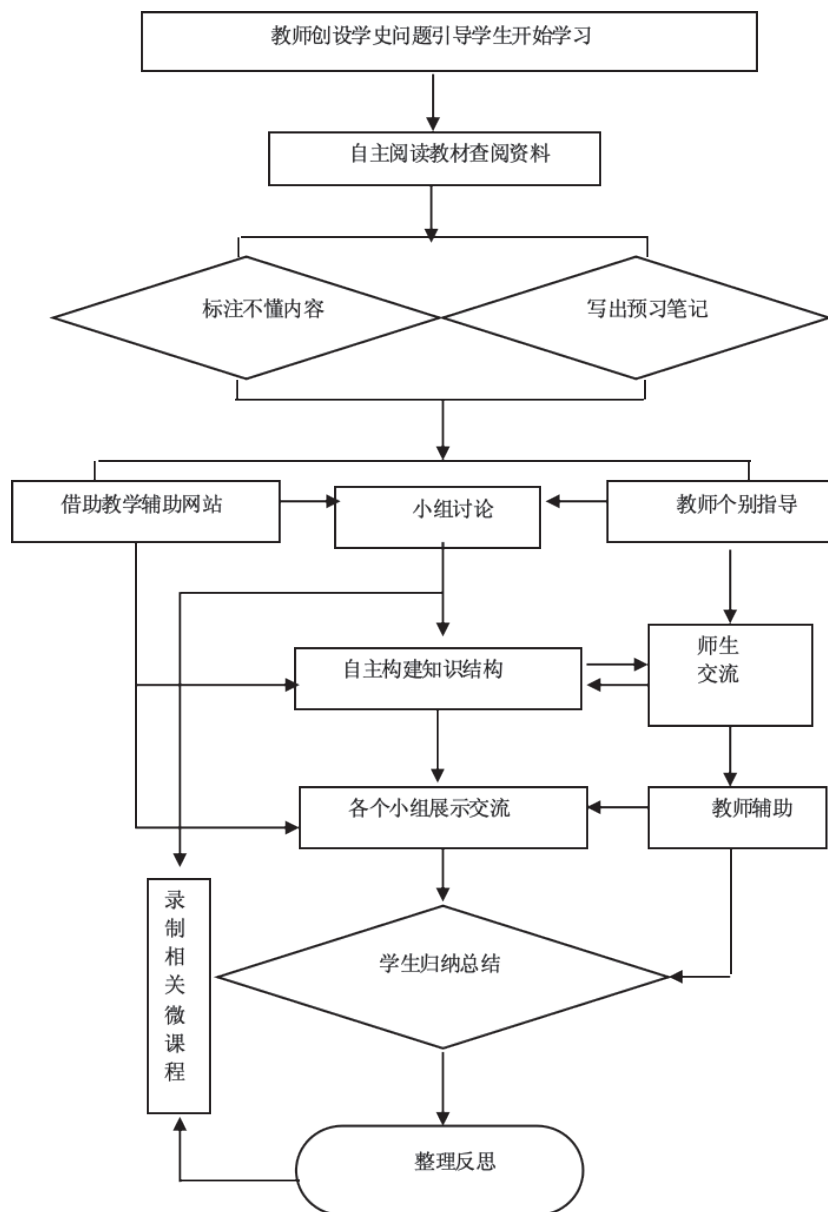


图 1-6 重走物理学史过程自主学习微课程模式流程图 (作者自行整理)

从流程图可以看出，教学的过程分布设计学史路、发布前置性任务、自主阅读、质疑、自主构建知识结构、小组讨论交流、归纳总结、反思这几个重要的环节。

4.2 “互联网+”应用物理学史微课程发展学生核心素养教学模式的课程内容

虽然模式能发展学生的核心素养，并且上述教学模式改变了传统的传授式、灌输式等教学方法，给原本枯燥的物理课堂带来令人耳目一新的风格，但并不是所有的高中课程都适合采用此教学模式，本人在经过教学实践的基础上总结出适合采用物理学史微课程发展物理学科核心素养的教学模式的课程：以高中物理人教版必修第一册为例如表 1-1

| 章 | 节 | 涉及到物理学史的内容 | 可供探究性学习的内容 | 科学方法和科学精神 |
|---------------------------|----------------------|-------------------------------------|--------------------|-------------------------------|
| 人教版必修第一册 第一章运动的描述 | 1.1 质点参考系 | 亚里斯多德对运动的解释伽利略的运动学观点和运动 | 为什么参考系不同，运动情况不同 | 观察能力和怀疑能力、创新能力的培养 |
| | 1.3 位置变化快慢的描述——速度 | 匀速运动的提出 | 验证匀速运动的方法 | 归纳法 |
| | 1.4 速度变化快慢的描述——加速度 | 伽利略加速度概念的提出 | 伽利略提出加速度的原因 | 比较法 |
| 人教版必修第一册 第二章匀变速直线运动的研究 | 2.2 匀变速直线运动的速度与时间的关系 | | 纸带的应用 | 实验方法 |
| | 2.3 匀变速直线运动的位移与时间的关系 | 伽利略对匀速运动的定义 | 位移与时间的关系图像理解 | 数学推理发法 |
| | 2.4 自由落体运动 | 亚里斯多德对自由落体运动的解释 伽利略对亚里斯多德落体运动的否定 | 伽利略斜塔实验 伽利略斜面实验 | 实验方法 归谬方法 演绎方法 理想化方法 |
| 人教版必修第一册 第三章相互作用——力 | 3.1 重力与弹力 | 阿基米德关于重心的测量 | 重心的测量 | 实验方法 |

| | | | | |
|----------------------------|---------------|--------------------------------|----------------|-------------------------|
| 人教版必修第一册 第三章 相互作用——力 | 3.2 摩擦力 | 摩擦力的存在对力和运动概念建立的影响 摩擦力的物理实质 | 摩擦力的方向性问题 | 探究方法 |
| | 3.3 牛顿第三定律 | 牛顿运动定律的产生 | 作用力与反作用力的区别和联系 | 实验方法 |
| | 4.1 牛顿第一定律 | 伽利略惯性定律的思想萌芽 牛顿惯性定律的提出 | 伽利略斜面实验 | 逐渐逼近法 |
| 人教版必修第一册 第四章 运动和力的关系 | 4.3 牛顿第二定律 | 牛顿质量概念的提出 牛顿第二定律的意义 | 牛顿第二定律的实验探究 | 数学方法 实验方法 简洁美（美育） |
| | 4.5 牛顿运动定律的应用 | 牛顿运动定律对人类思想认识的冲击 | 牛顿运动定律和生活的联系 | 模型方法 |
| | 4.6 超重和失重 | 失重情况的探讨 | 生活中超重和失重现象 | 类比方法实验方法 |

