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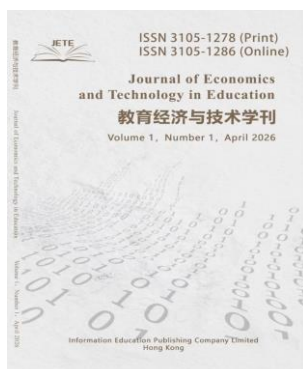
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四“新”理念引导下的高等数学教学改革探索与实践

芮义鹤 (Rui Yihe), 彭丽辉 (Peng Lihui)

摘要：高等数学是我国普通高等本科院校至关重要的核心基础课程，其教学成效直接关系学生后续专业课程学习与综合能力培养。在四“新”建设与新时代高等教育改革背景下，深化高等数学课堂教学改革具有迫切的现实必要性。当前高等数学教学仍面临学生数学基础薄弱、学习兴趣不足、教学形式单一、考核方式单一、课程内容与专业结合不够紧密等突出问题，难以适应创新型人才培养要求。本文基于四“新”理念，结合教学实践探索改革路径：以专业为导向重构教学内容，兼顾数学基础与专业应用；融合线上线下混合教学，提升教学灵活性与互动性；建立多元考核机制，同步考查书本知识与实践应用能力；挖掘课程思政资源，推动数学与文学、美学深度共鸣，实现立德树人。改革实践有效提升了教学质量与学生学习获得感，可为同类课程改革提供参考。

关键词：高等数学；课堂教学；教学改革

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Title: Exploration and Practice of Higher Mathematics Teaching Reform under the Guidance of the Four New Disciplines

Abstract: Higher Mathematics is a crucial foundational course in colleges and universities in China, and its teaching effectiveness directly affects students' follow-up professional learning and comprehensive ability development. Under the background of the "Four New Disciplines" and the reform of higher education in the new era, it is urgent and necessary to deepen the teaching reform of Higher Mathematics. At present, there are still prominent problems in Higher Mathematics teaching, such as weak students' mathematical foundation, insufficient learning interest, single teaching mode, rigid assessment methods, and inadequate integration of curriculum content with different majors, which are difficult to meet the requirements of innovative talent training. Guided by the "Four New Disciplines", this paper explores the reform paths based on teaching practice: first, reconstruct textbook content with professional orientation, balancing mathematical foundation and professional application; second, integrate online and offline mixed teaching to improve flexibility and interaction; third, establish a diversified assessment mechanism to evaluate both book knowledge and practical application ability; fourth, dig ideological and political resources to promote the integration of mathematics, literature and aesthetics, so as to realize the goal of morality education. The reform practice has effectively improved teaching quality and students' learning sense of gain, which can provide a reference for the reform of similar courses.

Keywords: Higher Mathematics; Classroom Teaching; Teaching Reform

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引言

高等数学作为我国普通高等本科院校的核心基础课程，是培养学生数学素养、科学思维与实践应用能力的关键载体，其教学质量直接影响学生后续专业课程学习成效，更关系到创新型人才培养目标的实现。在高等教育四“新”（新工科、新医科、新农科、新文科）建设深入推进、教育教学改革不断深化的新时代背景下，传统高等数学教学模式已难以适配人才培

养的新需求，深化课堂教学改革成为当前高等数学教育领域的迫切任务。

当前，我国高等数学教学仍面临诸多突出困境：学生数学基础参差不齐、学习主动性与兴趣不足，教学形式多以“灌输式”为主、缺乏互动性与针对性，课程内容与各专业需求结合不够紧密，考核方式僵化单一、侧重知识记忆而忽视实践应用能力，这些问题严重制约了教学质量的提升，也难以满足四“新”建设对复合型、创新型人才的培养要求。

基于传统大学数学课堂教学中存在一些弊端，近年来，许多学者积极探索大学数学课堂教学的改革。张庆月以“互联网+”为背景，探讨了“互联网+”背景下高等数学教学改革探索，提出了高等数学教学存在着学生自主学习意识低迷、教法单一、忽视学生数学思维培养的问题（张庆月，2023）。

周慧波等认为大多数高校开设的高等数学课程内容主要体现数学自身学科的理论性、严谨性和逻辑性，教材内容几乎相同，没有基于不同专业的发展需求进行内容设置，无法让学生感受到高等数学的知识对于专业学习的重要性（周慧波，2024）。赵爽等从学生就业问题入手，也认为应该紧密结合当代大学生就业创业需求，优化高等数学教学结构（赵爽，2023）。杨鹏提出，传统的“填鸭式”的教学模式已经不符合当前高等教育改革的要求，高等数学的课堂教学改革势在必行（杨鹏，2023）。张永华对混合式教学模式在高等数学中的应用进行了深入的研究，提出了教学体系重构的思路（张永华，2023）。本·奥尔林（Ben Orlin）和《微积分的力量》一书的作者史蒂夫·斯托加茨（Steven Strogatz）都强调学习兴趣才是学生学好数学的动力，课堂教学关键的任务是提高学生学习兴趣。

众所周知，当今社会科学技术突飞猛进，知识更新迭代频繁迅速。人工智能的普及，极大地改变了人类的生活质量和生活方式。这些都要求人们拥有强大的自学能力，对自己所学的知识进行更新迭代从而更好地适应时代和社会的发展需求。这些对课堂教学方式也提出了种种挑战。必须在课堂教学中革新教学方法，以提高学生的学习兴趣和自学能力，使学生从被动依靠为主的学习方法，改变为以主动思考为主。纯数学只有以实践为目的，走出一条应用的道路，才能发挥数学作为方法的各种功能。

基于此，本文以四“新”理念为指导，结合浙江工商大学高等数学教学实践，系统探索高等数学教学改革的路径与方法。本文首先阐述高等数学教学改革的必要性，剖析当前教学中存在的主要问题；明确改革的方向与切入点；随后从教学内容重构、教学方式创新、考核机制优化、课程思政融入四个维度，详细阐述改革的具体实践路径；最后总结改革成效，为同类高校高等数学课程改革提供可复制、可推广的参考与借鉴。希冀通过本次改革探索与实践，打破传统教学桎梏，破解高等数学教学痛点难点，推动高等数学教学提质增效、内涵发展，切实发挥其作为基础课程的支撑引领作用，助力学生提升数学应用能力、创新思维与综合素养，最终实现“数学育人”的立德树人目标，为四“新”建设背景下高等教育人才培养事业的高质量发展注入新动能，为培养适应新时代要求的复合型、创新型人才奠定坚实的数学基础。

一、高等数学课堂教学改革的必要性

（一）高等数学课堂教学的重要性

高等数学是大学数学系列中的一门基础课程，是我国普通高等本科院校的必修课程。无论是理工科还是财经类院校，都是非常重要的基础课。高等数学对于学生的数学素养和科学思维能力的培养非常重要。

现代社会对人的数学素养要求越来越高，“高新技术的本质就是数学技术”这一观点已经被越来越多的人所接受。课堂教学是大学教育最基础的部分，更是学生积累知识和培养能力最重要的舞台。大学数学课程一般都是在大学低年级开设，尤其是学习高等数学的时期，学生正处于大一阶段。初进大学的学生，学习热情高，新鲜感强，但由于纯数学舍弃了具体的现实内容，周旋于抽象的概念和推理之中，相对地脱离了实践，使得教学效果往往不尽如人意。说起微积分，很多人立即联想到棘手的计算。事实上，微积分的本质在于方法，在于思考（史蒂夫·斯托加茨，2021）。所以，尽管学生有着高涨的热情，但是由于课堂讲授的方式、方法单调，学生因学习方法不得要领而苦恼，结果学习效率低，考试成绩不佳，很快丧失了学习的兴趣和信心。上述种种情况进一步说明，课堂教学在大学数学的教育中占有举足轻重的地位。

（二）大学数学课堂教学中存在的问题

数学是很多学生非常畏惧甚至非常讨厌的课程，不少学生是“数学过敏症”患者。因此，大学里数学课相对来说也是学生挂科率比较高的课程，学生谈数学色变。究其原因我们认为有以下几点：

1. 学生基础薄弱，教学效果不佳

其一，学生基础知识掌握不牢固。高中阶段，数学教学大多采用题海战术、练习出成绩的应试教学模式。学生在教师的指挥棒下，终日埋头题海，无暇思考，思维僵硬，更没有养成主动思考问题的习惯（张庆月，2023）。进入大学，学生依然用惯性的思维、固定的模式来学习高等数学，不免耗时伤神，事倍功半，学习效果差。

其二，大学里功课繁多，各门功课都需要付出大量的精力，课外社团等活动也要花费大量的时间，学生投入在数学这门功课上的时间和精力远远不够。

再者，大学数学课本里的概念、定理等等比较抽象，难以理解，而上课的强度大、时间紧、任务重。以上这些因素都导致学生对大学数学有很重的畏难情绪，教学效果不佳。

2. 教学形式单一，学生缺乏兴趣

教师教法单一、死板、单调。“灌输式”“填鸭式”教学仍然是高等数学课堂经常采用的模式。课堂上，勤奋的学生忙着紧跟教师的教学步骤，忙着记笔记，被动学习知识，无暇思

考，毫无学习兴趣而言。懒惰的学生，抱着期末“临时抱佛脚”甚至“破罐子破摔”的态度，对高等数学的学习，更会彻底丧失兴趣。

二、四“新”理念引导高等数学课堂教学改革探索与实践

（一）用“新”的理念处理教材，基础与专业兼顾

目前，几乎所有高校均开设“高等数学”课程，而绝大多数高等数学课程的内容主要体现数学学科的理论性、严谨性和逻辑性，教材内容千篇一律，没有基于不同专业的发展需求进行课程内容设置。学生根本无法真正感受到高等数学知识对于后续专业学习的重要性。教师在教授的过程中，常常面临学生的灵魂拷问“学数学有什么用？”。没有专业背景的解释更是显得苍白无力，无法让学生满意，必然无法解除学生的疑惑。学生也无法真正体会到数学的重要性与强大作用。因此学生在学习的过程中极易对数学课程产生厌倦情绪，学习动力严重不足，从而影响教学效果。为满足人才发展的需求，高等数学教学设计应以专业导向为着力点，在讲授高等数学课程内容的同时，链接相关专业课程知识，增加学生对本专业后续知识的了解，明确高等数学的重要性和基石作用，从而重视高等数学课程的学习。

如讲解高等数学中的极值问题，针对金融、会计专业的学生，我们设计求最大利润、最小成本的经济相关例题；针对旅游专业，我们设计求最佳线路的例题；针对食品专业学生，设计最佳配方的例题。又如讲解概率论中的独立性问题，针对信电专业学生，设计电路相关的例题；针对经管类学生，引入传统京剧“失街亭”故事，从概率的角度解释成语“智者千虑，必有一失”。真正做到从“千篇一例”到“千篇千例”的转变，激发学生的学习兴趣 and 热情，从而达到良好的教学效果。再如在讲授定积分定义的时候，针对学生无法理解定积分的“分割、近似、求和、求极限”四个步骤，我们引入身边的实际问题：让学生讨论怎样测量学校曲边湖泊——“墨湖”的面积。这种先展示生活中的常见问题，再顺理成章地解释它背后的数学原理，最后归纳出严谨的数学定理，引导学生入门。在课堂教学中从实际中找例子，形成实践—理论—再实践的良性循环过程，既丰富了教学内容又极大地激发了学生的学习兴趣 and 热情，切实做到基础知识与专业知识兼顾。让学生真正喜欢上数学，热爱数学，认为“数学是有趣的而且重要的”，使课堂教学达到事半功倍的效果，从而达到良好的教学效果。

（二）用“新”的方式讲授内容，线下与线上并用

自古以来，课堂教学的主要方式就是面授，一直是“先生讲，学生听”。这种教学方式有着显著的优点：通过教师的肢体动作、表情和语言与学生进行真情实感的交流，对学生情感和世界观、人生观、价值观产生影响。不仅传授知识，同时对于人生观、世界观尚处在形成阶段的学生来说是至关重要的。自古以来就不乏师生深情厚谊的美谈。当然，这种传统的面授形式的缺点也是明显的，在知识更新迭代迅速，信息爆炸的现代显得有点局促。

随着现代科技的飞速发展，线上教学方式犹如雨后春笋，也很快为大众所接受和采纳。线上教学方式的优点很多，比如快速、不受时空限制、可重复性等，可以在方寸之间实现课程资源共享，能够迅速地实时地学习先进的科技知识和世界文化。但是单纯地线上教学，缺乏情感互动，缺乏温度。长期的一个人在封闭的室内面对一台冰冷的机器学习，也是非常容易引发学生心理问题的。所以传统的面授和线上教学都有各自的优缺点。如果只坚持面授或只选择线上教学，显然已经无法满足现在的教学形势。

为了适应社会发展对人才培养的迫切需求，将线上教学与线下教学方式有机融合，两种教学方式进行优势互补，能更有效地促进教学。数学，尤其是高等数学，数学的思想方法是数学的精髓。著名数学教育家傅种孙先生主张数学教学要体现“方法为经，知识为纬”，实在是至理名言。线下面授，主要讲授数学思想、数学方法。而一些背景和前沿知识通过 MOOC 平台与视频渠道让学生学习了解，充分利用 AI 助课，AI 助教。学生的习题答疑解惑，作业批改采取线上 AI 助学、AI 助评。利用“AI 四助”一方面大大地提高教学效率和成果，另一方面也可以让学生更好地学习、了解、应用前沿的科技成果，提高学生适应社会快速更新的能力。

（三）用“新”的机制评价学生，书本与应用同察

传统的高等数学的考核方式往往都是期末一张考卷，“一场考试定终生”。这容易导致很多学生不注重平时知识的积累，往往是临近期末“临时抱佛脚”——突击刷题备考，其目的只是“六十分万岁”，没有丝毫学习过程的乐趣，更遑论应用数学知识了。因此，设计多元化的考评机制势在必行。

高等数学不同于其他科目，当然要有一定量的课后练习来巩固课堂所学的知识。每节练习课上均应布置相应的习题，帮助学生加深对概念的理解，提高他们的计算能力。然而大学数学的精髓不在于知识本身，而在于数学知识中所蕴含的数学思想和解决问题的方法。所以也应布置一些有实际应用背景的问题，要求学生思考甚至建立数学模型来解决。这对拓展学生思维、充分训练学生解决问题的能力非常有帮助。因此，除了期末考试、平时作业以外，还应考察学生的应用能力。比如，在学习了定积分概念以后，给设计专业学生布置思考题：做一件上衣所需布料的确切数字。学生需要将上衣分成前片，后片，两只袖子，这四个部分在数学上都是曲边梯形，然后利用定积分求出这四个曲边梯形的面积。

再比如，讲解三重积分的时候，给食品专业学生布置这样的一道思考题：蛋筒冰激凌的圆锥中心角为多大的时候，所装的冰激凌最多？这里需要用到空间解析几何、三重积分、函数的最大值三个部分的知识，同时还要考虑蛋筒的实际形状比如这个中心角不可能是 90° 。学生在解决这种问题时候，比做一个普通的积分计算题要有意思得多。解决这样的问题极大地提高了学生的数学建模的能力和解决实际问题的能力。解决这种问题往往还需要多人合作，

这也加强了学生之间的相互交流。学生一方面看到数学是强有力的工具，同时还是一门跟生活息息相关的功课，而且还是非常有趣的科目，进一步激发学生的学习兴趣。

（四）用“新”的桥梁融入思政，数学与文学共鸣

高校教师是立德树人的“主力军”，课堂教学是立德树人的“主战场”。高等数学教师应从多方面对高等数学的思想政治教育因素进行充分挖掘，发挥高等数学课程的育人功能。以数学家的品格与成就激发学生的学习兴趣，坚定拼搏的信念；结合我国数学发展史，增强民族自信心，激发民族责任感；将优美的诗词融入数学教学，实现数学与文学、美学、艺术的共鸣。

一方面，博大精深的中华优秀传统文化是我们在世界文化激荡中站稳脚跟的根基。中华文化源远流长，积淀着中华民族最深层的精神追求，代表着中华民族独特的精神标识，为中华民族生生不息、发展壮大提供了丰厚滋养。习近平总书记在多个场合谈到中国传统文化，表达了自己对传统文化、传统思想价值体系的认同与尊崇。

另一方面，高等数学课程内容严谨有余、活泼不足，让学生整堂课紧绷思考，不利于学习效果。同时，数学教师也应关注学生人文素养，将优美诗词融入数学教学，开展“美育教育”，弘扬中华优秀传统文化，实现夯实基础、加强能力、提高素养、铸炼思想的层层递进立德树人目标。

比如：在讲解零点定理时，笔者设置“诵读经典”环节，引领学生诵读《诗经·蒹葭》。“蒹葭苍苍，白露为霜，所谓伊人，在水一方，溯洄从之，道阻且长，溯流从之，宛在水中央”。问他们为什么见不到伊人呢？因为他不懂零点定理。伊人在水一方，你沿着河的一边走怎么能见到呢？又如在讲解指数函数的导数时，引入于谦诗句“千锤万凿出深山，烈火焚烧若等闲”和毛泽东主席诗句“不管风吹浪打，胜似闲庭信步”。再如，计算不定积分的过程中，第二次选择的必须与第一次的相同，坚持下去，一定能解决问题。此时引入“靡不有初，鲜克有终，初心如磐石，笃行而致远”和“黄沙百战穿金甲，不破楼兰终不还”。

“partial derivative”——偏导数，这里的“partial”应该是“部分的”含义，而不是“偏向的、偏爱的”意思。“部分导数”就很不符合汉语翻译的“信、达、雅”，而“偏导数”就更为大众接受和习惯。多元函数求偏导数，是一部分一部分去求导，这与中国传统文化中“事有先后，物有本末”理念不谋而合。在这个时候融入“事分轻重缓急，择其重者先为之，其不重者后为之”就顺理成章了。这种融入，一方面帮助学生理解“偏导数”概念，一方面培养学生学习、生活中处理复杂问题的能力：化整为零，各个击破。类似这种“润物细无声”的融入课程思政，既能生动讲解课程内容，帮助学生理解；同时也能向同学们传达不畏艰难的意志品质，领略欣赏优美的中华诗词，弘扬中华优秀传统文化，培养学生的文化自信与家国情怀，使知识传授与价值引领同频共振、协同育人。

三、结语

高等数学课程是一门非常重要的课程，它不仅仅是为了培养学生的数学素养，更是为了培养学生的综合素质。高等数学的课堂教学方法的创新不仅有助于学生更好地理解和应用数学知识，还能帮助学生树立正确的世界观、人生观、价值观，培养学生的社会责任感和创新意识。在新时代教育强国战略背景下，高等数学教学更需以学生为中心，以“立德树人”为根本，将知识传授、能力培养与价值引领深度融合，助力学生成长为兼具数学素养、创新能力与家国情怀的高素质人才。

本文以四“新”理念为根本指引，结合浙江工商大学高等数学教学实践，针对当前高等数学教学中存在的学生基础薄弱、教学形式单一、课程与专业脱节、考核机制僵化等突出问题，从教材内容、教学方式、考核机制、课程思政四个维度，系统探索并实践了高等数学教学改革的具体路径。

当然，高等数学教学改革是一项长期的、系统性的工程，不可能一蹴而就。随着四“新”建设的持续深入、人工智能等新技术的不断发展以及人才培养需求的不断升级，高等数学教学改革仍需持续深化、不断完善。未来，我们将继续以四“新”理念为引领，结合不同专业的发展需求和学生的成长特点，进一步优化教学内容、创新教学方法、完善考核体系、深化课程思政融合，持续探索更具针对性和实效性的教学改革路径，不断提升高等数学教学的内涵与质量，让高等数学真正成为支撑学生专业发展、助力学生成长成才的重要基石。

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科技创新视域下的广东省高等学校专利质量提升及转化机制研究——一个整合产权、能力与生态的分析框架

刘 昂 (Liu Ang), 刘叔文 (Liu Shuwen)

摘要：本文针对广东省高等学校专利数量庞大但转化率长期低迷的突出问题，构建了“产权—能力—生态”三维协同分析框架，系统剖析了高校专利转化困境的制度根源、组织短板与生态制约。研究发现，当前困境的本质是产权激励扭曲、组织能力断层与创新生态割裂三者相互嵌套、彼此强化的系统性失灵。为此，本文提出应以“产权契约化—能力专业化—生态一体化”为核心路径，通过法律规则创新、组织能力再造、生态系统优化与治理体系协同，推动高校专利工作从“数量规模型”向“质量效益型”根本转型。研究进一步从法律解释协同、市场生态培育、治理容错机制等方面提出制度保障建议，并强调省级政府在大湾区知识产权协同治理中的统筹作用，以期为粤港澳大湾区国际科技创新中心建设提供系统性治理方案。

关键词：广东省高等学校；专利质量；专利转化；产权—能力—生态框架；创新生态系统；协同治理

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Title: Improvement and Transformation Mechanism of Patent Quality in Guangdong Universities: A Three-Dimensional Framework of Property Right, Capability and Ecosystem

Abstract: This paper addresses the prominent issue of the low conversion rate of patents in higher education institutions in Guangdong Province despite their large quantity. By constructing a three-dimensional synergistic analytical framework of “Property Right—Capability—Ecosystem”, it systematically examines the institutional roots, organizational shortcomings, and ecological constraints hindering patent conversion. The study reveals that the current predicament is essentially a systemic failure resulting from the intertwined and mutually reinforcing distortions in property rights incentives, fractures in organizational capabilities, and fragmentation of the innovation ecosystem. Accordingly, this paper proposes a core pathway centered on “contractualization of property rights, professionalization of capabilities, and integration of the ecosystem”. It advocates for innovation in legal rules, reconstruction of organizational capabilities, optimization of the ecosystem, and synergy in governance systems to fundamentally shift patent-related work in universities from a “quantity-scale model” to a “quality-efficiency model”. Furthermore, the study puts forward institutional safeguards in terms of harmonized legal interpretation, cultivation of a market ecosystem, and fault-tolerant governance mechanisms. It emphasizes the coordinating role of provincial governments in the collaborative governance of intellectual property within the Greater Bay Area, aiming to provide a systematic governance solution for the construction of an international science and technology innovation hub in the Guangdong-Hong Kong-Macao Greater Bay Area.