来源：作者自行整理

高中物理教材中物理学史的内容还算广泛，力、热、光、电、磁、电磁感应、原子中都有涉及，但仔细分析，中学物理学史内容大致分以下几类：科学方法的介绍；科学家的生平介绍；重要的实验、规律、概念发现的过程及产生的历史背景；学派、假说间的争议；我国古代的科学技术与物理文化。虽然新教材已加强了物理学史的内容广度，但数量还是远远不够。因此，在物理教学中通过微课程引入的历史内容的数量、引入的深度、和不同学史根据历史内容的特点采用何种引入形式等等，还需要进一步讨论、改革与实践。

4.3 应用物理学史发展学生核心素养教学模式效果

四种结构化教学模式具有系统化、易操作特点，通过覆盖规律 / 概念 / 实验 / 习题课型的实施路径，解决了教师操作难的问题。模式设计深度契合科学发展史逻辑与学生认知规律，将知识演进与思维发展相统一，使学习过程如“顺藤摸瓜”般自然。同时，模式融入科学伦理、物理学家故事等人文元素，并直指物理核心素养四维目标，实现知识传授、思维训练、探究实践与态度培养的有机融合，为物理学史与核心素养的深度融合提供了可复制的教学范式。

5 实践效果

5.1 教学模式应用到校本课程中，完善校本课程教材

以物理学史微课程研究为引领、国家课程为依据，我们聚焦多所试点校高一年级学生的个性化特点，开发并开设校本课程。通过将课题构建的教学模式深度融入课程授课环节，显著提升了试点校本课程的实施质量与育人成效。

5.2 实施应用物理学史微课程模式对实验班学生产生了积极的作用

对试点校同一个教师所教授的两个平行班采用了“随机等组前后测实验设计”，对实验前后问卷调查及学习成绩进行统计分析发现，实验班学生变化明显。

1. 学生通过此模式后在学习物理兴趣、学习方法、自我评价方式上均有改善
2. 实验班比对照班学习成绩明显提升

5.3 通过模式应用学生学习成绩在不同类型的考试中都有不同程度的提升

1. 集团试点校中普通中学近几年高二物理合格考通过率统计分析

集团试点校中的普通中学，学生学业基础与能力层次与重点中学存在显著差距。然而，在连续两年的学业水平合格性考试中，该校先后取得全区第一、全区第三的优异成绩。这一突破性表现，与本课题的深入推进及教学实践的有序开展密不可分。

2. 试点校高中各年级学生的物理成绩与区平行校的对比

从近两年来试点校高中各年级学期末物理学业成绩的追踪分析来看，这一结果在一定程度上印证了基于“互联网+”物理学史微课程教学实践研究，对提升学生物理学业成绩具有积极的促进作用。

6 结束语

物理学的发展史，是辩证唯物主义世界观和科学方法论的发展史，物理教学过程中，“互联网+”运用物理学史的微课程教学，学生可以理解物理学进化的规律，加深对物理知识的理解，树立科学观，激发学生享受科学，寻求真理，寻找创新思维方式，为提高学生创造性思维能力奠定基础。认真总结并优化这类融合物理学史的教学方法，不仅能助力学生当下的学习成长，更对其长远发展大有裨益。值得注意的是，互联网平台还为教学活动提供了多元支撑。一方面，互联网支持教师自主开发和共享教学资源，教师可以利用在线教学平台，将自己精心制作的教学课件、教案等分享给其他教师和学生，实现资源的共享和交流（刘丽娟，2022）。另一方面学生可以通过在线答疑功能，随时向教师请教问题，获得及时的指导和帮助（欧文娟，2022）。

综上，物理学史中蕴含着丰富的物理学科核心素养培育要素，通过微课程讲好物理学史辅助物理

教学，正是激活这些要素的有效路径，能够切实助力学生物理学科核心素养的全面提升。

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Ethical Guidelines

Chapter 1. General Rules

Article 1 (Purpose)

The purpose of the following rules is to present the basic ethical principles and direction needed to ensure the research ethics of editorial board members, peer-reviewers, and authors who examine or submit articles to the Journal of Advanced Academic Research and Studies (JAARS). NLBA Eurasian Institute publishes these rules to present the procedure and actions for research misconduct.

Article 2 (Object of the Study and Scope)

The research is subject to sanction, investigation and judgement to determine whether research ethics were followed when any of the following occurs:

- i. The study was submitted to the Journal of Advanced Academic Research and Studies,
- ii. The study was confirmed to be published in the Journal of Advanced Academic Research and Studies,
- iii. The study has already been published in the Journal of Advanced Academic Research and Studies.

Chapter 2. Honesty and Social Responsibility of the Research

Section 1. Honesty in the Research

Article 3 (Honesty of the Research)

- a. Researchers must conduct every research behavior (proposing research, researching, reporting and presenting research, investigating and judging) honestly and sincerely.
- b. Researchers must describe the content and the importance of the study clearly and objectively, and must not delete or add results arbitrarily.
- c. Researchers must carry out every study without any bias or prejudgment.

Article 4 (Ethics for Researchers)

- a. Researchers must not commit research misconduct during any part of the research process.
- b. A study must not be submitted if it has been published in other journals, and researchers must not request review of the study to different journals at the same time. However, a thesis or a paper presented in a conference as a working paper shall be exceptions.

Article 5 (The Record, Storage, and Report of Research Data and its Disclosure)

- a. All research information must be clearly and precisely recorded, processed, and preserved so that it may be accurately analyzed and confirmed.
- b. Researchers shall use proper research methods and statistics, and those shall be available to the public if necessary.

Section 2. Fairness in Researchers' Contributions

Article 6 (Collaborative Research)

Researchers must make the roles and contributions of all contributors clear if they conduct a joint study with other researchers, and shall take full responsibility for establishing this. Prior to conducting research, mutual agreement and understanding shall be made with regard to property rights and ownership issues, research director selection, authorship and the standard of order, the data collection method, individual role in the study, and expectations and objectives of the study.

Article 7 (Responsibility and Duty, Order of Authors)

- a. Researchers are responsible only for the study that they carry out or are involved in as an author, and are recognized for that achievement.
- b. Authors must accept requests for proof of their contributions.
- c. The order of authors must accurately reflect the academic contribution by each author to the research contents or results, regardless of the authors' relative positions.

Article 8 (Corresponding Author)

- a. Corresponding authors shall take overall responsibility for the results of the study and proofs.
- b. Corresponding authors shall have the burden of proof with respect to the order of the author and co-author(s).

Article 9 (Affiliation of Author)

When indicating the affiliation of author(s), the author's current status in principle shall be given. However, it is possible to follow the customs of the author's academic field if their field of affiliation follows a different custom.

Chapter 3. Research Misconduct and Unethical Research Conduct

Section 1. Methods and Principles of Citation

Article 10 (Methods and Principles of Citation)

- a. The author may cite a part of other researchers' studies in his/her research paper using their original text, or the translated version by introducing, referring to or making a comment on the original.
- b. The author shall take all possible measures to ensure the accuracy in stating sources and making the list of references. The author must confirm all elements of a citation (author's name, number/volume of the journal, page and published year) not depending on the secondary source but solely on the original work. However, when inevitable, the author can include with acknowledgment.
- c. The author must cite in a reasonable manner and use the good faith principle, so that uncited works can be clearly distinguished from cited works.
- d. The author must cite published works only. However, in the case of citing unpublished academic materials that have been acquired through personal contact, paper review or proposal review, the author must acquire consent from the relevant researcher(s).
- e. When the author introduces ideas or theories in his/her work that have been presented in another study, the source must be stated.

- f. The author must distinguish his/her own ideas from cited materials when borrowing substantive parts from one source, so readers can clearly recognize the author's work.
- g. If a reference has a significant impact on the direction of the research or can help the reader understand the contents, the author must include all such works on the list of references, except in such cases where the relevant research can theoretically and empirically be inferred.

Article 11 (Method of General Knowledge Citation)

- a. If the author uses someone else's idea or a fact provided by them, the source should be provided. However, general knowledge or material that general readers will already recognize shall be an exception.
- b. If the author is unsure whether any concept or fact qualifies as general knowledge, it is recommended to cite the original text.

Section 2. Research Misconduct

Article 12 (Definition of Research Misconduct)

“Research misconduct” refers to any instances of forgery, falsification, plagiarism, failure to give proper credit to co-authors or redundant publications that may emerge during the entire research process (research proposal, conduct of research, report and presentation of research, investigation and judgement).

- a. “Forgery” refers to the act of presenting non-existent data or research results.
- b. “Falsification” refers to the acts which artificially manipulate research processes, randomly modify, or delete data resulting in distorted research content or research results. (Here, “deletion” refers to the act of using only favorable data and intentionally excluding the data that might cause unexpected or undesired results.).
- c. “Fabrication” refers to the act of intentionally creating a document or record that does not exist.
- d. “Plagiarism” refers to the acts which pirate other's work, ideas or research, using ideas, hypotheses, theories, research contents, or research results without justifiable approvals, citation, or quotations, as if those were his/her own.
 - i. “Idea Plagiarism” refers to the act of using someone else's ideas (explanations, theories, conclusions, hypothesis and metaphors) in full, substantial proportions or in a fragmented revised form without giving appropriate credit to the originator of the words and ideas. Authors have moral responsibility to indicate the source of ideas through a footnote or a reference. Authors must furthermore not steal other's ideas which are known through peer review of research proposals and submitted articles.
 - ii. “Text plagiarism” refers to the act of copying text from another's work without clarifying the original author.
 - iii. “Mosaic plagiarism” refers to the act of combining a part of a text with a few words added, inserted or replaced with synonyms, and others without clarifying the source or the original author.
- e. “Redundant Publication” refers to the act of publishing a paper that is identical or highly similar text to one that has already been published in the past in another academic journal without alerting the editors or readers of the fact that this work was previously published elsewhere. If the contents of the paper are almost the same as his/her previously published paper, the later paper is regarded as a redundant publication even if the text has a different point of view or perspective, or including a different analysis based on the same data that has been previously published. In the case in which the author would like to publish a paper using a previously published paper, he/she must acquire permission from the chairperson after providing the information about the publication and double-checking whether it is a redundant publication or duplication of a publication.

- f. “Self-plagiarism” refers to the act of using images, graphs or part of one's own research already published without identifying the source, and it is regarded as redundant publication.
- g. “Failing to give proper credit to co-authors” refers to the act of failing to list those who have contributed academically to the research process or results as a co-author or conversely to the act of listing those who have not made any academic contribution as co-authors.

Article 13 (Research Misconduct and Copyright Infringement)

- a. Generally, the copyright of all papers and instances published through NLBA Eurasian Institute is assigned to the author. However, if they are utilized for public objects like education, NLBA Eurasian Institute owns the right of use.
- b. The full term of copyright is assigned to the academic journal publisher in all papers published in academic journals.
- c. It should be noted that “Redundant Publication” may cause copyright violation.
- d. It should be noted that the author should use proper quotation marks when widely citing text from copyrighted sources, and even if the text is properly cited, it could infringe copyright.

Section 3. Inappropriate Writing

Article 14 (Inappropriate Writing)

The following are regarded as inappropriate writing:

- i. Inappropriate citations
- ii. Distorting references
- iii. The act of depending on abstracts when citing the published paper
- iv. Citing papers that the author did not read or understand
- v. The act of partially citing despite intensively borrowing from a single source
- vi. The act of reusing text

Article 15 (Prohibition of Distortion of References)

- a. References must only include documents that are directly related to the article content. Unrelated references for the purpose of intentionally manipulating the citation index of the paper or academic journal should not be included.
- b. As a moral responsibility, the author should not only cite the references which will be favorable to his/her data or theory, but also cite references which may contrast with his/her point of view.

Article 16 (Reuse of Text)

- a. “Reuse of Text” refers to the act of re-using a part of the manuscript that he/she has used in a previous paper.
- b. Text reuse is an act contradictory to ethical writing, so the author must avoid re-using text already used. In case of unavoidable text re-use, the author should not violate copyright infringement by following standardized reference practices including the use of quotation marks or proper indication.