Keywords: Higher education institutions in Guangdong province; patent quality; patent conversion; property rights–capability ecosystem framework; innovation ecosystem; collaborative governance

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引言

党的二十届三中全会提出“构建支持全面创新体制机制”，并强调科技体制改革的核心目标是破除制约创新的体制机制障碍。自国家创新驱动发展战略实施以来，广东省高等学校的专利事业呈现规模快速扩张态势，申请与授权数量连续多年位居全国前列，已成为区域知识产出的重要策源地。然而，与此形成尖锐对比的是，专利转化率长期在低位徘徊，“沉睡专利”大量积压，创新价值链存在显著的“梗阻”现象。这一局面不仅造成了巨大的科技资源闲置与浪费，更暴露出创新体系深层结构性的效能缺失，在粤港澳大湾区建设国际科技创新中心的关键阶段，此矛盾日益凸显。

根据《2023 年中国专利调查报告》，我国专利产业化率达到 54.3%，但在企业受让专利获取来源中，高校仅占 13.4%。当前高校专利工作的困境体现在多个相互关联的层面，其中，“产权—能力—生态”三者的割裂与错位，构成了矛盾的核心枢纽。具体而言，产权界定中的教义学刚性制约了契约自由的施展空间，组织内部的质量生成、合作运营与转化实施能力存在断层，而外部创新生态则在资源协同与规则统一上呈现碎片化。这三者并非孤立存在，而是相互掣肘、彼此削弱，形成了一个难以突破的低效循环。既有研究表明，广东省高校院所科技成果转化亦存在高质量可转化成果供给不足、作价投资转化方式占比低、技术转移服务体系不健全等突出问题。（邓媚、王梦婷、陈程，2021，p. 103）

因此，深刻剖析并系统破解这一“三维矛盾”，对于释放广东省高校的创新潜力、打通科技成果转化的“最后一公里”、支撑粤港澳大湾区高质量发展，乃至为中国高等教育与科技管理体制的改革提供地方实践范本，都具有至关重要的理论价值与现实意义。基于此，本文旨在构建一个整合“产权、能力与生态”的分析框架，并以此为基础，对广东省的现实困境进行研判，进而提出具有可操作性的系统性解决路径。

一、广东省高校专利质量与转化困境的系统性分析框架构建

（一）现有研究综评：从线性模型到系统观的演进与局限

围绕高校科技成果转化，国内外学界已积累了丰富的研究成果。早期研究多遵循政策层面的“线性模型”，（刘昂，2020）关注从基础研究到市场应用的单向流程，（张祥志、徐金辉、杨珍、张广弘，2024）其对策集中于弥补“资金缺口”或“信息鸿沟”。（张金福、李哲婷，2022）随后，研究视角转向“中介组织论”，（刘冬、王海涛、刘海涛，2025）强调技术转移办公室（TLO）、孵化器等中介机构的关键桥梁作用。近年来，随着创新理论的发展，“创新生态系统”观逐渐成为主流，强调多元主体共生、互动与环境赋能。

然而，现有研究仍存在以下局限：其一，法学视角的深度融入不足。多数研究将产权制度视为给定的外生变量，缺乏对《专利法》《促进科技成果转化法》与国有资产管理规则之间

内在张力的精细法教义学剖析，更疏于探讨如何通过法律解释与契约设计来重构激励本源。其二，系统要素的割裂分析。大量文献或聚焦于产权激励，或聚焦于能力建设，或聚焦于生态构建，未能充分揭示“制度—组织—生态”三者之间深刻的耦合与互动机制，导致提出的政策建议往往呈现“碎片化”特征。其三，对大湾区特殊情境的关注薄弱。现有研究较少深入探讨在“一国、两制、三法域”的复杂格局下，粤港澳三地规则差异、要素流动壁垒所引发的超高制度性交易成本及其对高校专利转化的特异性影响。

（二）理论框架建构：“产权—能力—生态”三维协同分析模型

为弥补上述研究不足，本文融合产权理论、交易成本理论与创新系统理论，构建一个整合性的“产权—能力—生态”三维协同分析模型，以此作为透视和破解广东高校专利转化困境的核心框架。该分析模型旨在从法治根基、组织传导与系统赋能三个层面，系统解剖广东高校专利“产不出、转不动、用不好”的深层机理，并为破解路径提供理论支撑。广东省高等学校专利质量不足与转化不畅，不仅是粤港澳大湾区科技创新体系建设的突出短板，更是制约区域产业升级与核心竞争力形成的关键结构性难题。这一问题绝非简单的“技术不行”或“管理不善”，而是深植于制度安排、组织形态与生态系统三者相互嵌套、彼此强化的系统性锁定状态。因此，必须将其置于“创新驱动发展”国家战略与“国际科技创新中心”湾区定位的双重背景下，构建一个既具理论穿透力又契合实践复杂性的整合性分析框架。

1. 维度一：产权制度——激励结构的法理基础与制度约束

公开科研成果的决策基本逻辑在于放弃“私有才能获得的知识产权。专利从知识形态向市场价值的转化，首赖产权界定的清晰与激励机制的相容。我国现行职务发明制度以《专利法》第六条为核心，在法教义学上呈现“单位主义”的权属刚性，虽经《促进科技成果转化法》等政策力图注入“激励”元素，却在实践中与国有资产管理体制形成深层张力。高校职务发明在法律上被定性为“国家所有”，导致法律所有权、事实控制权与收益索取权的制度性分离。发明人作为价值源泉，其产权在法律上处于“虚位”状态，难以形成稳定的剩余索取预期，从而抑制了其面向市场进行创新和转化的内在动力。问题的法理症结在于，现行制度过度偏重静态的“物之归属”，而忽视了动态的“权之行使”与“利之分享”。破题方向在于推动产权制度从“法定主义”向“契约主义”的适应性演进，在法律预留的空间内，通过章程、协议等自治工具，对所有权、使用权、收益权乃至处置权进行灵活配置，实现法律上的“归属清晰”与市场中的“激励相容”相统一。

2. 维度二：组织能力——价值实现的内部传导与支撑体系

组织环境为高校科研行为决策逻辑提供了外部同侪性动力，组织共同体的价值认同助推着高校科研行为决策逻辑的不同价值取向。（姚思宇、王璐瑶、武康平，2023，p. 137）清晰的产权界定仅为转化提供了制度前提，其真正落地则取决于高校内部的组织化能力体系。组

组织化能力体系是连接制度潜力与市场绩效的关键中介，贯穿“创造—运营—转化”全链条：一是前端创造的质量锚定能力，要求研发活动超越纯学术导向，具备产业需求洞察与技术路线预判能力，从源头提升专利的商业潜力；二是中端运营的专业链接能力，涉及专利布局、价值评估、合作谈判、风险管控等专业化职能，是衔接创新供给与产业需求的枢纽；三是后端转化的执行落地能力，依托专业化技术转移机构和职业化人才队伍，跨越从实验室到市场的“死亡之谷”。反观广东高校，普遍存在能力链条的断裂与空心化：研发与市场脱节、合作流于形式、转化支撑薄弱。必须认识到，组织能力非孤立存在，它受产权制度的根本性塑造。唯有建立真正有效的产权激励，才能内生地驱动高校优化治理结构、重塑评价体系、投入资源持续培育上述能力，形成“产权激励→能力建设→转化绩效”的正向反馈循环。

3. 维度三：创新生态——系统赋能的外部场域与网络环境

高校专利转化并非在组织真空中进行，而是深度嵌入区域创新生态系统之中。粤港澳大湾区创新生态具有跨制度、高密度、强开放的鲜明特征，其健康程度通过三种机制影响转化效能：一是制度性交易成本降低机制，通过一体化公共服务、标准化合约、高效纠纷解决等，降低合作的不确定性；二是关键资源补给机制，通过汇聚风投、强化产业链、培育专业中介等，为转化提供资本、配套与服务支持；三是信任与规范生成机制，通过重复博弈与声誉积累，形成稳定的合作文化与共享认知。生态维度与产权、能力维度存在双向建构关系：良好的生态可降低产权灵活配置的风险，弥补高校自身能力的不足；而明晰的产权与强大的能力，又能吸引和激活生态中的优质资源，提升网络整体韧性与效能。

4. 一体协同观：三元系统互动与整体性治理逻辑

2025年3月5日，习近平总书记在参加十四届全国人大三次会议江苏代表团审议时指出，科技创新和产业创新，是发展新质生产力的基本路径，要让创新链和产业链无缝对接。产权、能力、生态三者构成一个相互嵌套、动态演化的复杂系统。其中，产权是决定行为激励的制度基石，能力是实现价值转化的传导中枢，生态是提供资源保障的赋能场域。任何一维的短板或错配，均会引发系统效率的耗散与锁定：产权模糊导致动力衰竭与投资规避，进而削弱能力投入并疏离生态资源；能力不足则使产权价值无法实现，造成创新浪费与生态失联；生态贫瘠则令产权改革与能力建设事倍功半，受困于高昂的交易成本。因此，破解广东高校专利困境，必须彻底摒弃碎片化、局部化的治理模式，转向系统性、协同性的治理范式。本框架的政策启示在于：必须三管齐下、联动施策——推动产权制度的契约化与弹性化改革、加强组织能力的专业化与体系化建设、促进创新生态的网络化与一体化融合，并注重政策工具间的匹配、衔接与反馈，方能打破现有“低水平均衡”，驱动系统向“高价值创造—高效率转化”的新稳态演进。

二、广东省高校专利质量与转化的现实研判：一个系统失灵的法学与制度经济学诊断

（一）问题的本质：制度、组织与生态三重失灵构成的系统性锁定

当前，广东省高校专利转化困境已非单纯的技术推广不畅，而演变为一种典型的系统性失灵。其症结在于制度规则、组织架构与生态系统三个层面同时出现了功能失调，且彼此嵌套、相互强化，形成了难以通过局部调试解开的“制度锁”。在制度层面，核心在于以《专利法》第六条及国有资产管理规范为核心的职务发明权属规则，存在法律教义刚性、激励功能滞后与风险管理优先的深层扭曲。这造成了发明人产权在法律上的“名义化”与收益权在实践中的“不确定性”，从根本上抑制了创新核心主体的市场参与动力。在组织层面，高校作为转化关键载体，其内部治理结构未能演化出支撑全链条转化的专业化职能体系，从价值识别、产权管理到商业谈判的各个环节存在显著的能力断层与职能虚化，导致大量专利“沉睡”于实验室。在生态层面，粤港澳三地因法律体系、行政规制与政策工具的差异，形成了区域创新网络的制度性隔阂与生态碎片化，要素跨境、跨领域流动的交易成本高昂。这三个维度的问题并非简单叠加，而是构成了一个负向循环系统：制度扭曲削弱组织能力建设的投入意愿；组织能力薄弱又无法利用生态潜在资源；生态割裂则进一步固化了制度的路径依赖与组织的封闭倾向。因此，任何单一维度的政策修补，都难以撼动这一低水平均衡结构。

（二）结构性错配：大湾区区域创新体系矛盾的集中折射

在粤港澳大湾区建设国际科技创新中心的宏大叙事下，高校专利“高数量—低转化”的悖论，尖锐地折射出区域创新体系“规模驱动”与“效能驱动”之间的深层脱节。这一悖论的本质，是创新体系的规则系统（产权）、执行系统（组织）与支持系统（生态）发生了结构性错配。表面上的“数量繁荣”是过去粗放式科技评价与资源投入模式的产物，而“转化低迷”则深刻揭示了体系在价值实现环节的系统性失效。具体而言：产权规则未能完成从“管理便利”向“创新激励”的功能转型，与市场化的灵活需求存在法理冲突；高校组织未能从学术共同体转型为创新价值链的关键节点，市场感知与运营能力存在基因性缺陷；区域生态则因规则壁垒、标准差异与信任缺失，难以形成支撑高风险转化的高效协同网络。破解此矛盾，绝非高校一己之责，而是关乎大湾区创新体系能否实现从“要素堆积”到“制度—能力—生态”协同赋能的根本性跃迁。其改革方向，必须指向构建一个“激励相容的产权制度、专业高效的组织载体、一体融合的区域生态”三位一体的新型创新治理架构。

（三）长期性障碍：制度性交易成本过高与专业化服务市场缺失

市场主导原则下的强国建设，除了从“管理”转向“治理”之外，关键的问题还在于建设重心的变化：从知识产权的“创造”转向“运用”。（易继明，2024，p. 18）从法学与制度经济学视角审视，制约广东省高校专利转化的长期性、根本性障碍，可归结为制度性交易成本的系统性居高不下与专业化服务市场的结构性供给不足。

短期障碍主要表现为法律与政策风险引发的行为抑制。在现行国有资产管理框架下，高校管理者面临“贱卖国有资产”的问责风险与程序合规压力，而法律对职务发明权属协议化安排的保障不足，共同导致了“不敢转、不愿转”的保守决策文化。这实质上是法律规则的不确定性与监管责任的模糊性共同推高了转化的合规成本与风险溢价。

长期瓶颈则根植于专业化中间服务市场与配套制度的发育不良。这包括：（1）兼具技术、法律与商业知识的高端技术转移人才严重短缺，人力资源市场无法有效供给；（2）专业化的价值评估、知识产权运营、早期投资等市场化服务机构发育不成熟，无法形成可信赖的服务外包市场；（3）金融资本与早期科技项目之间存在“风险—收益”匹配机制与信息沟通渠道的双重失灵。这些瓶颈共同导致高校不得不以自身羸弱的组织能力，去应对高度复杂、专业的市场化过程，其结果必然是效率低下与大量失败。

因此，系统性优化的核心，在于通过法律的明确化、政策的稳定化与机制的市场化，持续降低从权利界定、交易对接到权益实现全过程的制度性交易成本，并大力培育专业化的第三方服务市场，以弥补高校组织能力的先天不足。

（四）实质与方向：系统脱耦与协同治理

从法学产权理论审视，广东省高校专利转化困境的实质，是专利权作为一种“产权束”其经济价值实现通道的制度性梗阻。其根源在于，法律设定的初始产权配置（单位/国家所有）未能通过有效的次级制度安排（如契约、组织、市场），顺畅地传导至最能实现其价值的主体手中，即发生了“产权界定—产权行使—产权收益”链条的断裂与错配。

基于此诊断，根本的解决方向在于从系统治理的思维出发，推动一场涵盖法律、组织与市场的协同性制度创新：

1. 在法律激励层面，推动职务发明制度从“所有权中心”转向“利益分享中心”，在法律解释与适用中为高校与发明人的自主契约安排提供更充分的合法性空间与稳定性保障，重塑激励本源。

2. 在组织传导层面，推动高校内部治理改革，通过评价体系重构、机构专业化建设、职业队伍培育，系统锻造其知识产权运营与转化支撑能力，使其成为有效的市场接口。

3. 在环境赋能层面，着力构建区域一体化、专业化的创新服务生态系统，通过统一的交易平台、标准化的合约范本、多元化的金融工具与高度发达的中介市场，为转化过程提供低成本、高信任、强资源的外部支撑。

唯有坚持这种“法律制度松绑—组织能力再造—生态系统赋能”三位一体、联动推进的系统性改革，方能破解长期存在的复合型困境，驱动粤港澳大湾区创新体系实现从“法律产权”到“市场价值”的有效跨越。

三、广东省高校专利质量提升与转化机制的系统解决方案：一个法律与治理协同的框架

针对前文诊断的系统性困境，必须超越局部修补思维，转向以“系统重构与法治赋能”为核心的顶层设计。本方案以“产权—能力—生态”三维互动模型为基石，旨在通过“法律规则创新、组织能力再造、生态系统优化、治理体系协同”四轮驱动，构建激励相容、传导顺畅、赋能有效的长效治理机制，最终推动高校专利工作实现从“数量规模型”向“质量效益型”的根本转型。知识产权制度的深层次改革应设计一整套贯穿于知识产权创造、运用、保护、管理、服务的全链条制度机制，充分发挥知识产权制度激发市场主体活力和社会创造力的效能，更好促进创新链、产业链、价值链深度融合。（程翔、鲍新中，2023，p. 28）

（一）核心路径：以“产权契约化—能力专业化—生态一体化”实现系统效能协同跃升

高校科研创新生态的核心载体是科研创新生态系统。创新生态系统是经由微小创新元素的联结，形成错综复杂的创新链条，进而汇聚为创新社群，并最终演化而成。（谭婷妮、朱泓，2025，p. 246）破解困局的关键在于实现产权、能力与生态三者的同步改革与正向循环。首先，深化产权契约化改革。在坚守《专利法》第六条职务发明权属基本框架下，重点推广“强化型独占实施许可+附条件收益权共享”等精细化法律安排。通过具有强制执行力的协议，在法律上维持高校作为所有权人的地位，同时在商业上赋予发明人（或团队）排他性的实施控制权与明确的、可预期的长期收益份额。此举旨在合法合规地绕开国有资产处置的刚性程序，以“物权债权化”的法律技术化解“不敢转”的焦虑，从根本上激活内生动力。其次，推动组织能力专业化建设。必须构建覆盖“价值创造—价值管理—价值实现”的全链条职业化能力体系。推动研发活动深度嵌入产业创新图谱，发展高价值专利的识别与布局能力；在校内设立或强化专业化知识产权运营机构（如OTL），承担专利组合管理、价值评估与交易设计职能；培育一支既懂技术、又通法律、善谈判的技术转移职业队伍，确保产权能够通过专业运作实现市场价值。最后，加速创新生态一体化整合。省级政府应牵头构建粤港澳大湾区知识产权协同治理平台，推动三地在权利确认、交易规则、纠纷解决、信用体系等方面的软法衔接与机制互认，大幅降低跨域转化的制度性摩擦成本，形成要素自由流动、服务高效共享的区域创新共同体。

（二）能力基石：锻造高质量专利生成、深度产学研协同与市场化运营三大现代能力

高校创新体系的现代化，亟须补强三大核心能力短板。一是高质量专利生成能力。依托专利导航与预警分析，建立以产业需求与竞争力分析为导向的研发立项与评价机制，从源头提升专利的技术先进性与市场适配性，变“学术副产品”为“战略无形资产”。二是深度产学研协同能力。推动合作模式从“短期项目委托”升级为“战略共治与风险共担”，鼓励共建创新联合体、校企深度融合实验室等实体化平台，并通过法律协议明确知识产权归属、收益分配与后续改进权利，形成稳定、可信赖的长效合作网络。三是市场化专业运营能力。其核心是专业化机构与职业化队伍。应通过立法、政策与资金支持，推动高校普遍建立实体化、

专业化的技术转移办公室，并创新人事制度，设立“技术转移系列”专业岗位，吸引和保留高端复合型人才，使其成为可信赖的市场化接口。

（三）制度保障：推进法律解释协同、市场生态培育与治理容错机制创新

知识产权治理理念发生转变，更加注重制度的顶层设计与规范和引领作用，以充分释放创新创业的潜能和活力。（董涛，2022，p. 9）系统的持续进化需要宽松而明确的制度环境。在法律解释与适用层面，建议由省人大常委会或司法机关出台指导性意见，对《促进科技成果转化法》中的“产权激励”条款进行目的性扩张解释，为高校与发明人之间的收益分配协议（包括股权奖励）提供更坚实的法律确定性。支持粤港澳大湾区利用地方立法权，开展职务发明产权份额登记、分割转让试点，为国家层面法律修订积累实践经验。在市场生态培育层面，重点发展多层次知识产权金融市场，推动知识产权证券化、质押融资、保险等金融工具标准化与规模化；同时大力培育独立、权威的知识产权评估、交易经纪、法律维权等专业服务机构，形成健康的中介服务产业。在治理容错机制层面，必须由省级科技、国资、审计等部门联合制定并细化“勤勉尽责”免责清单，明确在履行规定程序、依据专业机构意见、未谋取非法利益前提下的决策，即便转化未达预期或造成一定资产减值，亦可免除相关人员的行政与法律责任，为改革者卸下“枷锁”。