Chapter 4. Ethical Rule Enforcement

Section 1. Research Ethics Committee

Article 17 (Ethical Rule Pledge)

New members who have enrolled in the research pool of NLBA Eurasian Institute shall acquaint and pledge to abide by these research ethics when submitting to the “Journal of Advanced Academic Research and Studies” and conducting research. Current members shall be regarded as having pledged to abide by these research ethics when initiated.

Article 18 (The Announcement of Violation of Ethical Rule)

If a member learns that another member has violated any ethical rules, he/she should endeavor to correct the mistake by helping make him/her be aware of the rules. However, if he/she does not correct the violation or the ethical violation is obviously unveiled, the member must report to the committee immediately.

Article 19 (Organization of the Research Ethics Committee)

NLBA Eurasian Institute shall establish a Research Ethics Committee (hereinafter referred to as the “Committee”) mandated to deliberate on matters falling under each of the following sub-paragraphs:

- a. Matters concerning establishment and revision of these rules.
- b. Matters concerning acceptance and handling of misconduct.
- c. Matters concerning beginning actual investigation and decision, approval, and re-deliberation of investigation results.
- d. Matters concerning protection of informant and examinee.
- e. Matters concerning investigation of research integrity, handling of investigation results and follow up measures.
- f. All the matters concerning operations of other committees.

Article 20 (Organization of Research Ethics Committee)

- a. The Committee shall consist of one chairperson and members of no less than five but no more than nine persons.
- b. The chairperson and the members shall be appointed by the chairman of NLBA Eurasian Institute.
- c. The members of this committee shall hold a one year term and they may be reappointed.
- d. The chairperson and the members of this committee shall maintain independence and confidentiality with respect to the details relating to deliberations and decisions.

Article 21 (Organization of Research Ethics Committee)

- a. The chairperson of the committee shall convene any meeting and preside over such meetings.
- b. The committee's meetings shall open with the attendance of a majority of the total members including the chairperson and resolve with the concurrent vote of a majority of those present.
- c. No meeting of the committee shall be open to the public. [The meeting shall not be open to the public in principle, but whenever deemed necessary, the committee can ask the related party and hear their opinions.]
- d. Whenever deemed necessary, the committee can ask the related party and hear their opinions.
- e. Any member who is involved in the research subject to an investigation will not be permitted to attend the concerned meeting due to a conflict of interest.

Article 22 (Authorities and Responsibilities of the Committee)

- a. The committee can summon for attendance and data submission any informants, examinees, witnesses and testifiers, in the process of an investigation.
- b. When the examinee refuses to attend the meeting or data submission without a justifiable reason, it could be presumed as an indication that he/she has acknowledged the allegations.
- c. The committee can take substantial measures to prevent any loss, damage, concealment or falsification of research records or evidence.
- d. The committee members should comply with confidentiality concerning deliberation-related matters.

Section 2. Research Integrity Investigation**Article 23 (Reporting a Fraudulent Act)**

An informant can report a fraudulent act using any means available when reporting using their real name. However, when reporting anonymously, he/she must submit the title of the paper, and the evidence and detail of the misconduct in writing or by e-mail.

Article 24 (Confidentiality and Protection of Rights of Examinee and Informant)

- a. The committee should not reveal the personal information of the informant unless it is necessary.
- b. The committee must take action to protect the informant if the informant experiences illegitimate pressure or threats due to reporting the fraudulent act.
- c. Until the investigation of a fraudulent act is completed, the committee must be careful not to infringe upon the rights or reputation of the examinee. If the person turns out to be innocent, the committee must make efforts to recover the reputation of the person.
- d. The identity of the informant, investigators, testifiers, and consultants should not be disclosed.
- e. All facts relating to research ethics and authenticity investigations must remain confidential and the people involved in the investigation must not reveal any information obtained during the process. If there is a need to disclose related information, the committee can vote to make such a decision.

Article 25 (Raising an Objection and Protection of Defense Right)

- a. The committee must ensure the informant and examinee have equal rights and opportunities to state their opinions and objections. Such procedures must be informed to them beforehand.
- b. An examinee or informant may require the avoidance of deliberation and decision after explanation in case he/she expects an unfair decision.
- c. The research ethics committee must give the examinee a chance to submit their opinion and clarify any fact revealed during the first report or any additional report.

Article 26 (Preliminary Investigation of Research Misconduct)

- a. The committee must investigate the presence of misconduct if there is a considerable doubt about legitimate conduct or detailed information about misconduct.
- b. The chairperson can officially carry out the investigation (hereinafter referred to as the "preliminary investigation") which is a procedure to decide whether the suspected misconduct should be investigated after consultation with the chairman of NLBA Eurasian Institute.

- c. The committee shall form the preliminary investigation committee consisting of no more than five members within 30 days of reporting.
- d. The committee shall inform the informant and examinee of the formation of such a committee, and give the examinee a chance to clarify within 30 days.
- e. A preliminary investigation is initiated within 30 days of the formation of the preliminary investigation committee and the investigation should be completed within 30 days of the start of the investigation except in unavoidable circumstances.
- f. If it has been more than five years since a misconduct was committed, the reporting is not handled in principle even if the reporting is accepted.
- g. Through preliminary investigation, the following is reviewed:
 - i. Whether the reported instance qualifies as research misconduct
 - ii. Whether the reporting is specific and clear enough to lead to an actual investigation
 - iii. Whether more than five years has passed since the reported misconduct was committed

Article 27 (Report and Notice of the Preliminary Investigation Result)

- a. The result of the preliminary investigation shall be notified to the informant and examinee within ten days of the committee's decision, and reported to the chairman of NLBA Eurasian Institute.
- b. The result report of the preliminary investigation must include the following:
 - i. Specific information regarding the alleged misconduct
 - ii. Facts regarding the alleged misconduct
 - iii. Grounding for decision on whether to conduct an actual investigation

Article 28 (Raising an Objection and Protection of Right of Defense)

- a. The committee must ensure that the informant and examinee have equal rights and opportunities of opinion statement and objection. Such procedure must be informed beforehand.
- b. The informant and examinee can make an objection within ten days from the day of being notified of the preliminary investigation.

Article 29 (Beginning and Duration of an Actual Investigation)

- a. The actual investigation begins within 30 days after a positive result from a preliminary investigation. During the period, the actual investigation committee consisting of no more than nine persons (including the preliminary investigation committee) must be formed to conduct an actual investigation.
- b. The actual investigation must be completed within 90 days from the beginning date.
- c. If the investigation committee decides that it cannot be completed within the specified period, it can explain the reason to the committee and request a 30 day extension (one time only).