（四）统筹主体：强化省级政府在大湾区知识产权协同治理中的主导责任

为克服政策碎片化与执行短期化，必须强化并规范省级政府的统筹协调职能。省政府应主动承担“规则协调者”“资源整合者”与“生态构建者”的三重角色：其一，牵头推动大湾区内部知识产权相关法规、政策、标准的衔接与互认，建立跨域执法协作与纠纷仲裁机制；其二，统筹优化省级财政科技投入、政府引导基金等资源，定向支持高价值专利培育、运营平台建设与早期概念验证；其三，主导建设覆盖大湾区的一体化知识产权信息公共服务平台与交易市场，打破行政壁垒，营造稳定、公平、可预期的法治化营商环境。

（五）实施策略：坚持制度试验、分类指导与系统集成相结合的推进逻辑

《中共中央关于坚持和完善中国特色社会主义制度、推进国家治理体系和治理能力现代化若干重大问题的决定》提出了一种综合性的治理观，要求从国家治理体系到治理能力全方位的现代化。鉴于大湾区内部的多样性，必须采取“试点先行、分类施策、系统集成”的渐进式改革策略。鼓励制度试验，授权深圳、广州等改革前沿地区与高水平大学，在职务发明权属混合所有制、技术转移机构市场化改制、跨境知识产权联合运营等方面开展综合改革试点，形成“立法试验田”。实施分类指导，对研究型大学、应用型高校、职业院校分别设定差异化的专利转化目标与考核评价体系，引导其各展所长。注重系统集成，在总结试点经验基础上，重点在大湾区层面推动“资格互认、服务共享、数据互通、监管共治”等关键机制的统一，最终构建一个多元包容、充满活力、具有全球竞争力的大湾区高校知识产权创造与运用新生态。

四、结语

广东省高等学校专利质量与转化困境的形成，并非单一要素缺失所致，而是产权制度激励扭曲、组织能力传导断裂与创新生态协同不足三者相互嵌套、彼此锁定的系统性结果。本文构建的“产权—能力—生态”三维协同分析框架，旨在超越传统线性思维与局部对策，以系统观审视问题本质，以协同治理思维探索破解路径。研究表明，唯有推动产权安排从“法定归属”迈向“契约激励”，促使组织能力从“行政依附”转向“专业运营”，并推动创新生态从“区域分割”走向“系统融合”，才能真正打破长期存在的“高数量—低转化”悖论，实现科技创新价值链的贯通与增值。

粤港澳大湾区建设国际科技创新中心的战略使命，为广东省高校专利工作的转型提供了历史性机遇，也提出了前所未有的制度创新要求。本文所提出的法律解释协同、市场生态培育、治理容错机制等一系列制度保障与实施策略，不仅是对现有政策体系的补充与深化，更是对高校在创新治理中主体性、能动性的重新激活。未来的改革，应当在法治框架内鼓励多样化的地方实践与制度试验，强化省级政府的统筹协调功能，推动形成“激励相容、能力专业、生态开放”的新型创新治理格局。

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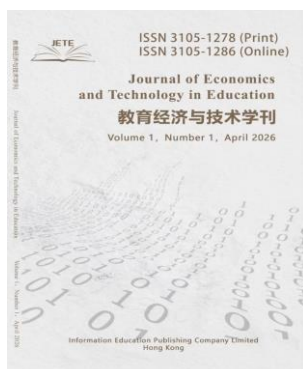
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《英美文学》中思政元素的融入路径与创新实践研究

赵艳梅 (Zhao Yanmei)

摘要:《英美文学》不仅仅是英语专业培养学生综合能力和人文精神最重要的课程，还是讲好中国故事，传播中国文化的重要窗口。然而，课程的难度、教师传统的教学方法以及文学和时代脱轨的现状让学生对该课程失去了应有的兴趣。基于这样的现实，《英美文学》中思政元素的融入和实践成为了提升教学效果和提升学生兴趣的必然选择。本研究从三个维度探讨了《英美文学》中思政元素融入的路径和教学实践。通过构建小说的主题和现实世界的链接，助力教学模式创新，旨在培养学生正确的世界观和提升学生的时代使命感；通过构建小说中的人物和现实中的人物的链接，助力学习模式创新，旨在培养学生正确的人生观和提升学生的公民意识；通过构建小说内容和现实生活内容的链接，助力中西文化整合的小说内容重构，旨在培养学生正确的伦理观和培养学生的人文主义精神。

关键词:《英美文学》教学；教学设计；教学实践；映射；反思

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Title: Research on the Integration Path and Innovative Practice of Ideological and Political Elements in *British and American Literature*

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Abstract: *British and American Literature* is not only the most important course for English majors to cultivate students' comprehensive abilities and humanistic spirit, but also an important window for telling Chinese stories and spreading Chinese culture. However, the difficulty of the course, the traditional teaching methods of teachers, and the current situation where literature is out of step with the times have caused students to lose their due interest in this course. Based on such reality, the integration and practice of ideological and political elements in English and American Literature have become an inevitable choice to enhance teaching effectiveness and students' interest. This research explores the paths and teaching practices of integrating ideological and political elements in *British and American Literature* from three dimensions. By establishing the connection between the theme of the novel and the real world, it helps to innovate teaching models, aiming to cultivate students' correct worldviews and enhance their sense of historical mission; by establishing the connection between the characters in the novel and those in reality, it helps to innovate learning models, aiming to cultivate students' correct outlook on life and enhance their civic consciousness; by establishing the connection between the content of the novel and real-life content, it helps to reconstruct literary content that integrates Eastern and Western cultures, thereby fostering students' ethical values and humanistic spirit.

Keywords: Teaching of *British and American Literature*; Teaching design; Teaching practice; Mirror; Reflection

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一、引言

在全球化深入发展与中华民族伟大复兴战略全局交织并进的时代背景下，高等教育承载着“立德树人”的根本任务。“课程思政是一种隐性的思想教育，其实质是将高校思想政治教育融入课程教学和改革的各环节，实现立德树人。”（冯丽妍，赵震红，2025，p. 89）

作为英语专业的核心课程之一，《英美文学》课程不仅仅在培养学生的跨文化沟通能力，艺术审美能力，高级的批判性思维能力发展方面发挥重要的作用，还承担着引导学生树立正确的世界观、人生观、价值观的重要使命。然而，现实的《英美文学》教学面临着双重困境。一方面，偏重“文学性”与“形式分析”的纯学术讲授让课程变成了单向“知识输入”的传

话筒，无法和学生的现实世界产生链接，让学生对该门课程产生疏离感，进而“望而生畏”；另一方面则是将思政教育简单化为“标签式”的政治宣传，又可能造成“硬融入”和“两张皮”的现象，削弱文学本身的情感温度与思想深度，无法彰显文学的人文主义精神。基于这样的现实，如何实现知识传授、能力培养与价值引领的有机统一成为当前《英美文学》教学改革的关键议题。“课程思政”理念的提出为破解这一现实困境提供了理论层面的指导。本研究从三个维度探讨了《英美文学》中思政元素融入的路径和教学实践：从封闭课堂到开放课堂的转变，从被动学习模式到主动学习模式的转型以及中西文化整合的内容重构。通过三个维度的有机融合有利于推动英美文学教学从“知识本位”向“育人本位”的深刻转型，真正让外国文学的经典作品在中国的大地上“重生”，赋予中国的特色，创造文学的第二次生命，彰显中国的家国情怀和人性关怀。

二、从封闭课堂到开放课堂的转变

《英美文学》的教学一直以来都存在和现实生活脱节的问题，这也是学生对该门课程不感兴趣的主要原因之一。Mahajan（2025）认为以机械记忆和被动接受为核心的传统教学模式，正面临着更具活力、互动性更强的“以学习者为中心”新型教学范式的冲击。基于这样的现实问题，《英美文学》的教学必须进行创新：从封闭课堂到开放课堂的转变。“从广义上来看课堂，课堂应该是一个完整的系统，教学主体即师生之间应该是互相平等的关系，此外课堂应该和课前、课后充分联系起来。”（左璐，2017，p. 162）这为开放课堂的设置提供了理论支撑和实践指导。

Nkealah和Prozesky（2024, p.2）指出学生需要认识到所阅读文学作品中的信息与其自身生活之间的关联性，尤其是在应对可能直接或间接影响他们的社会问题方面。基于此，在《英美文学》教学中的开放课堂指的是以主题分类为引导，以现实问题为驱动，师生共建开放式的课堂，旨在培养学生正确的世界观和增强学生的时代使命感。上述对开放课堂的定位确定了教师在进行《英美文学》教学设计的过程中应该遵循的设计原则和教学步骤。下面以《雾都孤儿》为例来展开具体的设计和实践说明，该教学设计分为课前、课中、课后三个阶段展开。

在课前阶段，教师主要做好下面三点的工作。首先，教师需要提炼《雾都孤儿》的主题思想。教师借助网络资源收集关于《雾都孤儿》主题思想的各种文献，在此基础上对这些文献的观点进行归纳整理。这个设计环节的主要目标就是确定该小说的主题思想，帮助学生从多个视角出发来探讨这一部小说。教师对搜集到的文献进行整理的结果，可以通过下面的主题矩阵呈现出来。

研究方向	主要内容	体现与意义
1. 社会批判与历史背景	描绘 19 世纪伦敦的阶级分化、贫困与人性的扭曲；批判《新济贫法》与济贫院的残酷现实。	揭示性：揭露底层民众（尤其是孤儿）的悲惨生活，反映社会制度对弱势群体的系统性冷漠与压迫。
2. 人道主义与仁爱	倡导博爱、平等与自由；主角奥利弗在苦难中始终保持善良与纯真。	象征性：以布朗洛先生、梅里太太等人的善行，象征人性光明，呼吁社会良知与对弱者的救助。
3. 成长与道德探索	奥利弗在磨难中逐步认识社会，提升生存能力；故事探讨善恶对立与道德困境中的选择。	教育性：展现主人公的道德成长历程，引发读者对善恶本质、道德坚守与人性选择的深层思考。
4. 侦探与悬念元素	运用侦探式叙事手法，围绕奥利弗的身世、费金的阴谋等设置重重悬念。	叙事功能：增强故事的可读性与吸引力，巧妙推动情节发展，并逐步揭开社会网络与人物关系。
5. 爱情与伦理冲突	描绘多对人物的爱情关系（如露丝与哈里、南茜与赛克斯），展现道德、情感与社会规范的冲突。	戏剧性：通过爱情线索，揭示个人幸福与社会阶层、道德责任之间的复杂矛盾，丰富人物层次。
6. 个人主义的失败	剖析费金（自私贪婪）、赛克斯（冷酷残暴）等角色的极端个人主义行为。	批判性：展现脱离社会道德约束的个人主义如何导致自我毁灭与他人悲剧，反思人性与社会的关系。
7. 总结：多维叙事与社会寓言	多角度融合，既批判社会黑暗，也歌颂人性光明；结合了写实、悬疑与道德寓言。	综合性：通过精湛的叙事技巧与深刻的社会洞察，使小说成为一部超越时代的经典，持续引发对公平、正义与人道主义的共鸣。

表 1：《雾都孤儿》研究主题矩阵

Table 1: Research Topic Matrix for *Oliver Twist*

基于上面的主题矩阵，教师可以清楚地看到关于《雾都孤儿》的研究主要从七个主题视角展开，彰显了从外部社会批判视角（主题 1）到内部人性探索视角（主题 2 到 6），最终到多视角的融合分析（主题 7）。

其次，教师根据上面的主题矩阵，从中挑选一些主题出来，经过自己的加工和处理，高度凝练这些主题，方便让学生理解。这一步完成从小说主题到现实映射议题的转变。上面的问题经过老师的加工，可以转变为下面的核心议题：

1. 弱者的悲惨命运是时代造就的悲剧还是自身无能的表现？
2. 在“精致的利己主义”时代，善良是一种人的本性还是一种道德选择？
3. 成长是通晓人情世故还是坚守自己的人生道德坐标？
4. 人生的剧本是由原生态家庭抒写还是自我奋斗来抒写？
5. 爱情和亲密关系是对他人的控制和依赖还是对自己的一种救赎？
6. 极端的利己主义会不会遭受自我毁灭？
7. 苦难者的故事应该由代理人讲述还是自己讲述？

让学生根据这些主题联系现实生活，找出现实生活中的一些对应的热点事件。在这个环节中，教师可以根据主题让学生进行分组活动，每一个小组负责一个主题。最后，教师要求学生针对自己小组找到的现实生活中的热点事件进行初步的讨论，分析这些热点事件背后隐藏的本质是什么。到此为止，教师引导学生完成了课前的准备工作。

在课中阶段，首先，教师邀请每一个小组做汇报，分享他们组队的研究发现和研究结论。其次，教师让每一个小组根据分享的实际情况进行互评，找出对方存在的优点和不足。最后，教师根据学生的分享，从学生的分享结果过渡到《雾都孤儿》的主题分享。教师引导学生进一步完善和升华他们的研究发现，对标《雾都孤儿》的主题思想，完成从现实生活主题到文学主题的自然衔接和升华，下面的矩阵就是这个过程的总结和研究结果的呈现。

当代现实映射议题	核心内涵提炼	经典文学主题
1. “看不见的社会底层”人士的生存保障：“外卖骑手”、环卫工人、临时工、街头小摊贩、拾荒者、空巢老人、留守儿童、残障人士等	这些人都是社会隐形的贫困群体，边缘化群体。社会制度和结构如何催生了这些群体并加剧了这些群体的贫困状态。	制度性冷漠与群体性困境

2. “精致的利己主义”时代下的个体的善意行动：参加志愿者活动，参加网络捐赠活动，参加社区互助活动，在小红书，知乎等平台科普法制、科学知识等	在逆境中保持尊严与善良，并非天性，而是一种主动的道德选择与精神抵抗。	善良作为一种选择与抵抗的方式
3. “社会第一课”与个体价值观冲击：职场“潜规则”、虚假报道宣传、职场不公平竞争、社会骗局等	成长并非变得圆滑世故，而是在认清世界复杂与黑暗后，依然能建立并坚守自己的道德坐标。	在复杂世界中坚守道德
4. “原生家庭”与“自我定义”：原生家庭决定论，社会标签对人的影响，家庭资源对个体的托举，阶级固化等	个人的出身、秘密与过往如何被社会定义，又如何通过自身行动重新书写“我是谁”。	人生剧本与身份谜题
5. “有毒关系”与情感独立：现实中的PUA、情感绑架、家庭暴力，边界感、自我牺牲、妈宝男、凤凰男、扶弟魔等	爱情与亲密关系常常交织着控制、依赖、牺牲，也可能成为救赎或毁灭的力量。	情感关系中的权力与救赎
6. “成功学”的代价与共同体危机：内卷文化、唯结果论、工具人、网红、“躺平”一族等	将他人纯粹工具化、追求无限自我利益，最终会导致社会联结断裂与自我孤立甚至毁灭。	极端利己主义的反噬
7. “媒体叙事”与“弱势群体的声音”：信息茧房、标签化报道、公众对某一群体（如农民工、抑郁症患者）的认知，边缘群体等	故事由谁讲述、如何讲述，决定了谁能被看见、被同情，以及社会共识如何形成。	叙事的力量：谁在讲述我们的故事

表 2:《雾都孤儿》的经典主题与现实映射矩阵

Table 2: Matrix of Classic Themes in *Oliver Twist* and Its Real-World Reflections

在课后阶段，教师引导学生根据上述文学主题和现实议题映射的矩阵图提出解决这些议题的一些方法和建议并提供一些具体的方案 and 解决策略。此刻，从课前的准备到课后的反思，教师引领学生完成了一次对《雾都孤儿》主题思想以及现实映射议题的探讨，并且提供了一些解决问题的方案。“对于英语专业文学课程的教学，不仅仅是语言知识层面的教学，更重要的是文化认知层面的教学、意识形态层面的教学。”（宋铮铮，2025，p. 94）这个过程就

是引导学生从文学走进现实生活，让文学帮助学生矫正自己的世界观，看到现实社会的问题，树立远大的理想，致力于为解决这些问题发挥自己的作用，贡献自己的力量。

三、从被动学习模式到主动学习模式的转型

传统的《英美文学》课程的教学都是以教师讲授为主体的，单向的文学知识输入的教学模式。在这样的教学模式之下，学生是一个被动接受知识的客体，没有充分的机会思考问题和进行自我反思。学生思辨能力的培养和自我教育意识的觉醒正是《英美文学》课程中思政元素融入的现实条件，显而易见学生被动的学习模式无法创造这样的现实条件。因此，学生从被动的学习模式转变为主动的学习模式是必然的选择。

在《英美文学》教学中，主动的学习模式是指以人物分析为引导，以现实人格分析为驱动，师生共育和谐社会人格，旨在培养学生正确的人生观和培养学生的公民意识。基于这样的教学理念，下面继续以《雾都孤儿》为例来展开具体的教学设计和实践说明。设计分为课前、课中、课后三个阶段展开。

在课前阶段，教师对《雾都孤儿》出现的主要人物形象的身份和性格特征进行分析和总结，下面的表格呈现了这一部分工作的成果。

人物	身份/角色	主要性格特征	彰显的核心冲突
奥利弗·特威斯特	孤儿、主人公	天性善良、坚韧不屈、保持纯真，在苦难中仍怀有希望	个体纯真 vs 社会腐败：无辜灵魂与残酷社会环境的对抗；道德坚守与生存压力的冲突
费金	犯罪头目	狡猾贪婪、虚伪阴险、操控弱者，表面慈祥实则冷酷	罪恶的诱惑 vs 道德的沦丧：利用社会边缘群体谋利，体现制度性恶的滋生与蔓延
南希	底层女性、费金同伙	矛盾复杂、良知未泯、为爱牺牲，身处黑暗却渴望光明	堕落与救赎的挣扎：被罪恶裹挟的善良灵魂，在忠诚、爱情与道德间的撕裂
赛克斯	强盗	残暴冷酷、冲动易怒、毫无悔意，代表纯粹的暴力与毁灭	野蛮暴力 vs 文明秩序：人性中极端兽性与社会规范的对抗

布朗洛先生	仁慈绅士	正直宽厚、富有同情心、相信人性本善，代表理想化的中产阶级道德	善与恶的对抗：理性、仁慈的力量对罪恶的干预与救赎
梅莱太太	中产阶级女性	温柔坚强、富有爱心，提供家庭温暖与庇护	家庭伦理 vs 社会冷漠：人道主义关怀对体制性压迫的弥补
邦布尔	教区干事	虚伪傲慢、欺软怕硬、官僚做派，以权力压迫弱者	体制的伪善 vs 个体的苦难：制度执行者如何异化为压迫工具
蒙克斯	奥利弗同父异母的哥哥	阴险扭曲、嫉妒成性，为遗产不惜毁灭亲人	血缘与利益的冲突：资本主义社会中亲情被物质欲望扭曲的悲剧
露丝·梅莱	梅里太太养女	纯洁善良、温柔勇敢，象征美德与希望的化身	美德在污浊社会中的存续：理想化女性形象作为道德灯塔的意义

表 3：《雾都孤儿》中人物形象和性格特征对照表

Table 3: Comparison Table of Character Images and Personality Traits in *Oliver Twist*

老师把上面的人物性格总结表发给学生，学生根据自己的兴趣从中挑选一个人物形象，阅读小说中和这个人物相关的片段，分析这个人物性格形成的原因，主要聚焦人物性格形成的关键事件。这一项任务就是学生的课前预习任务，学生分组完成这一项任务。

在课中阶段，教师让每一个组队分享自己组队的研究成果，并组织组队之间进行相互评论，通过相互评论的环节提出不一样的见解。

教师对学生的研究发现和互评进行点评，最后教师根据学生的分享和互评，从时代背景、人物成长经历两个方面对人物性格的形成原因进行总结归纳，帮助学生构建完整的人物性格发展历史和思维发展的历史。下面是教师归纳总结的成果展现。

角色	社会背景	个人经历	性格根源
奥利弗·特威斯特	济贫院制度、《新济贫法》将贫困视为道德缺陷；孤儿被当作社会负担；底层儿童缺乏教育与社会流动机会。	在济贫院遭受饥饿与虐待，被卖入殡仪馆做学徒，后被迫加入贼窝；多次被欺骗利用，但始终遇到善意（布朗洛、梅莱太太等）。	善良与坚韧是人性本善的象征；狄更斯以此批判社会制度对人性的摧残，同时暗示道德天性可以超越环境的腐蚀。