Article 30 (Formation of an Actual Investigation Committee)

- a. An actual investigation committee is composed of no more than nine members.
- b. Formation and duration of an actual investigation committee is determined by the committee. The chairperson of the actual investigation committee is elected among the actual investigation members.
- c. The investigation committee shall include at least two members with specialized knowledge and experience in the relevant field.
- d. A person who has a stake in the investigated matter must not be included in the actual investigation committee.

Article 31 (Request for Appearance and Document Submission)

- a. The actual investigation committee can request the examinee, informant(S), and testifiers to appear for testimony and the examinee must comply.
- b. The actual investigation committee can ask the examinee for submission of a document, and retain and store the relative research materials about the person involved in the misconduct after the approval of the head of the research organization in order to preserve evidence relating to the investigation.

Article 32 (Exclusion, Avoidance and Evasion)

- a. The examinee or informant(s) can require exclusion by identifying the reason if there are reasons to believe that a committee member is unable to maintain fairness. When such request for exclusion is recognized, the member subjected to the request shall be excluded from the concerned investigation.
- b. If the committee member is directly related to the corresponding matter, he/she shall be excluded from all deliberation, decisions and investigation of the matter.
- c. The chairperson can suspend the qualification of a member who is related to the corresponding matter in connection with the corresponding investigation.

Article 33 (Investigation Report Submission)

The actual investigation committee must submit the result to the committee within the actual investigation period, and the result must include the following:

- i. Specific details of the alleged misconduct
- ii. Facts regarding the alleged misconduct
- iii. Evidence, witness list and affidavits
- iv. Investigation results
- v. Other data useful for decisions

Article 34 (Decision)

- a. The decision must be made within six months from the beginning of the preliminary investigation.
- b. The committee shall make the decision confirming that the examinee committed research misconduct after reviewing the result report.

Section 3. Action after Investigation**Article 35 (Action in accordance with Investigation Result)**

When a decision is made confirming the research misconduct, the committee can sanction the author with applicable punishment to each of following, or impose corresponding retribution.

- i. The publication is postponed until the final decision of the research ethics committee is made even if the paper has been confirmed to the author that it will be published.
- ii. The publication of the paper to which the research misconduct is related is to be canceled and deleted from the article list of the journal even if the volume has already been published.
- iii. The author found to have committed such misconduct is prohibited from submitting papers to the journal for three years, and these facts are made public on the homepage of the journal (<http://www.nlbaei.org>).

- iv.If there is an author found to have committed plagiarism or redundant publication, the editorial board stores the relevant investigation details for five years.
- v.The chairperson of the organization with which the author(s) is affiliated is notified of the final decision.

Article 36 (Investigation Result Notification)

The chairperson of the committee shall immediately notify the related persons such as the informant and examinee of the committee's decision regarding the investigation result in writing.

Article 37 (Investigation Result Notification)

- a.If the informant or the examinee refuses the committee's decision, he/she must submit a re-deliberation request to the committee within 15 days from receipt of the result notice as prescribed in Article 37.
- b.The committee must decide whether re-deliberation is necessary within 10 days of the receipt of the re-deliberation request.
- c.The committee will decide there-deliberation procedure and method.

Article 38 (Follow-ups such as Recovery of Author's Honor)

If the results of the investigation confirm that no research misconduct has been identified, the committee must take follow-up steps to recover the reputation of the examinee.

Article 39 (Storing the Record and Confidentiality)

- a.All records regarding the preliminary and actual investigation are stored for five years from the date of the investigation's conclusion.
- b.All facts relating to research ethics and the investigation must remain confidential and the people involved in the investigation must not reveal any information obtained during the process. If there is a need to disclose investigation information, the committee can vote to make such decision.

Article 40 (Etc.)

Matters that are not determined by these rules are to be decided by the editorial board.

Article 41 (Date of Effectiveness)

These regulations shall be effective as of January 1, 2024.

Editorial Regulations

Journal of Advanced Academic Research and Studies (JAARS)

Chapter 1. General Roles

Article 1 (Purpose)

The purpose of the following rules is to prescribe matters regarding the editorial work and standards for the Journal of Advanced Academic Research and Studies (hereinafter referred to as “JAARS”) published by NLBA Eurasian Institute.

Chapter 2. Editorial Committee

Article 2 (Editorial Committee)

The editorial committee (hereinafter referred to as “committee”) is established in order to accomplish the purpose of Article 1.

Article 3 (Formation of Editorial Committee)

- a. The editorial members shall be appointed by the chairman of NLBA Eurasian Institute, and the committee shall consist of no more than 50 members.
- b. The chief editor shall be appointed by the chairman of NLBA Eurasian Institute and is in charge of all editing.
- c. The editorial committee shall be composed of two chief editors, one editor, and one managing editor. The editors are appointed by the chairman of NLBA Eurasian Institute among editorial members.
- d. The term for the chief editor is three years, and the term for the editorial members is two years, and editorial members may be reappointed.
- e. This committee makes decisions with a majority attendance of the members and a majority agreement of the members present.

Article 4 (Qualification of Editorial Members)

The editorial members shall meet the following qualifications:

- i. Being at least an associate professor in a domestic/international university or a person equally qualified
- ii. Someone who studies in an area within the JAARS's specialty and who has published at least 3 articles in a journal (or 1 article in an SCI, SSCI and/or SCOPUS indexed journal) within the last three years

Article 5 (Responsibilities and Obligations of Editorial Members)

- a. Editorial members are fully responsible for the decision to publish JAARS-submitted papers, confirm their integrity during the deliberation process, and observe candidates during the editing process.
- b. Editorial members should respect the author's person and independence as a scholar, and make the process of the evaluation of the research paper public if there is a request.
- c. Editorial members should handle submitted papers only based on the quality and submission guidelines, not based on the author's gender, age, or affiliation.

- d. Editorial members should request a reviewer with specialized knowledge and fair evaluation ability in the relevant field to evaluate submitted papers. However, if evaluations of the same paper are remarkably different, editorial members can acquire advice from an expert in the relevant field.
- e. Editorial members should not disclose the matters of the author and the details of the paper until a decision is made pertaining to the publication of the submitted paper.