费金	工业革命导致底层人口涌入城市，形成贫民窟；司法严苛但漏洞百出，催生有组织犯罪；犹太人长期受歧视（费金的犹太身份暗示社会排外）。	作为社会边缘的犹太人，早年可能经历贫困与排斥，逐渐通过犯罪网络获取生存资源；操控孤儿与少年窃贼，形成扭曲的“替代家庭”。	狡猾与虚伪是底层生存策略的极端化；既是压迫者，也是社会排斥的受害者，体现制度性不公如何制造“恶的循环”。
南希	底层女性缺乏经济独立途径，常被迫沦为罪犯同伙；法律与社会道德对女性尤为严苛。	自幼被费金收养并操控，陷入犯罪生活，与赛克斯形成扭曲的依附关系；对奥利弗的同情唤醒被压抑的良知。	矛盾与牺牲精神反映底层女性在男性暴力与社会偏见夹缝中的挣扎；其悲剧揭示：即使身处罪恶深渊，人性仍可能迸发道德光芒。
赛克斯	城市化进程中形成的暴力亚文化；底层男性通过暴力确立权力，司法体系对暴力犯罪惩罚残酷但未能遏制其滋生。	可能自幼经历极端贫困与暴力环境，形成反社会人格；对南希的暴行和最终逃亡时的恐惧，暗示其野蛮中仍残存人性弱点。	社会结构性暴力孕育的怪物，代表未被文明驯化的兽性；其毁灭暗示纯粹暴力终将反噬自身。
布朗洛先生与梅莱太太	中产阶级崛起，倡导道德改良与人道主义；但许多中产阶级仅停留在慈善表象，缺乏对制度根源的批判。	布朗洛曾痛失挚友（奥利弗父亲），梅莱太太经历家庭悲剧，他们的痛苦使其对弱者产生共情。	作者理想化的道德代言人，象征理性、仁慈与家庭价值对社会腐败的修正；但其形象略显扁平，反映狄更斯对中产阶级拯救力的乐观想象。
邦布尔	济贫院体系官僚化，教区干事拥有微小权力却肆意欺压贫民；体制鼓励虚伪的形式主义。	从底层爬上低级管理职位，通过迎合体制获得虚假权威；娶科尼太太后反被操控，成为讽刺性悲剧人物。	是体制异化的缩影：权力如何将小人物扭曲为冷酷的执行工具，最终自食其果。

蒙 克 斯	继承法缺陷与资产阶级对财富的贪婪；社会道德沦丧使血缘亲情让位于利益争夺。	作为私生子承受耻辱，对合法继承人奥利弗充满嫉妒，与费金合谋毁灭弟弟以独占遗产。	资本主义扭曲亲情的悲剧产物，体现物质欲望如何腐蚀人性，最终成为自我毁灭的阴谋家。
露 丝 · 梅 莱	维多利亚时代“家庭天使”理想：女性被赋予道德纯洁的象征意义，但实际社会地位受限。	虽出身不明（后揭示为奥利弗姨妈），但在中产阶级家庭中被培养为美德化身。	作者道德理想的投射，象征纯洁、牺牲与希望，但缺乏复杂性和现实感，服务于小说的教化目的。

表 4：《雾都孤儿》中人物性格成因分析

Table 4: Analysis of the Causes of Character Traits in *Oliver Twist*

在课后阶段，教师引导学生基于自己的分析，思考在自己的现实生活中有没有类似的人物，并归纳和总结这种人物在现实生活中的一些常见的行为表现。同时，教师引导学生分析这些人物的行为表现是否体现了和谐社会人格的要求。如果答案是否定的话，教师进一步引导学生思考面对这样的人物，我们应该从哪些方面入手帮助这些人矫正自己的行为，同时思考我们应该怎样避免受到这类型人物的伤害。这就是在解读文学作品的时候，“以社会主义核心价值观为切入点，对比中西文本对冲突的处理方式，批判西方价值观的局限性。”（贾宏涛，2026，p. 11）经过这样的教学设计和实践，教师带领学生完成了从文学作品中的物形象分析到辨别现实社会中的人物，不仅帮助学生正确认识和谐社会人格培养的重要性还启发学生思考帮助人们培养和谐社会人格的方法和举措，最终增强了学生的公民意识和社会责任感。

四、中西文化整合的内容重构

当教师带领学生完成了从小说的主题到人物形象的分析之后，最后一项任务就是小说内容的重构。在传统的《英美文学》课程的教学，教师对于小说文本的讲解都是遵循小说本身的内容，很少思考突破小说文本的局限性，在这样的教学方法的指导下，《英美文学》的教学很难融入思政元素，即便有少许的思政元素的融合，但也显得非常突兀，无法达到“春风化雨”和“润物细无声”的效果。针对这一现实问题的存在，基于中西文化整合的内容重构成为了《英美文学》课程思政融合的必然选择。“英美文学文本具有多元意义结构与开放性特征，为批判性思辨能力的内生性培育提供了天然土壤。”（刘清，2025，p. 144）这彰显了

中西文化整合的重构的可行性和必要性。中西文化整合的内容重构指的是以小说情节分析为引导，现实的伦理分析为驱动，师生共建和谐的伦理环境，旨在培养学生正确的伦理观和培养学生的人文主义精神。基于这样的教学理念，下面继续以《雾都孤儿》为例来展开具体的教学设计和实践说明。设计分为课前、课中、课后三个阶段展开。

在课前，教师根据第二阶段人物性格分析的结果，从中选取一些和人物相关联的情节，这些情节能够集中体现人物的伦理冲突。教师把这些情节归纳整理好发给学生。下面是教师选取的情节的汇总表。

人物	典型情节
奥利弗·特威斯特	1. “请再添一点粥”：在济贫院公开反抗饥饿体制，体现其原始的反抗精神。 2. 被迫参与盗窃：在费金团伙中拒绝同流合污，持枪对峙赛克斯，展现道德底线。 3. 主动回到布朗洛家：在逃离费金后选择投靠善良势力，标志其道德选择的主动性。
费金	1. 训练孤儿行窃：系统化地将孩童培养成罪犯，体现其将恶制度化的能力。 2. 试图腐蚀奥利弗：用威胁与利诱双重手段，暴露其对人性的肆意操控。 3. 最终被捕前的癫狂：监狱中恐惧死亡、精神崩溃，揭示其虚张声势下的彻底孤立。
南希	1. 秘密会见布朗洛：冒死揭露蒙克斯阴谋，标志其道德觉醒与自我牺牲。 2. 拒绝逃离赛克斯：虽看清其残暴，仍因情感惯性留下，体现受害者心理枷锁。 3. 被赛克斯虐杀：成为罪恶链条中最惨烈的祭品，凸显底层女性命运的悲剧性。
赛克斯	1. 残忍杀害南茜：激情杀人后的恐慌与逃避，暴露其野蛮下的懦弱本质。 2. 逃亡中意外自缢：被自己的狗绊倒吊死，象征罪恶终将反噬自身。
布朗洛先生	坚持为奥利弗辩护：不顾旁人质疑，凭直觉信任奥利弗的纯洁，体现善的主动性。
邦布尔	向蒙克斯出卖奥利弗身世：为金钱背叛职责，揭示其道德虚伪的彻底性。
蒙克斯	与费金合谋毁灭奥利弗：不惜犯罪也要让弟弟沦落，展现被物质欲望彻底异化的人格。

表 5：《雾都孤儿》中情节汇总表

Table 5: Summary of Plot in *Oliver Twist*

教师引导学生选取自己喜欢的情节，以穿越者的身份来思考自己会做出什么样的选择。在这个过程中，学生可以带入现代人的思维方式，提供相应的解决问题的方法。最后，教师引导学生根据自己的思考，改写这个情节中的角色的对话或者行为，通过这些语言和行为的改变表达自己的选择。这个活动也是以小组活动的方式开展。

在课中阶段，教师让学生分享自己组队的研究成果，同时组队互评。教师根据学生的分享，归纳和总结学生剧情重设中体现的现代思想和策略。下面用表格呈现教师这部分的工作总结。

原文情节	穿越重构情节（现代思维版）	策略分析与现代思维体现
孩子们被动抽签，奥利弗无奈接受命运	1. 前期观察：穿越后首先观察食堂运作规律、管事性格、理事巡查时间 2. 集体教育：向其他孩子简单解释“权利”概念，旨在说明饥饿是不合理的 3. 策略制定：不采用抽签，而是提议“集体温和表达”，并准备备用方案	现代思维： • 信息收集与风险评估 • 集体行动优于个人冒险 • 权利意识启蒙
奥利弗（怯生生地）：“对不起，先生，我 还 要 一 点。” 管事反应：惊恐→暴力镇压	场景：选择多位助理教员在场时行动，提高见证人数 新对话与行动： 1. 第一步：礼貌陈述事实 “先生，根据医学常识，正在成长的儿童每天需要至少 XX 卡路里。我们目前的粥量无法满足基本需求，这会影响我们的健康与学习能力。” 2. 第二步：提出建设性方案 “我们注意到厨房有剩余的面包边角料。或许可以将那些未被利用的食物分配给我们，而不是丢弃。这样既不会增加成本，也能改善我们的营养。” 3. 第三步：预设制度依据 “我记得济贫院章程中提到‘提供必要 sustenance（生计）’。我们是否可以一起查看章程，确保我们的配给符合规定？”	现代思维： • 数据与理性论证：用“卡路里”“健康影响”等概念，将情感诉求转为理性讨论 • 双赢思维：提出不增加成本的解决方案（利用边角料） • 制度内博弈：引用章程，在体制框架内寻找依据 • 非暴力集体行动：用沉默展示代替对抗，降低被暴力镇压

	4. 第四步：集体温和展示 当管事发怒时，其他孩子不是恐惧退缩，而是安静地举起空碗（事先约定），形成无声但有力的集体表达。	压的风险 • 见证者效应：选择公开场合，利用旁观者抑制极端暴力
1. 被暴力殴打 2. 被理事会审判 3. 被贴上“未来罪犯”标签驱逐	可能的新发展： 情景 A（较理想）： 1. 管事被理性论证和集体行动震慑，暂时增加少量食物或同意利用边角料 2. 此事在教员中引起私下讨论，形成微小压力 3. 奥利弗被视为“有头脑的孩子”，可能被安排更多劳动，但也获得一定尊重 情景 B（维持原冲突）： 1. 管事仍然很愤怒，但暴力行为因多人见证而有所克制 2. 理事会审判时，奥利弗可陈述：“我的请求是基于健康和章程，而非贪婪。如果济贫院的目标是培养有用公民，充足的营养是第一步。” 3. 可能仍被惩罚，但“未来绞架”的预言会因这番陈述而更荒谬，在部分理事心中种下怀疑的种子	现代思维： • 预期管理：准备多种可能结果 • 话语权争夺：在审判中继续使用理性、章程、社会利益等话语体系，对抗情绪化定罪 • 长期影响：即使个人受罚，也在他人心中植入新思想，为未来改变埋下伏笔
无（原著中纯属本能反应）	1. 分化策略：私下与相对和善的助理教员沟通，争取同情 2. 记录策略：用简陋方式记录每日食物量与饥饿情况，形成“证据” 3. 外部联想：提及“如果公众知道济贫院儿童长期饥饿，可能会影响捐款和议会拨款”，利用管理者的利益关切点	现代思维： • 利益分析：理解管理者的利益点（拨款、声誉）并施加隐性压力 • 证据思维：将主观感受转化为可记录的“事实” • 联盟构建：寻找体制内的潜在同情者

表 6：穿越版《雾都孤儿》情节重构：现代思维下的“添粥事件”

Table 6: Reconstructed Plot of the Adding Rice in the Adapted Version of *Oliver Twist*: A Modern Perspective

课后，教师要求学生再次反思他们设想的策略在当时社会实施的过程中，可能会遭遇哪些障碍。下面是学生思考的部分成果的展现。

现代策略	在 19 世纪英国济贫院可能遇到的障碍	历史现实考量
理性论证（卡路里、健康）	管事可能完全不懂这些概念，视为“胡言乱语”	当时营养学刚萌芽，底层管理者无此知识
引用章程	章程解释权完全掌握在理事会手中，儿童无权利质疑	法律面前不平等是常态
集体行动	可能被解读为“预谋叛乱”，招致更严厉镇压	当时对穷人集体行动极度恐惧
公众舆论威胁	济贫院相对封闭，信息难以外传；公众对穷人苦难普遍冷漠	维多利亚时期“穷人原罪论”盛行

表 7：重构的局限性说明（基于历史现实）

Table 7: Illustration of the Limitations of the Reconstruction (Based on Historical Reality)

通过分析这些障碍，让学生更加清晰地看到一个社会时代的局限性以及对人的发展的束缚，充分地认识到一个社会的发展深刻地影响着人类的个体的命运，这些个体命运组合在一起就成为了人类的集体命运。所以，教师引导学生进一步思考作为个体的人，我们能为自己生活的国家和社会做些什么？

五、总结

通过上述三方面的融合创新的教学模式突破了文学和学生现实生活的割裂感，突破了教师和学生思维水平的差距，突破了不同的文化背景造成了理解障碍；创新了教学模式，创新了师生关系，创新了文学的解读方式。通过这样的模式创新有利于培养具备中国情怀，又兼具国际视野的新型外语人才。

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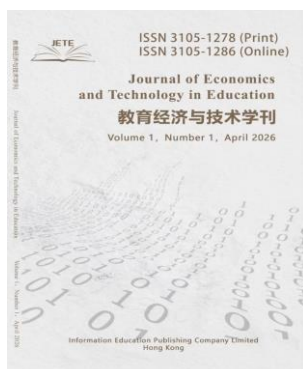
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以信息差驱动的高效课堂： 耗竭式教学法的理论构建与教学实践

潘家云（Pan Jiayun）

摘要： 如何避免在课堂教学中重复学生的已知知识浪费时间？如何快速发现学生前期知识？如何快速发现、填平信息差，且步步推进、推陈出新，使得学生快速地见齐于师？兹分享笔者长期揣摩出来的一套教学法——耗竭式教学法，它暗合教育的导出性特征，开放性高、实战性强、挑战性高、互动性强、效果显著，适合每天操作或公开课。本文以译林牛津版高中英语一册中的 Looking Good, Feeling Good 改版前后的两课中“瘦”字的表达法为例来演示如何在教学过程中进行三层推进、两重跟进。首先，我们先以互动式挑战式耗竭学生的前期知识，然后逐一耗竭教师层面的新知、学术共同体层面的三层新知，最后通过被动记忆和主动运用两层跟进强化，形成一个完美闭环，可确保教学中的信息差和教学效度。

关键词： 信息差；耗竭式教学法；导出法；瘦

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Title: Efficient Classrooms Driven by Information Gap: Theorizing and Implementing the Exhaustive Teaching Method

Abstract: How can teachers avoid wasting classroom time by reiterating what students already know? How can instructors quickly identify students' prior knowledge and pinpoint existing information gaps, then efficiently bridge those gaps while continuously advancing and innovating—thereby enabling students to rapidly reach the teacher's level of understanding? This paper presents the “Exhaustive Teaching Method,” a pedagogical approach the author has refined through years of practice. Aligned with the elicitive nature of education, this method is highly open-ended, practice-oriented, challenging, and interactive, yielding remarkable results in both daily instruction and public demonstration lessons. Using the treatment of the concept of “thinness” in the pre- and post-revised versions of the unit Looking Good, Feeling Good from the Yilin Oxford High School English textbook (Book 1) as a case study, the paper illustrates a three-tiered instructional progression coupled with dual reinforcement strategies. First, through interactive and challenging activities, students' existing knowledge is deliberately “exhausted.” Next, new knowledge is introduced and exhausted at three successive levels: the teacher's perspective, disciplinary insights, and scholarly consensus. Finally, learning is consolidated through two layers of follow-up—passive retention and active application—creating a closed-loop system that ensures both effective gap-filling and high instructional efficacy.

Keywords: Exhaustive Teaching Method; information gap; elicitive teaching; thinness

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一、缘起与问题

我曾经教过的一个勤奋好学的本科学生 Q，她毕业通过英语专业八级（TEM8），应聘到一所外国语学校任高中英语老师，这本是可喜可贺的好事。但是，现实生活中的知识创新和师生关系其实是非常棘手的事情。从知识量上，她教高中应该完全不成问题，但她有一个温柔敦厚、不温不火的性格，应对这些躁动不安、喜欢挑战的高中生就有一些捉襟见肘了。教书一段时间之后，有一次在她进教室时，听到一个男生说，“一看到她那张脸，我就饱了。”这位新老师马上就流下了两行热泪。我教书三十五年了，亲眼看见至少五个年轻老师泪洒当场。和心智不够成熟的学生互动，很耗体力精力、很累心、很容易受伤、挑战很全方位。或

明或暗地，少数学生的言谈举止其实非常伤人。有时候，一两个人，一两句话，就可以让你心痛数年，情冷似冰，而且，近年来心寒的频率明显在增加，纵使桃李满天下，终是伤心一两人。她后来要去参加全市的教学比赛，请我帮她出主意。我听完她的讲课设计，尽管知识点全面覆盖，但重点不突出，讲授平淡，难以胜出。于是，我向她推荐了我长年累月教学后揣摩出来的一套教学模式——耗竭式教学法，教师只需在二十分钟内讲透一个难点即可，前十五分钟只需不断提问、挑战、榨干学生的前期知识，最后只用五分钟推进学生的见解和知识边界，就可成为一堂较为完美的公开课。她后来报喜说：她得了全市教学比赛一等奖，这让人颇为欣慰，她取得了站稳讲台的阶段性胜利。

在当下的信息时代，学生可以同步接收到网络上的海量信息，对教师带来挑战有四：（1）教师的知识权威性受到前所未有的挑战；（2）教师若无视学生的前期知识，则可能在课堂上无的放矢，或老调重弹，形成无效教学；若不让学生流露其前期知识，则他们有可能故步自封，自以为是，知识反而阻碍他们的继续开放和进步；（3）教师不得不超越课本、超越字典、超越网络，讲解一些在网络上查阅不到的新知识、新体验、新洞见，方能手握真正意义的信息差，真正地成竹在胸。（4）在知识海量供给的今天，每个人都可以舒舒服服地活在自己的信息茧房里，这反而凸显了当面互动、交流、对话、讨论的重要性，课堂更不应该沦为单向知识的传授，教师更应该像主持人一样打造一个具身认知的生成式学习空间，让他们体验到知识发现、生成的过程和成长的快乐，同时在斗智斗勇的过程中与大家建立友谊，体现课堂的社交属性。综上所述，教书不仅是一个非常艰难的知识探索之旅，还是一个与人性斗智斗勇的过程，具有很高的挑战性。

但是，一个曾经来我校讲学的美籍华人教授非常不认同我的观点，就此我们展开一场小规模辩论。一开始，他的讲座非常美式，他开放地讨论，邀请听众互动，在互动中逐渐耗竭我们直觉反应和前期见解，听众都非常投入，体会到一种知识生成和发现的乐趣。他的讲座其实非常完美，轮到我发言时，我也实在没法再在鸡蛋里挑骨头。然而，我突然灵感一闪，曾经早已郁积于心的、关于课堂互动的疑惑浮上心头，今日正好请教前来传经送宝的高人，于是我提出了一个让教授不那么舒服的看法：尽管这种互动生成性的课堂很好，听众很投入，但其实都在教授的牢牢掌控之中，我们三五分钟内的直觉反应，很难超过他一生苦心孤诣的研究，他其实心中早有定论，只是给了听众一个参与的机会，让我们体验一下认知在具身参与中互动生成的乐趣而已。一般来说，在讲座的主题上，听众的认知都无法超越教授，如果偶尔超越，则会点醒教授，成为他写下一篇文章的主题。因此，尽管这样的课堂生动活泼、令人欢喜，其实它还是有点假，是控制状态下的假性动态生成。他之所以敢于放开讨论，其实是建立在他殚精竭虑的前期研究和厚重的积累之上。然后，我分享了我的体验，教书其实是一件耗竭一生精力、专注拓展人类认知边界的艰难工作，上课就是给学生一个机会体验我

们曾经经历的认知过程而已。教授乐呵呵地反驳我：教书是世界上最简单的事情，只要“让学生忙碌（keep the students busy）”就行了。他还多次暗讽我说，你要觉得太难，你可以辞职啊。他的逻辑让我略感失望：他不就事论事，却隐晦地转移攻击质疑者能力不够，极其类似某些建言者：他不问水质如何改善，却建议你可以少喝或者不喝！不是我在逃避直面问题，而是他在逃避直面问题。这激发了我据理力争的习性，我说学生忙碌地做完作业之后，他们会暗暗希望老师批阅一下，也会希望老师能给他们超出他们认知的新体验，他们的高期望对老师也是时间压力、精力压力和认知压力，如果老师达不到他们的预期值，就会在他们心中丧失信度。一阵你来我往之后，他终于认可并推进了我的观点，“的确，在某个知识点上，老师必须知道得比 Google 还要多一点！”。