Chapter 3. Paper Submission and Peer Review Committee

Article 6 (Qualification of Submission and Submission)

- a. All the paper submitters must be members registered with JAARS.
- b. All papers should be submitted through the JAARS's online submission system (<http://www.nlbaei.org/>) and Email: edubscon@outlook.com, and can be submitted at any time. English-language papers from authors outside of the United States of America may also be submitted using e-mail.

Article 7 (Formation of Peer Review Committee)

- a. Peer reviewers are appointed by the chief editor, and selected based on the field of the reviewer's expertise. (According to circumstances, a peer reviewer who is not a member of JAARS may be appointed.)
- b. Editorial members for each content subject such as international economy, international management, or practice of trade can also serve as peer reviewers.
- c. The chief editor represents editorial members, handles all the matters relating to review, and reports the results of peer review to the committee.
- d. The managing editor is in charge of the procedure relating to review.
- e. The classification and selection of submitted papers is decided by the chief editor and the managing editor, and they report it to the committee.

Article 8 (Qualification of Peer Reviewers)

Peer reviewers shall have the following qualifications:

- i. Being at least an associate professor in a domestic/international university, or a person who is as equally specialized as the person above.
- ii. Someone who studies an area within the JAARS's specialty and has published at least 3 articles in a journal (or 1 article in an SCI, SSCI and/or SCOPUS indexed journal) within the last three years.
- ii. Someone who presents a paper, chairs a session or serves as a discussant at an academic conference at the same level of the institution, or has served as a reviewer of a study which has been indexed in a domestic or international journal within the last three years.

Article 9 (Responsibility and Duty of Peer Reviewers)

- a. Peer reviewers should evaluate papers and report the results of the evaluation to the committee within the time period set by the committee. However, if he/she believes that they are not appropriately qualified to review the paper, they should notify the committee without delay.
- b. Peer reviewers should respect the author's person and independence as a scholar. Peer reviewers may request for revision of the paper with detailed explanations if needed in the evaluation of the research paper.

- c. Papers are reviewed confidentially using a method in which the name and affiliation of the author is confidential to the public. Showing the paper and/or discussing the contents of the paper with a third party is not desirable unless a consultation is needed for purposes of review.

Article 10 (Unethical Behavior in the Review Process)

- a. Peer reviewers must not manipulate either directly or indirectly the related research-specific information contained in the research proposal or review process without the consent of the original author.
- b. Peer reviewers must be careful of the following since it could be regarded as unethical research practices in the review process:
- i. The act of handing over a requested paper to students or a third party
 - ii. The act of discussing the details of a paper with colleagues
 - iii. The act of obtaining a copy of the requested material without shredding it after review
 - iv. The act of disgracing the honor of others or fabricating a personal attack in the review process
 - v. The act of reviewing and evaluating a research paper without reading it

Article 11 (Personal and Intellectual Conflict)

- a. Peer reviewers must fairly evaluate using an objective standard regardless of personal academic conviction.
- b. Peer reviewers must avoid personal prejudice when reviewing a paper. If there is a conflict of interest including personal conflict, it must be notified to the committee.
- c. Peer reviewers must not propose rejecting a paper due to a conflict in interpretation or with the point of view of the reviewer.

Chapter 4. Principle and Process of Paper Review

Article 12 (Papers for Peer-review)

Review shall proceed based on the writing and submission guidelines. If the submitted paper substantially diverges from the writing and submission guidelines, the paper may not be reviewed.

Article 13 (Request for Review and Review Fee)

- a. The chief editor discusses the selection of reviewers with editorial members and selects two reviewers for each paper after submitted papers pass the eligibility test.
- b. The chief editor immediately requests the two selected reviewers to review the relevant submitted paper.
- c. Papers are reviewed by confidential method in which the name and affiliation of the author is confidential to the reviewer, the name of the reviewer is confidential to the author.
- d. The chief editor requests a review after deleting the name and the affiliation of the author from the submitted paper, so that the reviewer cannot obtain the identity of the author.
- e. A review fee shall be paid to the reviewer.

Article 14 (Review of Paper and Decision)

- a. Reviewers shall submit a decision report via the JAARS's online submission system (<http://www.nlbaei.org/>) and Email: edubscon@outlook.com within two weeks after they are asked to review a paper.

b. The reviewer shall decide whether the paper should be published based on the following standard. However, if the paper receives less than 30 points in the suitability and creativity of the topic, it will not be published.

- i. The suitability of the topic (20 points)
- ii. The creativity of the topic (20 points)
- iii. The validity of the research analysis (20 points)
- iv. The organization and logic development of the paper (20 points)
- v. The contribution of the result (10 points)
- vi. The expression of the sentence and the requirement of editing (10 points)

The reviewer must give one of the following four possible marks within the two week period: A (90~100 points, acceptance), B (80~89 points, acceptance after minor revisions), C (70~79 points, re-review after revision), F (Rejection), and write an overall review comment concerning the revision and supplementation of the paper.

c. In an instance where the reviewer does not finish the review within the two week period, the chief editor can nominate a new reviewer.

Article 15 (Correction of Papers according to the Editing Guideline)

- a. Before holding an editorial committee meeting, the chief editor shall request editorial staff correct those papers that receive “acceptance” or “acceptance after minor revisions”, using the journal's paper editing guidelines. However, if there is a paper that receives “acceptance” after the editorial committee meeting, the chief editor will request the editorial staff to correct the paper after the meeting.
- b. The chief editor shall notify each author of the result of his or her paper review after receiving the corrected version of the paper from the editorial staff. However, papers which receive a “rejection” shall not be notified of their result.

Article 16 (Decision of Paper and Principle of Editing)

- a. The chief editor shall call an editorial board meeting and make publication decisions after receiving finished papers from reviewers.
- b. The editorial board will make decisions to publish based on the following chart. The editorial board should respect

| Results of 2 peer-reviews | Overall evaluation(average) | Decision to publish |
|---------------------------|-----------------------------|----------------------------------|
| AA | A | Acceptance |
| AB, AC, BB | B | Acceptance after minor revisions |
| AD, BC, BD, CC | C | Re-evaluation after revision |
| CD, DD | F | Rejection |

reviewers' decisions on relevant papers, but can make decisions based on the editorial policy of the JAARS.

- c. The paper that is awarded “acceptance” should receive a “B” or higher from reviewers or the level of overall evaluation (average) should be “B” or higher, and the paper that is awarded “acceptance after minor revisions” should have its satisfactory revisions and/or developments confirmed by the initial reviewer after re-submission.
- d. The editorial board shall confirm that papers in consideration for publication are suitable to the writing and submission guideline of JAARS, look through detailed matters, and decide particular issue policies such as the number of papers and the order of them.

- e. In the case where a paper was presented or submitted for review previously, it cannot be published in JAARS.
- f. In the case where an author submits two or more papers for consideration, only one paper that receives “acceptance” shall be published in the same issue.

Article 17 (Notification of the Result)

- a. The chief editor shall notify an author of the review result after the initial evaluation or re-evaluation is finished, but can request the author to revise and develop the paper based on the evaluation report. If the editorial board makes a final decision on publication, the author should be notified.
- b. The author must be notified of the review result within one month from the day of receiving the paper or revised paper (or the deadline of submission). If it is impossible to notify the author within one month, the reason and the due date of notification must be notified to the author.
- c. Unless there is a specific reason, the author must submit a file including a response to the evaluation report, revision to and/or development of the paper to the chief editor after editing the paper within the period the editorial board suggests when he/she is asked to edit the paper. The changed details must be confirmed by the editorial board as well. In case the author does not submit the revision and development to the editorial board within the period, it shall be automatically postponed until this process is finished.
- d. A paper that receives a “C” in the overall evaluation (average) shall be re-evaluated after the chief editor sends the revised article and revision report to the initial reviewer(s).
- e. In cases where the evaluations of the same paper are remarkably different among reviewers, the chief editor can nominate a third reviewer and request a re-evaluation. In this case, the chief editor shall send the evaluation report to three different reviewers and have them submit the final evaluation report based on the details of the paper, and the paper can be published after revision only if the final mark awarded the revised paper is higher than a “B” in the overall evaluation.
- f. The chief editor will issue an acceptance letter for the papers confirmed to be published.

Article 18 (Proofreading and Editing)

- a. The chief editor shall request domestic/international members to proofread and edit papers confirmed to be published.
- b. Proofreading and editing members shall be recommended by the chief editor and appointed by the chairman of NLBA Eurasian Institute.
- c. The chief editor shall send the results of proofreading and editing to the original author and request the author to edit the paper appropriately.
- d. The author, unless there is a specific reason, must submit the revised paper and revision report to the chief editor after editing the paper within the period the editorial board suggests when he/she is asked to edit the paper. The changed details must be confirmed by the editorial board as well.
- e. Even if a paper is confirmed to be published, it will be rejected if it has not fulfilled the editing procedure following the result of proofreading and editing, or has been found to have committed research misconduct of any kind.
- f. If an editing member finds plagiarism, inadequate form, or low quality in the process of editing a paper that the journal has confirmed to be published, he/she must notify the chief editor. and can suggest proper responses to the findings. g. The chief editor suggests whether to avoid publication of a paper or have the author re-submit the paper after revision and development according to the guidelines stipulated in Article 5. In the case of a paper requested to be revised and developed, publication can be postponed based on the degree of completion and the schedule of revision and development.

Chapter 5. Editing and Publication

Article 19 (Editing and the Date of Publication)

JAARS is published six times a year in principle. However, if there is a reason such as the number of submitted papers, the committee can increase or decrease the number of issues.

Article 20 (Notification of Editing)

- a. The chief editor shall acquire publication consent from the authors of the confirmed papers before printing.
- b. The chief editor shall report to the chairman of NLBA Eurasian Institute when the editorial process following editorial policy is completed, and shall further follow the outlined process for printing and editing.

Article 21 (Sanction on Plagiarism and Redundant Publication)

If the ethics committee finds that a submitted paper or a published paper contains plagiarism or was published in another journal, the following sanctions will be taken:

- a. Distributing after deleting the relevant paper in the journal if the journal has not been distributed yet,
- b. Notification of paper deletion on the website if the related issue has already been distributed,
- c. Notification of the plagiarism or redundant publication of the relevant paper on the website,
- d. Banning the relevant author from submitting papers to all journals published by JAARS for two years from the date when plagiarism and redundant publication is found and from presenting in conference,
- e. Notifying the author's affiliated organization or institution of the fact of the plagiarism or the redundant publication, if necessary.

Article 22 (Transfer of the Rights of Publication, Duplication, Public Transmission, and Distribution)

- a. The right of publication of the paper is owned by NLBA Eurasian Institute unless specified.
- b. The author(s) shall transfer the right of duplication, public transmission, and publication to NLBA Eurasian Institute. If they do not agree, the relevant paper cannot be published in JAARS.

Article 23 (Notification of Paper on Homepage)

Papers published in JAARS shall be publicly notified on the JAARS homepage (<http://www.nlbaeai.org/>)

Article 24 (Etc.)

The matters that are not decided in these rules are either subject to the submission guidelines or decided by the editorial board.

Article 25 (Date of Effectiveness)

These regulations shall be effective as of January 1, 2024.

Author's Check List

Journal of Advanced Academic Research and Economics (JAARS)

Title of Manuscript: _____

Manuscript ID: _____

Please check ☒ to confirm fulfillment of instructions below before submitting your manuscript.

1. General guidelines

- ☐ The submission contains an original manuscript, a checklist, and a copyright transfer agreement.
- ☐ The manuscript follows the journal template, using MS Word.
- ☐ The manuscript consists of a title page, abstract, keywords, JEL Classifications, acknowledgement (if any), main text, references, appendix (if any), tables and figures.
- ☐ The pages are numbered consecutively beginning with the title page.

2. Title page

- ☐ The manuscript consists of title, author(s) name(s), and affiliation(s).
- ☐ The lower area of the title page includes the name(s) of the author(s) and e-mail of the corresponding author only.

3. Abstract, Keywords and JEL classifications

- ☐ The Abstract is less than 250 words for an original article.
- ☐ Includes no more than six keywords.
- ☐ Includes no more than five JEL classifications.

4. Main text

- ☐ Subtitles are ordered according to the journal template.
- ☐ All figures and tables are cited in numerical order as they are first mentioned in the text.
- ☐ All figures and tables are referenced within the text.

5. Tables and figures

- ☐ The titles of figures and tables are set flush left above them, capitalizing the first letter of each word in these titles except for prepositions and articles.
- ☐ Vertical lines are avoided in tables.
- ☐ Pictures or photos are supplied in high resolution (minimum 300 dpi).
- ☐ Pictures or photos are supplied at a reasonably legible size for printing if they may be affected by resizing in the printing process.