在知识上的知己知彼和不断创新是有效课堂教学的两大前提条件。如何知己知彼？如何“温故而知新”？一篇课文在手，哪些是“故”？怎么发现学生故有知识？如何发现学生知识的局限和边界？又该如何推进学生的认知深度，使其获得新知识？首先，“新”其实有不同层次。董奇认为根据解决问题的新颖、独特程度的不同，可将创新分为三个层次：第一层次为初级创新，主要指对本人来说是前所未有的。第二层次为中级创新，主要是指经过模仿或改造，在原有的知识经验基础上重新组织材料，加工产生出有一定社会价值的产品的能力。第三层次是高级创新，指经过长期研究、反复探索而产生的非凡活动能力。（董奇，1993，p. 13）据此创新分类，我们可以得出新知识的不同层次：在某一个具体问题上，初级新知是学生不知道的知识；中级新知是教师经过整合后产生的个人层面的新知；高级新知是学术共同体的知识边界上的新知。三“新”具备，方能确保信息差，真正胸有成竹，真正提高课堂教学效度。

怎样让学生感到“新”？首先要发现“故”。第一个难点就是要快速发现学生在某个具体问题上的知识含量及其边界，才能进行下一步的推进。兹向各位同仁推荐笔者三十五年教学后揣摩出来的一套教学模式——耗竭式教学法：教师需要花 60%左右的精力通过交互式教学法不断提问、挑战、耗竭学生在某一个特定问题上的前期知识，然后用 40%的时间来推进学生的见解和知识边界，呈现自己个人的中级新知和学术共同体层面的高级新知，最后再做两重跟进，就可以比较完满地完成了一个问题点的有效教学。这一教学法特别适用于老师接受一门新课、一个新班、一个公开课展示、一场教学比赛时，尤其是在公开课和教学比赛常态化的今天，它可以帮助老师快速摸底之后继续推进。

二、以“瘦”为例：耗竭式教学法及实践

且以译林版牛津高中英语第一册第三课 Looking Good, Feeling Good 的第二部分 Part B: Dying to Be Thin 为例：原文为加拿大朋友 Amy 和中国朋友 Zhou Ling 之间的三封短信，Amy

讲述自己吃减肥药丸而导致肝损伤，最后住院，并每天锻炼半小时恢复健康的事情。

标题 *Dying to be thin* 值得仔细分析。“*Dying to*”意思是“特别想”“太想要”“想死要苗条了”，实为一个修辞学上的夸张（*hyperbole*）和文体学上的非正式俚语（*idiom*），同义表达应为 *eager to*, *anxious to*, *wish to*, *desperate to*。但 *thin* 的意义很多，因为昏环效应会互相影响，使其带有并不健康的瘦，有单薄虚弱之意，具体意义要观察上下文和情境方能准确定位。后文中再也没有出现“*thin*”一词，剧情的发展也确证“*thin*”不是一个积极意义的词汇，女性不能以损害健康为代价为瘦而瘦（*thin*），不仅要看起来好（*look good*），而且还要真的好（*be good*），要真正地通过锻炼看起来苗条（*stay slim*）、健康（*stay healthy*）。三份邮件中没有对 *Thin* 与 *slim* 的细微差别作为较为严格的区分，这个区别、辨析、深挖的工作就留给了教师，也给教师创新、深挖、发挥留下了置喙空间。

笔者当时长得消瘦，1.7 米的个子只有 105 斤，对待“瘦”字非常敏感，曾为避免“*thin*”这个标签影响自我评价而苦心孤诣寻找语言对策。今正好以此字的翻译来论证我对耗竭式教学法的理解及操作。首先，从文体学角度看，一个词有七个方面的意义：1. 概念意义（*conceptual meaning*）；2. 内含意义（*connotative meaning*）；3. 风格意义 *Stylistic meaning*（中性文体意义，正式文体意义，非正式文体意义，新词语和古词语 *neologism and obsolescence*，方言 *dialect: regional dialect and social dialect*）等等。4. 情感意义（*affective meaning*）；5. 联想意义（*reflected meaning*）；6. 搭配意义（*collocative meaning*）；7. 主题意义（*thematic meaning*）。（刘世生、朱瑞青，2012，p. 138）单词的意义往往复杂多变，其意义多视其语境而定。使用者应仔细体会一个单词是否在多个层面不同语境中的细微差别（*nuances*），避免出现意想不到的反效果。特别像“*thin*”这样的词，词义微妙，叠加多层含义，使用时应多加小心。

每次讲到与“瘦”相关的英文时，我会请同学们用英语描述我的身材，几乎所有人都不假思索地说“*thin*”。“*thin*”意义除了“瘦”，还带一点“弱”“病”的意思，如此措辞，令人不快。继续追问、耗竭（*exhaust*）他们的词汇量，也不外乎多出了几个更加不合时宜的表达法：*skinny*, *starving and starved*（饥饿的），*famish*（脸有菜的），*a bag of bones*（皮包骨头），*hidebound*（皮包骨头），几乎都带贬义，如此英语，甚是粗暴，堪称“笨嘴笨舌”（*dumb-mouthed*）。即使是事实，也于礼貌、措辞、技巧、语体色彩、心理联想上有所欠缺。继续压榨他们，他们苦思冥想又贡献了几个中性的描述：*slender*（苗条），*slim*（修长），*slight*（瘦小），*slightly built*（瘦小），*trim*（苗条修长的）。

再压榨之，竭！我自己从来不用 *thin* 来进行自我描述，我搜索枯肠，榨干我自己的词汇量和阅读量，我会用 *lean*（精干），*wiry*（刚硬像铁丝）——虽然瘦，但瘦得精神、瘦得精干。

再深入一步，就必须借助于同义词字典，其实还有很多词可选：

比喻类的就有：Spindly（像纺锤），twiggy（如细枝 like a twig），twiglike（细如枝条的），wispy（纤细如发的），weedy（软瘦如草的）Boney（瘦骨嶙峋的），wiry（像铁丝）。观察它们的共同点，就是观物取像，然后加上一个“y”表示处于那种瘦硬或瘦软的状态。如果老师具备一点绘画的基本功，可以在黑板上划出上述图像，让学生直觉感受一下什么是“瘦”，对“瘦”有更直观的感知。

还有些表达法：wasted（消瘦），a skeleton of his former self（形销骨立的），ectomorphic（外胚型体质、瘦型体质的），wizen（干皱的），wizened（年老干瘦的），withered（枯瘦的）skeletal（瘦如骨骼），emaciated（消瘦憔悴的）。这些“瘦”，配合同义词词典皆可学到。如此三榨，基本已经榨干了学生的知识存量、我的存量、字典和书本。

但是，人的智能还可以超越字典。我的生命中，只有三个人从来不说我“瘦”。宁波大学中文系的尹德祥教授，从来没说过我“瘦”，每次见面都调侃我“玉树临风”，更加“玉树临风”了（like a trim willow in breeze）。通过他，我第一次理解了什么叫“玉树临风”，原来就是体型偏瘦。

他的表达法十年之内没人推进，后来遇上宁波大学历史系的刘恒武教授，他说我不是瘦，而是“仙鹤之相（crane-like shape; formed like a crane）”。仙鹤为吉祥的象征，不仅寿命长，忠诚忠贞，而且智力高，据说可达十岁小孩的智商。这两位斗嘴伙伴的表达法，是文学表达上典型的陌生化技巧（defamiliarization），即“使对象陌生，使形式困难，增加感觉的难度和时间的长度，因为感觉过程本身就是审美目的，必须设法延长。艺术是体验对象的艺术构成的一种方式，而对象本身并不重要”。（什克洛夫斯基，1994，p. 10）之后，神意不变而表达法千变万化，而且，在思维上，他们换用另外一套陌生的场景，学术化语言曰“客观对应物”（objective Correlative），即换用“一套客观对应物，一个场景，一串事件成为某种特定感情的唤起程序，以便外部事实一旦给出，相应的感情立刻被唤起。”（Abrams, 2005, p. 234）如此转化之后，方可出其不意，出其神而换其形。表面上看，它好像只是一句充满情绪价值玩笑话，其实这是一个高级创新，它需要创新者对问题的前期知识丰富，理解到位，变换视角，洞见不同侧面的真实，同时匹配一个新颖的表达法，五者结合到位，方能一语解颐。

最后，还是知子莫若母。我母亲识字不多，但从不说我瘦。她用四川土话说我是个“筋骨人”（bony sinewy man）：干精精、瘦壳壳，一顿吃个八钵钵。

从上述例证可以看出，“瘦”可以直说、正说、曲说、反说，在语体色彩上可以暗带贬义、褒义，在场景上可以采用陌生化、隐喻化。隐喻是拓展人类跨场域思维的重要方式。理论上讲，任何概念（比如“瘦”）都可跨域生成多个隐喻（如“瘦如铁丝/瘦如细枝/瘦如纺锤/瘦如细草/瘦如铁丝……”）。隐喻通过相似性原则（similarity principle）和跨域映射

(cross-domain mapping), 重构我们的概念系统重塑我们的感知方式, 瞬间灵感一闪, 它将不同场域的异质事物强行链接在一起, 打通一个新渠道, 创造出一个新词汇, 创造一个新现实。(Lakoff, 2023, p. 124) 隐喻的产出和理解被视作心理疗愈的积极指标。(Qiu, 2025, p. 258) 隐喻的临床研究确证了文学语言的认知价值、情绪价值和疗愈价值。我们应该鼓励学生不断地变换、拓展表达法, 最终会有一石多鸟的巨大作用。

如此层层推进后, 学生不仅可以学到“瘦”的多种表达法, 更重要的是无意识地学会一种方法论——用多种方式达到同一目的, 在内容相同时不断变化语言形式; 人的认知可以次第深入, 渐次超越书本、字典、个人体验, 我们可以主动运用想象力去跨场域联想, 激发创造力和创造人生的趣味。它基本达到上文中提到的三个层面——初级、中级、高级——的创新, 从而保证了课堂上的信息差和教学效度。

三、跟进练习

跟进的强化练习 (follow-up exercise) 应该逐渐从 receptive skill (被动吸收的技能, 听、读) 到 productive skill (主动技能: 说、写) 的逐级飞跃, 据此可以设计两层跟进。

第一层跟进: 死记硬背。笔者会挑战学生的记忆力, 让他们在两分钟内全部背诵下来。学生其实很喜欢这种挑战, 让人在极短的时间内充满了小小的获得感和成就感。被动吸收之后还需在主动运用加以强化。

第二层跟进: 主动运用。再次回到课文的剖析: 译林版牛津高中教材的 2020 年新版删除了 Crying to Be Thin, 保留了单元的标题 Looking Good, Feeling Good, 课文换成了一篇报道 Teen Faints After Skipping Meals, (王守仁, 何峰, 2020, pp. 44-45) 说明编者始终想要触及这些永恒话题: 美、健康、锻炼、减肥。无论课文选材、体裁、教材如何变化, 其万变不离其宗的核心内容依然会包括美、健康、锻炼、减肥。有鉴于此, 跟进练习的设计就需要既要紧扣课文, 又要超越课文, 让学生继续深入讨论此类话题, 这样可以闻一而知十, 举一反三, 同时囊括其他类教材的类似话题。达到事半功半的效果, 学生以后无论接触哪一套教材, 都能很快驾轻就熟地谈论美、健康、锻炼、减肥等问题。有鉴于此, 兹结合改版前后的两篇课文中出现的单词短语句型, 笔者设计了一个作文题目 Slimming Down Through Medicine or Physical Exercises? 并提供一篇范文供参考, 旨在帮助学生复习和运用这两篇课文和上文提到的单词、短语和句型:

Slimming Down Through Medicine or Exercises?

Beauty is an eternal problem that girls struggle with. Slimness is thought to be the ideal form of female beauty. Girls who do not like physical exercises in open air or working out in a gym think that

there might be a quick-fix through taking weight-loss medicines. But medicine will mess with your healthy diet and make you look wasted and withered. It can lead to such side effects as skinniness, sickness, liver failure, stomachache, excessive weight loss, lack of energy to cope with daily challenges. When it fails to keep up your energy and vitality, medicine will turn you contrarily into a wispy patient or a beautiful empty vase. Just think twice about it.

Exercise remains the single most important way to stay healthy and beautiful. Although girls do not have to be lean, wiry and muscular like boys, but muscles do help immensely in their quickness, steadiness and grace. It improves heart and muscles, strengthens bones, helps sleep, controls appetite and enables you to get in shape. Exercising for 90 minutes each week will help boost mood and combat stress. You will soon be strong and sinewy, confident and radiating like a star. The sweetness of exercise will empower you inwardly and enable to be free from worrying about others' negative opinions and the burdensome idea of fixing your beauty problem through taking medicine.

In the end, fat or slim, you are still loved for your uniqueness by your family and friends. As long as you are healthy, you remove their worrisome concerns for you. As long as you stick to who you are in your way and fulfils your utmost potential, you have achieved the best form of beauty.

四、教学反思

首先，“什么是教育？”是个见仁见智的本体论问题。不同的教育本体论理解，决定了教师会选择什么样的教学法。此处笔者提供一个对教育的理解。查阅“Educate”这个词的词源学信息即可理解人们对教育的基本定义：十五世纪早期，*educate* 一词来源于拉丁词“*educere*”其本意是“*draw out*（拉出）”“*extract*（提取出）”“*branch out*（散发出）”“*lead out*（引导出军队）”“*bring out*（把船只拖出）”等意。从构词法看，“*e*”是向外之意，“*duc*”的基本意义是管道，其基本意义是沿着一定的管道将固有的东西引流出来，也即教育是导出（*elicitation*）。因此，即使是在教师主导的课堂教育中，也照样可以采用交互式来导出学生固有知识。本文不仅要导出（*elicit*），还要流干（*drain dry*）、挤干（*squeeze*）、榨干（*exhaust*），是将导出法使用到极致，耗竭式教学法从本质上依然暗合于教育的基本规律。

其次，若从心理机制上分析，教学必须有信息差。信息差（*information gap*）即信持不同信息的双方通过交际手段、交换信息，填补空白，从而完成交际任务，达到信息平衡（*balance of information*），如果没有信息差，交际就缺少动力和意义。（左颀，1988，p.14）信息差的源泉可以是对同一问题的不同角度的理解，也可以是不同深度的理解，也可以是不

同系统外的异质理解，不同、差异才是交流的动力。因此，做教师的使命就是首先要传承共识和常识，然后不断推进对课文中触及到的人事物的理解，教学必须先温习学生之固有知识，然后推进、迭代、更新之。

最后，从实战教学效果看，耗竭式教学法具有良好的互动性、挑战性、开放性、推进性、创新性、研究性。但是，耗竭式教学法亦有三难：其一，在备课时发现突破点，其实需要系统化的知识，然后有的放矢地快速推进到新知和深知。这个突破点需要特别有容量，经得起不断深挖，最终延展为一篇略具规模的小论文。其二，找到突破点之后，老师要爆料——提供与众不同的深入理解，让人能百尺竿头更进一步；要暴露——要表明真实观点；要爆发——在契机适当时集中呈现，这样教学会很快将老师耗竭。如果是二十分钟的讲台展示，十五分钟都可以生动活泼地互动，最后自己只讲了五分钟，但这五分钟，实际上备课量极大，须得魂牵梦萦，灵感一闪，方能得之。五分钟讲完之后，也基本耗竭了自己一生对某一个问题点的最深理解。其三，从个性上讲，要实施这种强悍风格的教学法也不容易：老师要很坚定，坚定地开放并放手让学生七嘴八舌、畅所欲言；坚持要把所有学生逼到绝境，逼到满堂沉默，不到他们江郎才尽时自己不要出手相助，这需要度过一段沉默难熬的课堂时间，需要淡定悦纳各种阴阳怪气的搞笑答案，需要快速准确地评判学生模棱两可的答案，需要老师知识广博、机智灵活、判断准确，兵来将挡。如果学生答案很精彩，老师的点评若不能更精彩，老师在气势上就输了，对教师的威信会小有减损。耗竭式教学法需要教师更高更快更强。它不仅会耗竭学生，也会很快耗竭自己。每次耗竭都等于在某个难点上写了一篇深入的小论文，这样备课和讲授对教师是艰巨的挑战，需要教师经年累月勤学不辍方能成就。

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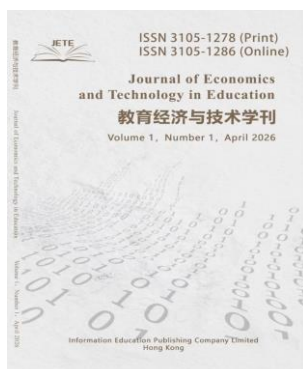
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疼痛与荣耀：《天上有颗“南仁东星”》的身体叙事研究

聂紫仪 (Nie Ziyi), 何 林 (He Lin)

摘要：《天上有颗“南仁东星”》是 2025 年秋季新编入统编版八年级语文上册的报告文学篇目，讲述了“中国天眼”首席科学家南仁东的感人事迹。论文以身体叙事学为理论视角，聚焦课文中的身体书写维度，考察其如何通过身体叙事建构南仁东的“科学英雄”形象。课文突破了传统科学家叙事重“精神”轻“身体”的倾向，将抽象的科学家精神具象化为可感的身体体验。文中的身体叙事共同完成了从“疼痛”到“荣耀”的叙事转化，身体的有限性与精神的无限性在身体书写中获得辩证统一，使南仁东形象既可感又崇高。论文为《天上有颗“南仁东星”》这一篇目提供了身体批评的解读路径，深入挖掘了作品在科学家精神教育中的独特价值。

关键词：《天上有颗“南仁东星”》；身体叙事学；身体书写；科学家精神；报告文学

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Title: Pain and Glory: A Study of the Body Narrative in “*There Is a Star Named Nan Rendong in the Sky*”

Abstract: “*There Is a Star Named Nan Rendong in the Sky*” is a reportage piece newly included in the first volume of the eighth-grade Chinese language textbook compiled by the Ministry of Education for the autumn semester of 2025 (Wang Hongjia, 2025). It tells the moving story of Nan Rendong, the chief scientist of China’s Five-hundred-meter Aperture Spherical Radio Telescope (FAST). This paper adopts the theoretical perspective of body narratology, focusing on the dimension of body writing in the text and examining how it constructs the image of Nan Rendong as a “scientific hero” through body narrative. The author argues that the text breaks away from the traditional tendency in scientist narratives to emphasize “spirit” over “body,” concretizing the abstract spirit of scientists into tangible bodily experiences. The body narrative in the text collectively completes the narrative transformation from “pain” to “glory.” The finitude of the body and the infinitude of the spirit achieve a dialectical unity through body writing, rendering Nan Rendong’s image both sublime and relatable. This paper aims to provide a path of bodily criticism for interpreting newly added textbook content, exploring its unique value in educating students about the spirit of scientists.

Keywords: *There Is a “Nan Rendong Star” in the Sky*; Body Narrative; Body Writing; Spirit of Scientists; Reportage

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引言

《天上有颗“南仁东星”》（王宏甲，2025）是2025年秋季新编入统编版八年级语文上册的一篇报告文学，讲述了“中国天眼”（FAST）首席科学家兼总工程师南仁东光辉的人生经历。他童年时代痴迷星空，为此曾先后赴多个国家的顶尖天文机构访问研究，却毅然放弃国

外优渥条件回国。其后带着大量卫星遥感地图，在广袤的喀斯特山区跋涉十余年，从近四百个备选洼地中最终选中了贵州平塘的大窝凼。工程立项后，他又带领科研团队攻坚克难，闯过了一系列技术难关。2015 年确诊肺癌晚期，南仁东仍心系工程进度，术后忍着病痛回到施工现场，直至天眼落成。最终，这座具有我国自主知识产权、世界最大单口径的射电望远镜建成启用。南仁东为 FAST 的建成奉献了自己的一生，展现了他执着科研、亲力亲为、自主创新、为国担当的科学家精神。

《天上有颗“南仁东星”》这一报告文学发表之后，很多学者从不同角度对其进行了深入的研究。叶敬国（2025, p. 2）从意象建构与细节描写的角度切入，发现“课文借助‘南仁东星’‘中国天眼’两个核心意象，构建了天地相映的浪漫场域，抒发了对南仁东的崇敬与赞美之情”，同时综合运用多种细节描写方法展现了南仁东这位功勋卓著的天文学家的伟岸形象。林珊（2026）则从教学策略与文本融合的角度切入，认为《天上有颗“南仁东星”》这篇课文兼具人文性与科学性，教师可以通过跨学科主题学习、深度阅读与情感共鸣、语言训练与科学表达、实践活动与科学体验等多种教学策略，在语文课堂中实现对学生的科学理性与人文情怀的双重培养。陈灿（2025）则从叙事结构与艺术手法的角度切入，发现课文以传主年龄为主线，将星星意象与人生历程相叠合，形成望星、追星、化星的闭环叙事，同时借助语言、行为、外貌等细节描写赋予人物真实温度，并运用对比、比喻、隐喻等手法，将南仁东的个人品格升华为具有时代意义的科学精神。

以上这些研究给我们带来了很多有益的启示和借鉴，但笔者尝试从身体叙事的角度重新解读这篇课文，分析南仁东的“身体”这一叙事符码。正如梅洛-庞蒂所言，“身体是这种奇特的物体，它把自己的各部分当作世界的一般象征来使用，我们就是以这种方式得以‘经常接触’这个世界，‘理解’这个世界，发现这个世界的一种意义”（Merleau-Ponty, 2001, p. 302）。《天上有颗“南仁东星”》中的身体冒险、身体紧张、疾病与疼痛，并非偶然的细节点缀，而是建构科学家形象的核心叙事策略。南仁东正是通过一次次身体力行的跋涉、病痛折磨中的坚守，才将“天眼”从构想变为现实。身体叙事理论所关注的“在场性”“身体与时间的张力”“疾病状态下的身体”等维度，恰好能与文本中的具体描写形成深度对话。通过分析这些身体书写，揭示了一种不同于抽象赞颂的叙事路径——科学家精神不是被宣讲出来的，而是隐含在科学家身体的磨损、疼痛与极限的挑战之中。

一、身体与空间——选址叙事中的身体在场

报告文学《天上有颗“南仁东星”》在叙述南仁东主持“中国天眼”选址的十余年历程时，始终将读者的目光引向一个核心场景：身体在特定空间中的在场。课文中，南仁东的身体并非作为精神品质的背景点缀而存在，而是参与人物形象建构的核心符码。彼得·布鲁克

斯指出,身体是意义的来源和场所,如果身体不成为叙述意义的主要载体,故事就不能被讲述(Peter Brooks, 1993, p. 1)。南仁东的身体在场,正是这一理论的生动注脚,他不是一个悬浮在会议室里的决策者,而是一个在崇山峻岭间持续移动、用双脚丈量大地的身体主体。这种身体在场并非传统传记中作为背景点缀的“他在那里”,而是构成人物形象、传递科学精神的核心叙事元素。

课文不断强化身体的在场感。第一人称直接引语“让我自己过去看”反复出现,这句话在文本中多次回响——当助手汇报某个洼地的地形数据时,当考察队提出先行探路的建议时,当所有人认为某个地方“没必要亲自去”时,南仁东总是说:“让我自己过去看。”直接引语的叙事功能在于,它让读者仿佛亲耳听见人物的声音,亲眼看见人物即将付诸行动的决心。更重要的是,这句话将身体置于认知的中心——不是依赖二手资料、遥感图像或他人描述,而是必须用自己的眼睛、自己的脚步去感知、去丈量。这种“亲自”背后,体现的是身体作为感知世界、验证判断的媒介功能,世界不是通过抽象思考被把握的,而是通过身体的移动、触摸、观看被“拥有”的。

课文勾勒出一个始终处于行走、攀登、勘察状态的身体。十余年间,他几乎走遍了所有可能建设天眼的洼地。课文虽未铺陈每一处细节,但通过时间的累积与空间的覆盖,展现在我们面前的是处于广阔空间中的身体。这个身体不是被动的存在,而是主动探索世界、测量世界的媒介。当他在一次考察中差点被山洪冲下山坡时,身体的风险被推向极致——危险经历的书写,使科学探索不再是会议室里的讨论或图纸上的规划,而是一场实实在在的身体冒险。身体所承受的惊险、疲惫、恐惧,都转化为“严谨求实”精神的物质痕迹:没有亲身经历,就没有发言权;没有身体在场的验证,数据就只是数据。

尤为意味深长的是课文对南仁东身体形象的符号化处理。他被称为“穿短裤的天文学家”。这一身体形象具有丰富的符号意义。短裤是炎热山区便于行走的着装,是“接地气”的象征。它与“天文学家”这一知识精英身份在同一身体形象上并置,形成一种富有张力的符号结构。一个研究遥远天体的科学家,却以最朴素、最贴近土地的身体形象出现。这种身体书写将南仁东从高高在上的“专家”降维成与农民并肩行走的“普通人”,同时暗示了他与这片土地的血肉联系——他的身体属于这里,他通过这片土地才能触及星辰。

从身体叙事的角度来看,这一符号化处理完成了对传统科学家形象的祛魅与重构。它使“严谨求实”这一抽象的科学精神,不再是概念性的赞词,而转化为可以触摸的、与空间交织的身体实践。南仁东的伟大不在于他站在云端,而在于他愿意让自己的身体陷入泥土、荆棘和山洪之中,用最“卑微”的方式成就最“崇高”的事业。身体的在场,最终就是精神的在场。

二、身体与时间——“吃鱼剔刺”的身体焦虑

如果说选址叙事中的身体在场回答了“科学精神如何与空间相遇”的问题，那么“吃鱼剔刺”这一细节则将目光引向另一个维度：身体如何与时间纠缠。在《天上有颗“南仁东星”》中，南仁东的身体不仅存在于空间之中，更被置于时间的压力之下——而“吃鱼”这一日常行为，恰恰成为时间焦虑最凝练的具身符号。身体叙事理论提醒我们，身体不仅是叙事的形式载体，同时构成意义生成的场所。当身体在叙事中遭遇时间的挤压时，抽象的时间焦虑便获得了可被感知的物质形态。南仁东的身体在时间的压力下所呈现出的种种痕迹，正是这种焦虑的具身化表达。

课文以炊事员的视角呈现了这一细节。炊事员问南仁东为什么不吃鱼，他回答：“吃鱼要剔刺，我没时间。”这句话看似平常，却蕴含着丰富的叙事层次。首先，“吃鱼剔刺”本身就是一种身体实践——鱼刺需要舌头与牙齿的精细配合，需要耐心与专注，是一种需要时间才能完成的身体动作。当南仁东说“我没时间”时，他其实是在说：我的身体不能被这种“浪费”占据。剔刺这一身体动作被判定为“奢侈”，因为科研的身体不允许有这种悠闲的节奏。这一细节之所以具有叙事张力，恰恰在于它与常人经验的对比。对普通人而言，“吃鱼”往往意味着慢节奏的生活、家庭的聚餐、味蕾的享受——它属于柏格森所说的“绵延”的时间，是一种可以被感知、被体验的时间流。而南仁东却将这一日常行为压缩到极限：不是不吃鱼，而是“没时间”吃鱼。身体的饥饿被压抑，进食的愉悦被取消，只剩下功能的必要性。身体不再是体验时间的媒介，而成为对抗时间的工具。

从时间哲学的角度审视，南仁东的身体困境恰与柏格森的时间学说形成深刻对话。柏格森区分了两种时间：一种是物理时间，可以被钟表测量、被分割为等量的单位；另一种是“绵延”，是意识中流动的、不可分割的、被生命体验的时间。南仁东的困境恰恰在于：他的身体被置于物理时间的暴力之下，天眼的建设有工期，选址有进度，生命在流逝。他作为生命存在，本应生活在“绵延”之中，但当他说到“吃鱼要剔刺，我没时间”时，他其实是在用身体承受两种时间的冲突。科研要求的是可测量的物理时间，而身体需要的是可体验的生命时间。身体的疲惫、饥饿、紧张，都是这种冲突的物质痕迹。身体不再是时间的主人，而是被时间规训的客体，吃饭不再是为了体验食物与身体的对话，而仅仅是为了维持科研这台“机器”的运转。正是在这一意义上，南仁东的身体成为了一个时间性的身体，一个被科研节奏所异化的身体。

课文对身体焦虑的书写，在另一个细节中得到进一步深化与呼应：“每一根头发都是竖着的”。这既是身体紧张状态的外显，也是时间压力的物质痕迹。头发竖立——这一通常与恐惧或极度专注相关的身体反应，成为南仁东日常工作状态的写照。它暗示着身体始终处于“备战”状态，时间的流逝不再是被体验的绵延，而是被计算、被追赶、被焦虑的资源。当

身体长期处于这种高度紧张之中，时间便不再是“绵延”中从容流淌的生命体验，而成为悬在头顶的、不断缩短的倒计时。从身体叙事学的视角来看，这一细节的叙事功能在于：它让抽象的时间焦虑获得了可感的身体形式。我们看不见“时间紧迫”这一概念，却能看见一个“头发竖着”的人；我们感受不到“压力巨大”这一情绪，却能感受到一个身体被持续绷紧的人所传递的紧张氛围。这种身体书写的力量，恰恰在于将无形的心理状态转化为有形的身体表征。

从“吃鱼剔刺”到“头发竖着”，课文通过一系列身体细节，将南仁东的时间焦虑层层展开。身体不再是自然的存在，而成为被科研节奏规训的客体。但与此同时，正是通过这些身体痕迹，读者得以触摸到人物内心深处的紧迫感与使命感。身体的焦虑，恰恰是精神在场的最真实证明。南仁东的身体承受了两种时间的冲突，并在这种冲突中留下了不可磨灭的痕迹。这些痕迹共同构成了“科学家精神”最深层的身体叙事：它不是被宣讲出来的崇高概念，而是在时间的高压下，通过“吃鱼剔刺”这样微不足道的日常细节，从身体内部一点一点被挤压出来的。

三、身体与疾病——带病坚守的叙事功能

在经历了选址时的身体冒险与日常工作中的身体焦虑之后，南仁东的身体迎来了最严峻的考验——疾病的侵袭。疾病书写是身体叙事的极端形态，它将身体从“常态”抛入“非常态”，从“健康”推至“病痛”，从而在极限状态下揭示身体的本质。从身体叙事学的角度来看，疾病不仅仅是生理层面的病变，更是一个具备高度叙事张力的事件，它迫使身体展露在极限处，使其无法再隐匿于精神的背后。《天上有颗“南仁东星”》对南仁东患病及带病坚守的叙述，正是通过将身体推向极限，使“奉献精神”这一抽象概念获得了悲剧性的崇高感。

课文的疾病叙事以冷静而克制的笔触展开。2015年，南仁东被确诊为肺癌，手术后不久，他便回到贵州工地；2016年“中国天眼”落成时，他已“身体虚弱”，但仍坚持到场；学生回忆他“说话声音已经很轻了”；2017年，南仁东逝世。这一系列叙述构成了一个完整的疾病——坚守——逝世的叙事链条，其中蕴含着多重叙事功能。

其一，对比效应的建构。天眼是南仁东二十余年心血的结晶，其落成是他人生中最辉煌的时刻。课文以“2016年9月25日”这一具体日期标记了这一时刻，却紧接着呈现了落成仪式上的南仁东：身体虚弱、声音很轻。辉煌的工程与虚弱的身体形成了强烈的视觉反差：工程是人类智慧的巅峰之作，而创造者的身体却在病痛中走向衰亡。这种反差使读者在庆祝天眼落成的同时，也感受到一种难以言说的悲壮：星辰触手可及的时刻，也是肉身即将消散的时刻。

其二，象征意义的生成。身体的消亡与工程的永存构成了一种反讽式的呼应。天眼建成后将运转数十年乃至上百年，持续探索宇宙的奥秘；而南仁东的身体却在工程落成后一年便永远停止。这种有限与无限的对照，使南仁东的身体成为“牺牲”的象征，他用自己有限的生命，换取了无限的科学未来。疾病所带来的改变不仅在生理健康上，也体现在患者的主观情绪、社会交往、个体认同等多方面。南仁东选择在术后立即返岗，这一决定本身就是对“奉献”的身体性诠释，不是口号式的表白，而是用正在衰竭的身体去继续未竟的事业。

其三，情感的召唤。疾病唤起读者的悲悯与崇敬。当读到南仁东“说话声音已经很轻了”这一细节时，读者感受到的不只是对一位科学家的敬仰，还有一种近乎生理性的感触——声音变轻，意味着气息不足，意味着身体正在被疾病掏空。这种身体性的书写，使读者对南仁东的崇敬不再是一种抽象的道德判断，而是一种基于身体共情的感动。苏珊·桑塔格在《疾病的隐喻》中写道：“任何一种被作为神秘之物加以对待并确实令人大感恐怖的疾病……也会被感到在道德上具有传染性。”（桑塔格，2018）南仁东的疾病书写正是这样一种道德意义的赋予，疾病不是单纯的生理事件，而成为奉献精神的物质证明。

天眼落成时，南仁东“平静地摆手”，但“已热泪盈眶”。这一细节呈现了身体的两重表达：摆手是意志控制的动作，代表着谦逊与克制；而热泪盈眶是情感失控的身体反应，代表着内心深处的激动与慰藉。两种身体表达之间的张力，恰恰揭示了这一刻的复杂情感。二十余年的付出、病痛的折磨、成功的喜悦、生命可能即将终结的预感，全部凝结在这一身体的悖论式表达之中。眼泪的“失控”恰恰是情感的“在场”，是身体在意志放松警惕时泄露的真相。

需要强调的是，这里的疾病书写并非对疾病的浪漫化。桑塔格曾严厉批判将疾病隐喻化、诗意化的倾向，认为这会使患者背负不必要的道德负担。但本文的疾病书写服务于人物建构，而非对疾病本身的审美化。它呈现的不是“疾病是美丽的”，而是“在疾病中坚守是崇高的”。南仁东的伟大不在于他生病，而在于他在疾病中仍然选择继续前行。疾病书写在这里是手段而非目的，是叙事策略而非价值判断。

从选址时的身体在场，到“吃鱼剔刺”的身体焦虑，再到疾病中的身体坚守，《天上有颗“南仁东星”》的身体叙事层层推进，最终在疾病书写中达到高潮。身体的疼痛与工程的荣耀在这一维度上实现了最深刻的交织，正是因为身体的极限处仍然坚持，南仁东的“奉献精神”才获得了无可辩驳的真实性与震撼力。身体的消亡与工程的永恒之间的张力，使整篇课文超越了普通的人物传记，而成为一曲关于有限生命与无限事业之间深刻联结的颂歌。在这一意义上，疾病书写不仅仅是叙事的终点，更是整个身体叙事的意义升华。

四、身体的符号化——从肉身到星辰

在前三个维度的分析中，我们见证了南仁东身体的三重存在：作为空间探索者的身体，在大地上行走、冒险；作为时间焦虑者的身体，在“吃鱼剔刺”的细节中显露科研工作的紧迫；作为疾病承受者的身体，在生命的最后阶段依然坚守。然而，身体的叙事并未随着南仁东的逝世而终结。课文以“天上有颗‘南仁东星’”为题，并在结尾处将肉身升华为永恒的星辰，完成了一次从有限到无限、从物质到符号的叙事跃升。在身体叙事学的视野中，身体的符号化使其超越了物质存在的边界，进入文化记忆的殿堂。课文对“南仁东星”命名的呈现，正是这一符号化过程最核心的叙事手段。

从肉身到星辰的叙事逻辑，构成了一个完整的“身体升格”过程。这一过程包含三个环节：第一，身体曾在大地上行走——选址十余年，南仁东用双脚丈量贵州的每一处洼地，身体与土地建立了最直接的联系；第二，身体承受疼痛与疾病——从日常的身体焦虑到最终的疾病侵袭，肉身随着时间的流逝中走向衰亡；第三，身体消亡后化为星辰——国际天文学联合会将一颗小行星命名为“南仁东星”，使南仁东的名字和身体意象获得了永恒的载体。这一叙事逻辑的深意在于：肉身的有限性被突破，转化为永恒的符号。在文学叙事中，“人的身体并不仅仅是作为同灵魂分离的肉体性的物质存在，它承载有更多的文化内涵。甚至从某种意义上说，身体就是一种文化建构。”（秦晓伟，2009）身体的符号化过程使其超越了物质存在的边界，进入文化记忆的殿堂。

“南仁东星”的命名本身蕴含着丰富的叙事资源。据中科院国家天文台公布的信息，这颗小行星发现于1998年9月25日，这正是FAST落成启用日期的整18年前；其国际永久编号“79694”中的“94”，代表着从1994年选址预研开始至2016年FAST落成启用，南仁东22年的坚持不懈。这些数字的巧合，使“南仁东星”的命名超越了单纯的荣誉授予，而成为南仁东生命历程的符号化凝练。那些曾经在身体上铭刻的岁月，如今被编码为一串永恒的星辰坐标。课文以这一命名作为结尾，正是借助了命名背后的符号力量，使南仁东的肉身记忆与宇宙星辰获得了象征性的同一。

这种从肉身到星辰的符号化转化，使“疼痛”与“荣耀”实现了最终的辩证统一。没有选址时的身体冒险，就没有天眼的诞生；没有带病坚守的身体付出，就没有落成时刻的辉煌。身体的疼痛是荣耀的代价，也是荣耀的证明。正是因为身体的极限处仍然坚持，南仁东才配得上“星辰”这一永恒的符号。课文以“天上有颗‘南仁东星’”为题，正是将这一辩证关系凝练为诗意的表达。那些曾经在大地上行走、在病痛中坚守的身体，如今已升上天空，成为指引后人的光芒。从屈原《天问》中对日月星辰的追问，到今日“南仁东星”的命名，中国人对宇宙的探索与对先贤的纪念，在这一刻达成了跨越千年的共鸣。身体的符号化，使有限的生命在无限的宇宙中获得了永恒的位置。

结语

论文以身体叙事学为理论视角，对《天上有颗“南仁东星”》进行了系统分析。在“身体与空间”维度，课文通过选址叙事中“让我自己过去看”的反复出现和“穿短裤的天文学家”这一身体形象，将“严谨求实”的科学精神转化为身体在特定空间中的在场实践；在“身体与时间”维度，“吃鱼剔刺”的日常细节与“头发竖着”的身体状态，使科研压力下的时间焦虑获得了可感的物质形态；在“身体与疾病”维度，肺癌术后的带病坚守与落成仪式上“声音很轻”“热泪盈眶”的身体表达，使“奉献精神”在身体的极限处获得了悲剧性的崇高感；在“身体的符号化”维度，从肉身到“南仁东星”的升格叙事，完成了疼痛与荣耀的辩证统一。这四个维度共同揭示：课文中的身体书写并非偶然的细节点缀，而是建构南仁东“科学英雄”形象的核心叙事策略。

身体叙事学视角不仅适用于分析《天上有颗“南仁东星”》，同样可以拓展至其他科学家题材的报告文学及传记类文本。在《邓稼先传》中，邓稼先因核辐射而身患癌症、临终前“不要让别人把我们落得太远”的身体细节，与南仁东的疾病书写形成同构，二者皆以身体的衰亡反衬事业的永恒；在《钱学森传》中，钱学森归国途中海上禁食的身体坚持，以及长期伏案导致的身体劳损，同样构成了“身体在场”的叙事资源。此外，近年来入选教材的《太空一日》中，航天员杨利伟在超重、失重、共振中的身体极限体验，更是身体叙事在科技题材中的典型呈现。将本文所采用的分析框架：身体与空间、身体与时间、身体与疾病、身体的符号化应用于上述篇目，可以系统考察科学家及科技工作者形象的身体书写规律，进而比较不同时代、不同领域的人物传记在身体叙事上的共性与差异。这为报告文学及传记类教材文本的深度解读提供了一条可操作的新路径。

对于报告文学及传记创作者而言，身体叙事规律提示了一条超越概念化写作的路径：让精神通过身体说话。报告文学及传记在塑造人物形象时采用了一种普遍的策略——抽象精神品质的传达，需要借助具体的身体叙事中介。传统人物传记和报告文学往往倾向于直接宣示人物的“崇高”“无私”“奉献”，这种抽象赞颂容易流于空洞。而成功的作品则善于将精神融合到身体层面——通过身体在空间中的跋涉、在时间中的焦虑、在疾病中的坚守，乃至在死亡后的符号化升格，使精神获得可触可感的物质载体。这一规律对报告文学乃至非虚构写作具有普遍启示意义：身体的叙事化，是连接个体经验与普遍价值、具象细节与抽象意义的核心机制。正如身体叙事学所强调的，身体不是意义的容器，而是意义生成的场所。

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教育家精神赋能高校“三全育人”的时代价值与实践路径

李 娜 (Li Na)

摘要：教育家精神作为中国教师群体的宝贵精神财富，包括理想信念、道德情操、育人智慧、躬耕态度、仁爱之心和弘道追求等方面。高校作为现代化人才培养的重要枢纽，承担着立德树人的根本任务，将教育家精神融入“三全育人”（全员育人、全过程育人、全方位育人）体系，有助于提升育人质量，培养具有社会责任感、创新精神和实践能力的高素质人才。实践路径包括将教育家精神融入课堂教学、加强思政教育、优化行政服务、构建全方位育人体系、营造积极向上的校园文化氛围和加强师资队伍建设等方面。通过这些措施，可以有效激发教师的教育热情 and 责任感，提升学生的综合素质和创新能力，推动高等教育内涵式发展。未来，随着教育的不断深入，教育家精神赋能高校“三全育人”的实践路径将更加丰富多样，为新时代高校教育提供理论参考和实践指导。

关键词：教育家精神；高校；“三全育人”；时代价值；实践路径

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Title: The Era Value and Practical Path of Educator Spirit Empowering “Three-wide Education” in Colleges and Universities

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Abstract: As a valuable spiritual asset of Chinese teachers, the educator spirit encompasses ideals and convictions, moral sentiments, educational wisdom, dedication in practice, benevolence, and the pursuit of upholding truth. As a crucial hub for cultivating modern talents, institutions of higher education undertake the fundamental mission of fostering virtue and morality. Integrating the educator spirit into the “Three-wide Education” system (education by all, education throughout the process, and education in all aspects) helps improve the quality of education and nurture high-caliber talents with a strong sense of social responsibility, innovative spirit, and practical ability. Practical approaches include embedding the educator spirit into classroom teaching, strengthening ideological and political education, optimizing administrative services, building a comprehensive education system, fostering a positive campus culture, and enhancing the construction of the teaching workforce. These measures effectively stimulate teachers’ enthusiasm and sense of responsibility, elevate students’ comprehensive qualities and innovative capabilities, and advance the connotative development of higher education. In the future, with the continuous deepening of educational reform, the practical paths through which the educator spirit empowers “Three-wide Education” in colleges and universities will become increasingly diverse, providing theoretical references and practical guidance for higher education in the new era.