6. References

- ☐ References follow KITRI style.
- ☐ Each entry in the reference list is cited in the main text.
- ☐ All references are listed in alphabetical order followed by the year published.
- ☐ The title of books and journals is expressed in italics.
- ☐ Complete references are included with the full title of the article and up to six author names. Where there are seven or more authors, they are identified as "et al."
- ☐ Journal articles have been double-checked as to whether the author name, (published year), title, journal name, volume (issue number) and pages are correct.
- ☐ Books have been double-checked as to whether the author name, (published year), title of book (editions, if any), place of publication, publisher's name, and pages are correct.

Copyright Transfer Agreement

NLBA Eurasian Institute

Title of Manuscript:

All Authors:

All authors of this manuscript must agree to the following:

- 1.All authors certify that the manuscript does not violate any copyright and confirm its originality.
- 2.All authors have made an actual and intellectual contribution to this manuscript and hold responsibility for its contents.
- 3.This manuscript has not been published or will not be submitted to another journal for publication.
- 4.The “Journal of Advanced Academic Research and Studies” has rights in legal action against the infringement of copyright of this manuscript without authors’permission.
- 5.All authors of this manuscript confirm the transfer of all copyrights in and relating to the above-named manuscript, in all forms and media, through the world, in all languages, to “Journal of Advanced Academic Research and Studies”.
- 6.If each author's signature does not appear below, the signing author(s)represent that they sign this Agreement as authorized agents for and on behalf of all the manuscript authors, and that this Agreement and authorization is made on behalf of all the authors.

In order for my manuscript to be accepted for publication in the Journal of Advanced Academic Research and Economics (JAARS), I hereby assign and transfer to the NLBA Eurasian Institute all rights, title, and interest in and the copyright in the manuscript, entitled.

Date:

Corresponding Author:

Signature:

*Submission:You must submit a scanned file (file type: jpg, gif, or pdf) of this signed confirmation and final manuscript file (file type:MS Word) online after the manuscript has been accepted for publication.

Call for Papers

Journal of Advanced Academic Research and Economics (JAARS)

The Journal of Advanced Academic Research and Economics (JAARS) is the official publication of the NLBA Eurasian Institute publishes manuscripts of significant interest that contribute to the theoretical and practical basis of business, economics, and international trade studies. JAARS's broad scope and editorial policies create accessible, thought-provoking content for the general academic community of business, economics, and international trade. The goal of JAARS is to publish insightful, innovative and impactful research on business, economics, and international trade. JAARS is multidisciplinary in scope and interdisciplinary in content and methodology.

Subject Coverage

JAARS is an interdisciplinary journal that welcomes submissions from scholars in business, economics, and trade disciplines and from other disciplines (e.g. political science) if the manuscripts fall within the JAARS domain statement. Papers are especially welcome which combine and integrate theories and concepts that are taken from or that can be traced to origins in different disciplines.

JAARS is a methodologically pluralistic journal. Quantitative and qualitative research methodologies are both encouraged, as long as the studies are methodologically rigorous. Conceptual and theory-development papers, empirical hypothesis-testing papers, and case-based studies are all welcome. Mathematical modeling papers are welcome if the modeling is appropriate and the intuition explained carefully.

Notes for Prospective Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. All papers are referred through a peer review process.

All manuscripts should follow the submission guidelines on the JAARS homepage (<http://www.nlbaeai.org/>).

JAARS operates an on-line submission system. Manuscripts should be submitted to the on-line submission system at <http://www.nlbaeai.org> following all prompts on the screen.

There is no firm submission deadline for papers and the submitted articles will be evaluated on a rolling basis.

Any queries should be sent to the Editor of JAARS at the following address: edubscon@outlook.com

Guidelines for Authors (In Brief)

[Journal of Advanced Academic Research and Studies (JAARS)]

How to submit the paper

The authors submit their manuscripts (in MS Word Format) to the on-line submission system at <http://www.nlbaei.org>

Blind Review Policy

The journal follows double blind peer review policy. The paper is sent to two reviewers appropriately qualified experts in the field selected by the editor to review the paper in the light of journal's guidelines and features of a quality research paper. For papers which require changes, the same reviewers will be used to ensure that the quality of the revised paper is acceptable.

Manuscript Preparation Guidelines

The author(s) must follow the Manuscript Preparation Guidelines in preparing the manuscript before submission.

1. Language

The language of the manuscript must be English (American English, e.g. "color" instead of "colour").

2. Length of Paper

The length of the paper should not exceed 30 pages (Times New Roman, 12 Font) excluding tables, figures, references and appendices (if any). Articles should be typed in double-space (including footnotes and references) on one side of the paper only (preferably Letter size) with 1 inch margin. Authors are urged to write as concisely as possible, but not at the expense of clarity.

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The title page should include: (i) A concise and informative title, (ii) The name(s) of the author(s), (iii) The affiliation(s) and address(es) of the author(s), and (iv) The e-mail address, telephone and fax numbers of the corresponding author.

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Please provide an abstract of 200 to 250 words. The abstract should not contain any undefined

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Please provide 4 to 6 keywords which can be used for indexing purposes.

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The author may use acknowledgement section in the title page of the paper (if any).

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Divide your article into clearly defined and numbered sections. Sections should be numbered in Roman numerals (e.g., I, II). Subsections should be numbered using the decimal system (e.g., 1., 1.1., 1.1.1., 1.1.2., 1.2., ..., 2., 2.1.). The abstract is not included in section numbering.

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Present tables and figures within the article, not at the end of the article. Please note that the article will be published in black and white (print), although online version will contain the colorful figures (if any). However, the color print will be available in extreme cases as per the request of the author.

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Jeon, Soon-Hwan (2017), *International Trade Practices* (5th ed.), Seoul: Hanol, 156.

Reference to a chapter in an edited book:

Bomhoff, E. J. (1998), "Introduction". In E.

M. Rogers and S. Taylor (Eds.), *The Global Leadership Mindset* (2nd ed.), Oxford, UK: Oxford University Press, 12-25.

Reference to a web source:

Liu, Chengwei (2005), *Price Reduction for Non-conformity: Perspectives from the CISG*. Available from <http://www.cisg.law.pace.edu/cisg/biblio> (accessed January 11, 2016)

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Typically, the blind review process takes approximately six to eight weeks.

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www.nlbaei.org
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