Keywords: Educator Spirit; Colleges and Universities; Three-wide Education; Era Value; Practical Path

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引言

2023年9月9日，在全国教师节来临之际，习近平总书记专门致信全国优秀教师代表，立足新时代教育发展全局与教师队伍建设根本要求，首次系统性提出并全方位深刻阐释了中国特有的教育家精神，完整凝练出六大核心内涵，即心有大我、至诚报国的理想信念，言为士则、行为世范的道德情操，启智润心、因材施教的育人智慧，勤学笃行、求是创新的躬耕态度，乐教爱生、甘于奉献的仁爱之心，胸怀天下、以文化人的弘道追求。这一精神内涵高度概括了新时代人民教师的职业使命、师德准则与育人追求，既是对历代教育先贤育人传统的传承升华，也是对广大教育工作者坚守为党育人、为国育才初心使命的殷切嘱托，为我国

新时代师德师风建设、教师专业成长与教育事业长远发展指明了根本方向。

由此可见，教育家精神积淀着中华民族深厚的教育文化底蕴，汇聚着一代代教育工作者的精神风骨，是属于全体中国教师群体弥足珍贵的精神财富与思想内核，更是我国加快建设教育强国、培育潜心育人的新时代“大先生”、纵深推进科教兴国战略与人才强国战略落地生根的重要思想根基与先决条件（蒋平、刘丹，2013，p.95）。当前我国高校正持续深化立德树人根本任务，全面推进全员、全程、全方位的“三全育人”综合改革，不断完善大思政育人格局，打通课内课外、校内校外、理论与实践的育人链条。在此时代背景下，主动将内涵丰富、意蕴深远的教育家精神有机融入高校“三全育人”整体体系之中，不仅能够有效补齐高校思政育人短板、优化育人资源配置、健全思想政治工作长效运行体系，推动课程思政、师德建设与日常育人深度融合，更是新时代高校涵养青年品格、塑造青年信仰、培育担当民族复兴大任时代新人的内在要求与必然选择（于洋、周洪宇，2023，p.11）。

立足于高等教育高质量发展的新征程，本文立足于国家教育发展战略、高校育人现实需求，围绕教育家精神的时代内涵展开梳理，重点探究教育家精神赋能高校“三全育人”体系建设的多重时代价值、内在逻辑关联以及可落地、可推广的现实实践路径，深挖精神引领与育人体系融合的内在机理，力求为新时代高校创新育人模式、拓宽育人维度、提升综合育人实效提供扎实的理论参考依据与切实可行的实践实施思路。

一、教育家精神的内涵与外延

雅斯贝尔斯（Jaspers, K. T.）指出，“人是精神，人之作为人的状况乃是一种精神状况。”（雅斯贝尔斯，2013，p.124）2023年9月，习近平总书记在致全国优秀教师代表座谈会与会教师代表的信中，充分肯定了教师在立德树人方面的重要贡献，提出了中国特有的“教育家精神”（习近平，2023，p.9-10），一些学者认为教育家精神具有“个体与大局的理性统一、立身与育人的德性统一、实学与创新的知性统一、情感与情怀的感性统一”（刘海燕，2023，p.121）的特性，也有学者认为：“教育家精神以大德为灵魂、师德为核心、素养为基石、愿景为动力，是一种教师群体的崇高道德属性与价值追求”（陶倩、李云，2024，p.100）。

教育家精神犹如一座灯塔，在教育领域中照亮教师前行的道路，其内涵深刻而丰富，凝聚着“心有大我、至诚报国”的崇高理想信念。这一信念是教师个人精神世界的基石，是他们与国家、民族命运紧密相连的纽带，它要求教师内心深处怀揣一份对国家深沉的爱与责任，将个人的荣辱兴衰融入国家发展的洪流之中，以实际行动践行爱国之情，为国家的繁荣富强贡献自己的力量。这种信念是教师在教育生涯中不懈追求的精神动力，也是他们面对困难与挑战时坚定不移的信念支撑。教育家精神还深刻体现了“言为士则、行为世范”的道德情操，教师作为知识的传播者、道德的引领者，其言行举止对学生产生着深远的影响。因此，

教师需以身作则，严格要求自己，无论是在学术上的严谨求实，还是在生活中的正直善良，都应成为学生的楷模，他们应通过言传身教，将正确的价值观和道德观内化为学生的自觉行动，让学生在耳濡目染中学会做人、做事的道理，形成健全的人格和良好的品德。

在育人智慧方面，教育家精神倡导“启智润心、因材施教”的教育理念，教师需深刻认识到每个学生都是独一无二的个体，拥有不同的兴趣、特长和发展潜力。因此，他们应摒弃“一刀切”的教学模式，转而采用灵活多样的教学方法，如启发式、探究式、项目式等，以激发学生的学习兴趣 and 潜能，帮助他们找到适合自己的学习路径和发展方向。个性化的教学方式有助于培养学生的创新思维 and 实践能力，让他们在学习的过程中感受到成功的喜悦 and 成长的快乐。教育家精神还蕴含着“勤学笃行、求实创新”的躬耕态度，在这个知识爆炸的时代，教师若想在教育领域保持领先地位，就必须不断学习新知识、新技能，更新教育观念，提升专业素养。教师应勇于探索 and 实践，敢于突破传统教学的束缚，以求实创新的精神推动教育教学改革，躬耕不辍、勇于探索的精神是教师专业成长的不竭动力，是教育事业持续发展的源泉。此外，教育家精神还强调“乐教爱生、甘于奉献”的仁爱之心，教师应以满腔的热情 and 无私的爱，关注学生的成长 and 发展，倾听他们的心声，解决他们的困惑，在学生的“拔节孕穗期”，教师应以陪伴者的身份，用爱心 and 耐心浇灌他们的心灵，让他们在爱的滋养下茁壮成长。仁爱之心是教师职业道德的集中体现，也是教育事业的灵魂所在。

最后，新时代教育家精神始终坚守并追求“胸怀天下、以文化人”的崇高弘道理想与长远育人目标。身为肩负立德树人根本使命的人民教师，更应当主动涵养开阔宏大的国际视野，积淀扎实深厚的人文素养与文化底蕴，自觉肩负起文化传承、文明育人的时代重任。在日常教育教学全过程中，教师要坚守文化根脉，用心传承、大力弘扬源远流长、博大精深的中华优秀传统文化，深挖其中蕴含的精神内核、人文智慧与价值理念，筑牢学生的民族文化自信与家国情怀；与此同时，也要秉持开放包容、兼收并蓄的文明理念，理性借鉴、吸收融合世界各国各民族积淀已久的优秀文明成果与先进教育经验，做到守正而不固守、开放而不盲从（石元鹏、师可，2018，p.85）。立足当下、放眼未来，以融通中外的文化格局培育新时代青年，引导学生理解多元文明、尊重文化差异，成长为兼具民族根基、国际视野与良好跨文化沟通交流能力的新时代人才。教师自身胸怀天下的格局气度、兼容古今的育人理念，潜移默化滋养学生心灵，全方位提升学生的综合素养、思辨能力与国际竞争素养，助力青年立足民族、面向世界。长远来看，一代代拥有文化自信与全球视野的青年成长成才，必将不断凝聚文明力量，为增进世界文明互鉴、化解全球共同挑战、推动人类文明和谐共生，持续贡献独属于中国的教育智慧、文化力量与大国担当，为携手构建人类命运共同体筑牢人才根基、传递文明温度。

二、“三全育人”的核心与现实意义

习近平在北京大学师生座谈会上强调,“要把立德树人内化到大学建设和管理各领域、各方面、各环节,做到以树人为核心,以立德为根本”(习近平,2018,p.124)“做好高校思想政治工作,要因事而化、因时而进、因势而新”,要“提升思想政治教育亲和力和针对性,满足学生成长发展需求和期待”(习近平,2018,p.378)。“三全育人”理念,作为新时代教育发展的重要指导思想,深刻体现了我国高等教育对于人才培养的全面性和系统性的高度重视。这一理念不仅是对传统教育模式的一次革新,更是对培养德智体美劳全面发展的社会主义建设者和接班人的战略部署。具体而言,“三全育人”包括全员育人、全过程育人、全方位育人三个维度,它们相互交织,共同构成了一个立体、动态、全面的育人体系。

全员育人强调的是高校内部所有成员,无论是专业教师、辅导员、行政人员还是后勤服务人员,都应被纳入育人的主体范畴,共同承担起教书育人的责任,打破了以往教师作为单一教育者的传统观念,倡导全体教职工通过不同的方式、在不同的岗位上,发挥各自的专业优势和人格魅力,形成教育合力。例如,专业教师不仅要传授知识,更要通过言传身教影响学生的价值观;辅导员则侧重于学生日常管理和心理辅导,帮助学生解决成长中的困惑;行政和后勤人员则通过高效服务、营造良好校园环境,间接促进学生的全面发展。全员育人的实施,要求高校建立健全相应的激励机制和评价体系,确保每位教职工都能明确自己的育人职责,积极参与到育人的实践中去,构建一个全员参与、全程关注、全面服务的教育共同体。全过程育人强调的是教育应贯穿于学生的整个学习生涯,乃至影响其终身发展,这意味着高校教育不应仅仅局限于课堂教学,而应是一种连续性、系统性的教育过程。

高校需根据学生的不同发展阶段,制定个性化的教育计划,从新生入学教育到职业规划指导,从专业知识学习到综合素质提升,每一环节都应精心设计,确保教育的连贯性和有效性,特别是在思想政治教育方面,要与专业知识教育深度融合,通过课程思政、社会实践、志愿服务等多种形式,引导学生树立正确的世界观、人生观、价值观,培养其成为有理想、有本领、有担当的新时代青年。全过程育人的实施,要求高校建立长效跟踪机制,定期评估教育效果,及时调整教育策略,确保每位学生都能在学习成长的每一个阶段得到恰当的指导和支 持。全方位育人则是从教育内容、方法和手段上对传统教育模式的突破,旨在培养学生的综合素质。它要求教育不仅关注学生的知识掌握,更要重视其道德品质、心理健康、实践能力、创新思维、审美情趣及社会责任感等多方面的发展。为此,高校需构建多元化的课程体系,既有扎实的专业基础教育,也有丰富的选修课程和实践教学,如创新创业训练、国际交流项目、文化艺术活动等,以满足学生多样化的学习需求。同时,利用现代信息技术手段,如在线学习平台、虚拟仿真实验室等,拓宽学习渠道,增强学习体验。全方位育人的实施,还要求高校加强与社会各界的合作,为学生提供更多实习实训、志愿服务和社会实践的机会,

让学生在实践中学习，在学习中成长，最终实现个人的全面发展和社会价值的最大化。

全面推进三全育人综合改革理念的落地实施，对于扎根中国大地、办好独具中国特色、彰显社会主义本质的高等院校，落实立德树人根本宗旨，培育德智体美劳全方位均衡发展、能够担当民族复兴大任的社会主义建设者与可靠接班人，拥有十分深远且关键的现实意义与时代价值。三全育人涵盖全员育人、全程育人、全方位育人，打破传统单一课堂育人的局限，整合校内各类育人资源，贯通教育教学各个环节，覆盖学生成长成才的全部阶段。这一育人体系不仅精准对标新时代我国高等教育立德树人的核心根本任务，把思想引领、价值塑造、知识传授与能力培养融为一体，纠正重智育轻德育、重课堂轻实践的教育偏差，同时也为新时代高校培育兼具创新思维、开拓意识、社会实践能力与综合素养的高素质复合型人才，搭建起系统完善、科学可行的育人路径。

在当前我国高等教育逐步从规模扩张转向内涵式高质量发展的全新背景下，持续深化三全育人建设，统筹各方育人力量、完善全过程育人机制、拓宽全方位育人渠道，能够不断优化高校育人体系，补齐育人短板，缩小育人差距，进一步促进高等教育领域的教育公平。与此同时，该理念的深入践行也会持续倒逼教育教学改革，优化育人模式，全方位提升整体教育教学质量与人才培养水平。长远来看，源源不断培养出的高素质人才，能够充分适配国家发展需求，为我国现代化经济建设、社会长远进步、科技创新突破以及各领域高质量发展筑牢坚实的人才储备根基，持续输出源源不断的智力保障与人才动力。

三、教育家精神赋能高校“三全育人”的时代价值与实践路径

教育家精神一方面承载着对知识的追求与传承，一方面蕴含着对人才培养的深刻理解和崇高使命。将教育家精神融入高校“三全育人”体系，不仅是对传统教育模式的革新，更是对新时代高等教育内涵式发展的有力推动。这一融合，有助于提升高校育人质量，更能够培养出具有社会责任感、创新精神和实践能力的高素质人才，为国家的长远发展注入不竭动力。

其时代价值首先体现在教师的职业追求和道德情操上，“教育家精神是中国共产党人始终坚守马克思主义魂脉和中华优秀传统文化根脉，历经百余年教育实践沉淀而成的宝贵经验和重要成果，代表着教师精神发展进程中的高阶形态，是新时代‘育师’与‘为师’的风向标”（吴婕、韩丽颖，2024，p.13）。它要求教师要有深厚的学术功底，更要有高尚的道德品质，能够以身作则、言传身教，成为学生成长道路上的引路人，这种精神，是对教育事业的无限热爱，是对学生成长的深切关怀，更是对教育责任的深刻担当。在教育家精神的引领下，教师们能够始终保持对教育事业的热情，不断提升自身的专业素养和教育教学能力，以更加饱满的热情和更加精湛的教学技艺，投入到育人的伟大事业中。

教育家精神还倡导因材施教、躬耕态度和仁爱之心。因材施教，意味着教师要根据学生

的个体差异，制定个性化的教学方案，激发学生的学习兴趣和潜能，帮助他们找到适合自己的成长路径。躬耕态度，则要求教师们要脚踏实地、勤奋耕耘，以严谨的教学态度和扎实的专业知识，为学生的成长提供坚实的支撑。仁爱之心，则是教育家精神中最温暖的一部分，它要求教师们要关心学生的身心健康，关注学生的全面发展，用爱心和耐心去呵护每一个学生的成长。此外，教育家精神还强调求实创新、弘道追求。求实创新，意味着教师们要勇于探索新的教学方法和手段，敢于挑战传统的教学观念，以创新的思维推动教育教学改革。弘道追求，则要求教师们要始终坚守教育的初心和使命，传承和弘扬优秀的文化传统，为社会的进步和国家的繁荣贡献自己的力量。

教育家精神赋能“三全育人”的实践路径中，首先要将教育家精神融入课堂教学，从而提升育人质量。教师们可以通过言传身教、以身作则的方式，将正确的价值观和道德观传递给学生，激发他们的学习兴趣和潜能。在课堂上，教师可以运用启发式、讨论式、案例式等多种教学方法，引导学生主动思考、积极探索，培养他们的创新精神和实践能力。同时，教师们还可以结合专业特点，将思政教育融入课堂教学，引导学生树立正确的世界观、人生观和价值观，培养他们的社会责任感和使命感；而对于辅导员队伍来说，辅导员是高校思想政治工作的骨干力量，也是教育家精神的重要传承者。他们应以教育家精神为引领，让学生在思政和第二课堂等实践活动中感受思政工作的高度和温度。辅导员们可以通过组织主题班会、开展社会实践、举办文化讲座等多种形式，引导学生树立正确的政治方向，培养他们的爱国情怀和民族精神。“教育家精神对于高校辅导员具有特殊的时代价值，对在立德树人背景下推进新时代辅导员铸魂育人、激活辅导员队伍高质量发展具有重要意义”（闻羽、王可、马思其，2024，p.134）。辅导员们还可以关注学生的心理健康和成长需求，为他们提供个性化的指导和帮助，成为他们成长道路上的良师益友。

在高校行政工作中，行政人员是高校服务教职工、服务学生的中坚力量，他们也应该将教育家精神融入行政服务中，统筹各部门力量，借数字化互联之便利，让学生在日常学习和生活中感受学校育人初心，行政人员通过优化办事流程、提高服务效率、加强沟通反馈等方式，为学生提供更加便捷、高效的服务（陈志兴、徐康，2025，p.6）。必须关注学生的需求和反馈，积极回应学生的关切和诉求，增强学生对学校的认同感和归属感。将教育家精神融入高校全方位育人力量中，是提升育人质量的重要途径，高校要构建全方位育人体系，实现理论性与实践性的统一，发挥教育家精神的最大效用。在这个体系中，各类育人力量应相互协作、相互补充，形成育人合力，专业教师、辅导员、行政人员、学生组织等可以共同参与到学生的成长教育中来，为学生提供全方位、多层次的教育服务。同时，高校还应加强与社会的联系和合作，拓展育人的空间和资源，为学生提供更加广阔的成长舞台，可以通过组织丰富多彩的校园文化活动、建设优美的校园环境等方式，营造积极向上的校园文化氛围。例如

举办文艺晚会、体育比赛、学术讲座等活动，丰富学生的课余生活，建设图书馆、展览馆、艺术馆等文化设施，为学生提供良好的学习和生活环境，加强校园绿化和美化工作，打造美丽和谐的校园环境，提升学生的文化素养和审美能力，培养他们的道德品质和社会责任感。最后就是加强师资队伍建设，高校要加强教师入职审查、岗前培训、岗内轮训和学期考察等方式，提升教师的专业素养和教育教学能力，注重培养教师的创新意识和实践能力，鼓励教师积极参与教育教学改革和创新，比如设立教学创新基金，支持教师开展教学改革项目。可以举办教学竞赛和研讨会等活动，促进教师之间的交流和学习；注重加强与国际先进教育机构的合作与交流，引进国外先进的教育理念和教学方法，提升教师的专业素养和教育教学能力，激发他们的创新精神和创造力，为高校育人质量的提升提供有力保障。

结语

教育家精神赋能高校“三全育人”体系建设，是新时代我国高等教育从规模扩张向内涵式高质量发展转型的关键举措，更是高校坚守为党育人、为国育才初心使命，落实立德树人根本任务的重要抓手（赵野、赵永吉，2025，p.32）。教育家精神所蕴含的理想信念、道德情操、育人智慧、躬耕态度、仁爱之心与弘道追求，为高校“三全育人”提供了丰富的精神滋养、明确的价值导向和科学的实践指引，其深度融合不仅能够破解当前高校育人过程中存在的协同不足、载体单一、内涵不深等问题，更能推动育人工作从“有形覆盖”向“有效覆盖”转变，实现育人质量的全方位提升。

具体而言，通过将教育家精神系统性融入高校育人各环节、各领域，能够实现育人效能的全面升级（高潮，2025，p.32）。在课堂教学环节，可将教育家精神的核心内涵融入课程思政设计与专业教学全过程，引导教师以躬耕态度深耕教学、以育人智慧因材施教，让知识传授与价值塑造同频共振；在辅导员队伍建设中，以教育家精神为引领强化辅导员的责任担当与育人能力，推动辅导员成为学生思想成长的引路人、学业发展的指导者、生活成长的陪伴者；在行政服务工作中，引导行政人员践行服务育人理念，将教育家精神融入管理服务各环节，营造全员育人的良好氛围；在全方位育人体系构建中，依托教育家精神整合校内校外、课内课外、线上线下各类育人资源，打通育人链条、拓宽育人维度；在校园文化氛围营造上，以教育家精神为内核打造特色校园文化品牌，通过主题宣讲、榜样引领、实践活动等形式，让精神浸润校园的每一个角落；在师资队伍整体建设中，以教育家精神为标尺完善教师培养、评价、激励机制，引导广大教师争做新时代“大先生”，筑牢育人根基。通过以上多维度、深层次的融合实践，能够全面提升高校的育人质量、办学水平与社会影响力，彰显高等教育的时代价值。

展望未来，随着教育家精神的不断传承、弘扬与创新发展，其精神内涵将不断丰富，对

高校“三全育人”的赋能作用将更加凸显，高校“三全育人”体系也将在精神引领下实现更加完善、更加高效、更加贴合时代需求的发展，进一步打通育人堵点、补齐育人短板，为国家和社会培养更多兼具社会责任感、创新精神、实践能力与家国情怀的高素质复合型人才，为实现教育强国、人才强国战略贡献坚实力量。与此同时，随着我国教育综合改革的不断向纵深推进，高等教育高质量发展的步伐持续加快，教育家精神赋能高校“三全育人”的实践环境、实践需求也将不断变化，其实践路径必将更加丰富多样、更加贴合高校实际。在此背景下，高校应主动顺应时代发展趋势，持续加强教育教学改革与创新，勇于突破传统育人模式的局限，积极探索和实践教育家精神与“三全育人”深度融合的新模式、新方法、新路径，不断总结实践经验、提炼理论成果，为新时代高校教育事业的高质量发展提供坚实的理论参考和可行的实践指导，推动高校育人工作再上新台阶。

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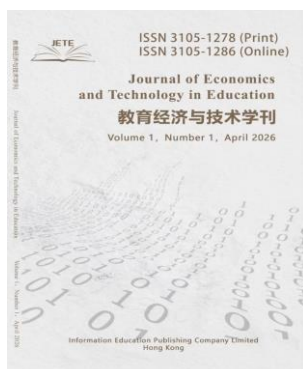
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师范生沟通素养提升与中华优秀传统文化传承的价值关联及进阶路径

陈楚敏 (Chen Chumin), 许小榕 (Xu Xiaorong)

摘要：传承与弘扬中华优秀传统文化，是近年来党和国家建设社会主义文化强国的重大战略任务。师范教育作为教师队伍建设的基础工程，其人才培养质量高度关系到文化传承教育的实践效能，其中师范生沟通素养作为师范生的核心职业能力之一，也影响着教师专业可持续发展的质量。当前师范教育在文化传承与沟通素养融合培育中仍存在表层化、未有效实现自我化育、转化不足等问题，而语言文字作为文化载体，为二者有机结合提供了天然联结。本研究以提升师范生沟通素养为核心目标，阐释沟通素养与中华优秀传统文化传承的内在价值关联，以师范生在经典篇目诵读演绎为微观视角，剖析其在文化传承中的选材偏好与态度倾向，总结提炼出以自我化育、内在提升为核心点，以“领悟—传播—认同”三阶递进式的文化传承传播实践路径，为推动中华优秀传统文化传承传播及优化师范教育质量提供实践经验参照。

关键词：中华优秀传统文化；文化传承；沟通素养；师范生；师范教育

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Title: Research on Value Correlation and Progressive Paths Between Pre-Service Teachers' Communication Literacy Development and Fine Traditional Chinese Culture Inheritance

Abstract: Inheriting and promoting the fine traditional Chinese culture has been a major strategic task for the Party and the state in recent years in building a socialist cultural power. Teacher education, as the foundational project for the construction of the teaching force, bears directly on the practical effectiveness of cultural heritage education through the quality of its talent cultivation. Among the core professional competencies of pre-service teachers, communication literacy not only constitutes an essential professional ability but also influences the quality of teachers' sustainable professional development. At present, the integrated cultivation of cultural heritage awareness and communication literacy in teacher education still faces problems such as superficiality, insufficient internalization for self-cultivation, and inadequate transformation. Language and script, as carriers of culture, provide a natural nexus for the organic integration of the two. Centering on the core objective of enhancing pre-service teachers' communication literacy, this study elucidates the intrinsic value connection between communication literacy and the inheritance of fine traditional Chinese culture. Taking pre-service teachers' recitation and interpretation of classic texts as a micro-level perspective, it analyzes their selection preferences and attitudinal tendencies in cultural transmission, and distills a three-stage progressive practical path of cultural inheritance and dissemination—"comprehension—communication—identification"—with self-cultivation and internal enhancement as the core focus, thereby providing practical experience and reference for promoting the inheritance and dissemination of fine traditional Chinese culture and optimizing the quality of teacher education.

Keywords: Fine Traditional Chinese Culture; Cultural Inheritance; Communication Literacy; Practical Pathways; Pre-Service Teachers; Teacher Education

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学校是文化传承的重要阵地，教师是文化传授的引路人。高校师范生作为未来教师队伍的后备力量，师范生的培育质量密切关乎中华文明传承传播的质效。近年来，教育部、国家

语委也提出要提高大学生语言文字应用能力，培养具有“一种能力两种意识”，即语言文字应用能力和自觉规范使用国家通用语言文字的意识、自觉传承弘扬中华优秀传统文化的意识，并强化大学生在口语表达、书面写作、经典诗文等方面能力培养。立足政策导向与育人使命，师范院校理应扛起语言文化育人的核心职责。当前，聚焦高校师范教育在文化传承传播的落实及语言文化沟通素养提升存在的困境，如对文化传承浮于表面、未有效实现自我化育，中华优秀传统文化的沟通表达深层转化不足等。本研究以提升师范生沟通素养为核心目标，探索其在素养提升过程中对中华优秀传统文化传承的价值体现，并总结出有效的实践路径。

一、阐释：中华优秀传统文化和沟通素养的基本内涵、价值关联

（一）基本内涵

中华优秀传统文化是中华民族语言习惯、文化传统、思想观念、情感认同的集中体现，凝聚着中华民族普遍认同和广泛接受的道德规范、思想品格和价值取向，具有极为丰富的思想内涵。（中华人民共和国教育部，2014）同时，在《中华优秀传统文化进中小学课程教材指南》（后称《指南》）中，明确了中华优秀传统文化教育的三大主题分别为：“核心理念、中华人文精神、中华传统美德。”（中华人民共和国教育部，2021）

沟通素养是师范生核心专业能力的重要构成之一，具体包括“阅读理解能力、语言与文字表达能力、交流沟通能力、信息获取和处理能力，也包括基本的沟通合作技能与方法”（教育部办公厅，2021），是运用语言符号实现信息交互、意义传递与情感共鸣的综合能力。语言既是文化的直接载体，文化也是语言内涵的深刻体现，这为沟通素养与中华优秀传统文化传承的融合促进提供了天然连结纽带。

（二）价值关联

语言文字是中华优秀传统文化的重要载体，传承与传播优秀文化离不开以语言文字为核心的沟通素养。2020 年国务院办公厅印发的《关于全面加强新时代语言文字工作的意见》（国务院办公厅，2020）明确提出，要“传承弘扬以语言文字为载体的中华优秀传统文化”并“加强中华优秀传统文化的研究阐释、教育传承、资源建设及创新传播”，这为师范教育将沟通素养与文化传承有机融合提供了重要指引。次年教育部办公厅印发的《中学教育专业师范生教师职业能力标准（试行）》也进一步构建了二者的内在统一：师范生职业能力中的“师德践行能力”要求培育中华优秀传统文化认同，而“自主发展能力”则内含着沟通技能的提升需要。由此，沟通素养不仅是职业能力的重要组成，更是深化文化理解、落实文化传播的实践桥梁。具体到学科教学，以中华优秀传统文化教育的核心课程语文学科为例，教育部《义务教育语文课程标准》（2022 年版）已将“中华优秀传统文化”定为语文课程的三大主题之一，要求应“围绕创造性转化和创新性发展要求，确定中华优秀传统文化内容主题”（中华人民共和国教育部，2022, P. 18），这同样对师范生在从业前要实现融通语言文字运用与文化传承传播的执教

能力作出具体要求。多重政策文件层层递进，凸显该项能力培育的必要性。可见，师范生沟通素养的培养和提升，促进中华优秀传统文化传承价值体现为既是服务国家战略需求，也是落实新时代师范生专业发展需要和从业素养趋向，是弥补当前师范教育现实短板的重要举措。

二、剖析视角：师范生演绎经典篇目的态度倾向

《指南》指出，将“经典篇目、人文典故、基本常识、科技成就、艺术与特色技能、其他文化遗产”等作为反映中华优秀传统文化的主要载体形式。（教育部办公厅，2021）师范生的诵读演绎是实现语言表达、情感传递、文化阐释等沟通素养的常见方式，因此分析诵读选篇倾向可作为反映当前师范生群体对经典传承态度的一个微观研究视角。

（一）选材特点

以 G 校为个案，该校是一所重视开展经典诵读的综合性高校，打造了经典百书阅读推广中心、大学生语言能力教学中心等人才培养特色品牌，历年来在中华经典诵写讲大赛、高校大学生中华经典诵读竞赛中屡获佳绩，在师范教育也有深厚的历史积淀与办学特色。以 G 校连续六年举办全校师范生口语风采大赛为参照背景，师范生可在赛事中以朗读为经典演绎方式，篇目范围为我国古代、近现代和当代具有一定社会影响力，可体现中华优秀传统文化、符合社会主义核心价值观、弘扬社会正能量的经典书籍。结合赛事开展情况发现有以下特点：一是在经典篇目诵读体裁选择上，相较于古文、古典小说、戏剧等文体，师范生更偏好选择古诗词的形式；二是偏向于选择当前中小学语文教材课文收录的经典篇目，如《将进酒》《春江花月夜》《行路难》等；三是选材主题多体现为修齐治平、兴亡有责的家国情怀，同时也关涉个体的人生哲思、处世态度、情感伦理等内容，这些内容包括了中华优秀传统文化蕴含的核心思想理念、中华人文精神与中华传统美德，也在一定程度上反映出两者之间的契合尚有不足。

（二）态度剖析

具体来看，师范生在经典诵读的取材上以“熟悉性”为突出特点，这与赛事时长限制有一定关系，篇幅精炼的古诗词能有效帮助其提高演绎的准备效率，但从深层素养培育层面来看，容易导致师范生接触经典的广度与深度不足。一是从体裁广度上来看，对叙事性强、思想厚重的长篇古文、古典小说、戏曲等文本的规避，窄化了对中华经典的理解和解读范围；二是从来源类型上来看，因局限在中小学教材的“熟悉圈”中，对教材课文外的经典文本主动探索以及对传统经典再创作的开拓就显得认知不足。

因此，师范生群体存在的重已知、轻未知，重短诗、轻长篇的态度偏向，虽契合朗诵场景的短时赛事需求，但更需要引发研究关注到，由这一现象所折射出的师范教育在中华优秀传统文化传承的广度与深度上存在的不足与提升空间等重要问题。

三、进阶：构建“一核三阶”递进式的文化传承传播实践路径

融合师范生沟通素养与中华优秀传统文化传承的内在联结点，结合当前存在的困境和近年实践探索经验，总结提炼出以自我化育、内在提升为核心，以“领悟—传播—认同”三阶递进式的文化传承传播实践路径，搭建文化传承与沟通素养培育双向赋能的一体化培养体系，实现师范生文化素养与职业沟通能力的协同提质，推进中华优秀传统文化传承传播。

（一）运作逻辑

1.以深刻领悟为培养起点

领悟是中华优秀传统文化传承的逻辑起点。师范生应广泛依托课内外学习资源，通过以中华优秀传统文化课程体系为第一课堂的校内浸润，如《古代文学》《中国文化名著导读》等，结合高校第二课堂的校内实践，如中华经典诵写讲大赛、经典阅读讲座、经典诗文诵读等，开展深度研读、沉浸式浸润，有效推进师范生在这个过程中实现批判性反思，强化领悟深度。在此基础上，师范生能以深刻领悟为支撑，结合个体表达和群体沟通合作等素养，主动创新传播模式与丰富表达形式；同时在传播实践后，深化认同，通过过程中的批判性反思，了解文化传承实际，校准认知偏差，再次深化文化领悟，形成以沟通素养为基础技能，推进从初领悟、创新传播、深化认同到反思再领悟的运作路径。

2.以实践传播为中间转接

传播是中华优秀传统文化输出的转接桥梁，师范生在深度领悟文化内涵后，以多元丰富的语言文字传播表达形式，面向朋辈、中小学生、国际留学生等不同受众输出内化的文化认知与感悟，在提升自我内在文化认同感后，进一步创新传播的内容和形式，在内外阐释与双向转接的交互当中，师范生不断拓宽对中华优秀传统文化内容的解读领悟和情感认同，以实现文化认知与沟通表达能力的同步提升。

3.以深化认同为阶段性落点

认同是中华优秀传统文化培育的阶段性落点。经过持续的文化领悟与传播实践推进，师范生打破自身的表层文化认知，形成较为稳定的内在文化价值归属，树立文化自信，完成从被动接收文化知识到主动认同文化价值的转变；并在此基础上，结合技能提升点开展活动，以深度的文化认同继续推动师范生创新创造文化传播的内容与形式，以更具感染力的表达开展新一轮传播实践活动。

“一核三阶”各环节共同搭建出完整路径运作逻辑，以自我化育、内在增长为核心，以传播实践为中间转接：一是在正向循环递进体系中，形成以领悟为起点，向传播实践提供内容支撑，同时传播实践帮助深化文化认知和助推文化认同；二是在反向循环递进体系中，深度的文化认同又在不断促进传播形式的创新与更深层次的文化领悟。在双向的循环推动中，师范生从普通的文化学习者、接受者、传递者，成长为真正的文化传承者、传播者和创造者，

有效实现对中华优秀传统文化的自我化育。结合时代要求与职业素养发展需要,在衔接古今的过程中,不断以沟通素养为内在增长点,赋予中华优秀传统文化新的时代内涵和现代表达形式,成为文化教育铸魂者。

(二) 具体路径

1. 设置专项性的第二课堂浸润,推动文化的深刻领悟

以 G 校为例,除了常规的第一课堂课内浸润以外,第二课堂以“经典百书阅读与诵读(至少 1 学分)”作为体育运动与审美体验类的专项学分指标,形式可以为“阅读学校指定的经典百书 40 本以上并撰写 5 篇以上心得体会”“班级组织阅读 80 本以上经典书目”“参与中华经典诵读小程序”“参与 5 次以上院校组织的经典诵读活动”等以推进落实;同时面向全校师范生打造领悟平台,如组织开展经典百书阅读展板设计大赛、与来华留学生共读经典、定期组织诗会(演绎经典及主题原创诗作)、经典早读微讲堂等系列校园文化活动。

(1) 注重经典文本的广泛接触与信息整合表达

在经典百书展板设计大赛、中外学生经典共读等活动中,师范生以《论语》《诗经译注》《唐诗三百首详析》等多部经典篇目原著及鉴赏导读作品为依托,系统梳理文本历史背景、核心思想、人文内涵与当代价值。在组织过程中,师范生不能停留在简单表面的文字阅读,而是要通过有效的阅读输入、个人思考、对经典的解读与批判性整合,感受其中的传统文化精髓;同时又要能够做到运用信息整合、逻辑梳理、视觉表达等具体的沟通表达技能,将看似遥远的、抽象的经典理念和传统人文精神转化为直观的展板展示内容以及通俗和利于传播的口头表达话语。在广泛接触、反复研读、提炼与整合的过程中,师范生完成对传统文化的内化领悟,同时检验了自身的信息处理、归纳整合、输出表达的核心沟通素养,为后续持续传播筑牢了基本素养。

(2) 创设真实情境以有效感悟经典,衔接传播实践实际

在师范生口语风采大赛、早读微讲堂等活动中,中华优秀传统文化经典篇目等作为重要内容素材,师范生在反复诵读、品味经典篇目的过程中,通过身处的具象性、针对性真实活动情境(如赛事竞技、微型讲堂),除了能够初步地感知传统文学的韵律之美、人文精神以外,在选材、备课、展示、分享等整个筹备到呈现过程,都在充分考查和提升师范生内在的文化基础积累,以及对经典传播的有效运转逻辑、灵动的语言艺术表达能力等,引导师范生要植根于传统文化的优秀精华,注重内化吸收与外化表达,在反复咀嚼语言文字、不断地思考、梳理整合的过程中,继续提升信息沟通交流能力与推动更深层次的感受领悟。

2. 丰富实践传播形式,以深化文化认同与自我成长

师范生依托前期内化的文化领悟与认知呈现,面向朋辈、中小學生、国际留学生等不同

受众，通过讲解、诵读、演讲、课堂授课、创意展示等丰富形式开展文化传播实践活动，以持续由内至外地深化文化认同，推进自身职业能力素养的可持续发展。

（1）开展校园朋辈的文化传播，夯实基础沟通能力

在校园各类文化赛事、早读讲堂、双线诗会等场景中，师范生面向同辈群体分享经典感悟、解读文化内涵、展示和演绎传统作品。如曾有师范生以《〈万历十五年〉中的“宫廷端午”》《餐桌上的中国礼仪》《汉字与名字》等主题开展朋辈讲堂分享，将传统读本、经典文本转化为贴近青年大学生学习与生活实际的生动表达，围绕朋辈之间的互动需要，在呈现方式上，要求师范生在把握内容科学规范的基础上，不断优化口头语言表达逻辑，调整表达的艺术性与感染力，在校园内夯实自身的基础沟通能力，同时在相互交流中拓宽文化认知视角，进一步深化对传统文化的理解与认同。

（2）走进中小学校园实践的文化传播，充分适配从业所需的职业素养

在走进中小学校园开展文化传播实践中，G校师范生充分围绕立足湾区、服务区域、展示岭南等文化传播理念，针对中小学生的认知特点与综合素质发展要求，打造了诸如“羊城西关文化趣味故事讲堂”等具有在地文化特色的校本课程，师范生团队主动将学术化、专业化等较为晦涩的文化内容，转化为适配中小学生学习规律，更具故事化、趣味化、生活化的传播语言，以其中的《荔枝湾“艇”有趣》为例，课程以老城市荔湾历史文化资源为主体，以“荔枝湾何以不见荔枝”为悬念导入，通过梳理古代文人雅士对红荔盛景、水乡船艇等经典文学文本内容的描写，并围绕传统西关美食“荔湾艇仔粥”和文化活动水上花市“花艇”等情景讲解内容，实现古今衔接以及对老城市新活力焕发和传承发展的共同思考。在传播实践课堂中，师范生要能够有效理解传统文化的古今发展视角，针对未来从业的受众群体进行素养适配和提升，特别是一些临场应变、课堂互动等更高阶沟通素养，在教书育人的实践过程中深刻感知传统文化的育人价值，进一步沉淀文化自信与价值认同。

（3）立足一线校园学科课堂实际的文化传播，持续地浸润深耕

中小学校园是师范生实现高校理论文化知识及从教职业所需素养转化的最核心、最重要的实践场域，在上述的初、中阶形式培养训练下，师范生已具备一定的理论储备与技能积累，也形成了不同程度的文化认同，需通过教育实习、研习等环节，进一步推进师范生在真正的学科课堂、真实的育人场景开展角色转换、能力转化及综合素养提升，尤其要立足学科课堂实际，落实中小学生学习核心素养养成，以不断地在文化传播效度反馈中和持续深化内在的文化认同中，结合学科特点、学生发展和育人实际浸润深耕。如可结合教材中“唱古诗”的学习拓展路径思路，以意象品读、炼字悟情的方式帮助中学生细读经典，解锁古诗中蕴含的情志。以《观沧海》为例，全诗以“东临碣石”开篇，借“沧海”“日月”“星汉”等意象铺

陈,深刻蕴藏着曹操求贤若渴、建功立业的雄心壮志,并可尝试配以节奏轻快豪迈、兼具豪情万丈与侠义情怀、展现江湖壮阔与人生跌宕的黄霏作品《沧海一声笑》进行唱诗演绎,以“现代音乐”唱“古典乐府诗歌”的方式,从初阶的有感情诵读,走向中高阶、具有一定语言艺术表现力的歌唱演绎,在朗读诵唱中感受中华优秀传统文化经典的永恒魅力,推动浸润深耕。

(4) 有条件地组织跨文化共读传播,提升文化传播影响力

在具备条件的基础上,可组织校内师范生与来华留学生开展经典共读、文化交流实践,推动高校青年群体之间的跨文化互鉴交流,延伸拓展文化传播力。以 G 校为例,除了定期组织中国高年级学段师范生与来华留学生开展中华经典共读活动以外,还开展围绕中国传统节庆的中华文化活动,如“春节—推广广府年俗”“清明—放风筝踏青”“端午—制作艾叶香囊”等一般性文化体验实践;以及结合实际情况协助组织开展“汉语桥”交流营活动,如团队曾面向来自意大利的中高级水平中文学习者,以“羊城盛夏”为实践传播主线,打造了“夏天的风(听中国歌曲)—夏天的气候(讲中国地理概貌)—夏天的节气(分享节气明信片)—夏天的花(认识中国莲花君子精神)—夏天的果(体验制作莲藕粘土模型或品尝莲藕菜肴)”等多维感官参与的具有本土特色的传统文化讲座,参与的师范生要求在坚守中华文化立场基础上,还要具备较好的跨文化国际视野,同时要在中外文化差异中充分了解中华优秀传统文化价值内涵与诠释呈现方式,能够做到跳出固有认知,更精准、更易懂、更深刻地对外解读中华优秀传统文化,在扩大文化交际圈与沟通对象范围的同时,增进自我文化认同,以及了解向世界讲好中国故事和推动中华优秀传统文化的创造性转化、创新性发展的时代重要性。

(三) 持续推进实践传播与认同表达反馈

师范生在深刻领悟的渐进过程中,依托持续推进的课程学习、实践传播活动,不断地开展认同体验和认同反馈。在反馈环节,自我反思与外部评价均是重要的方式。如可在实践活动结束后,通过聚焦对中华优秀传统文化理解的讲解准确度、语言表达清晰度、实践活动体验效果等维度,布置师范生撰写实践总结、活动心得、体验日志,观看活动录像片段、收集不同传播受众意见等方式,开展自我评估。同时,依托外部多元评价互为补充,如结合赛事的专业点评,了解自身的文化解读深度、表达专业性、内容创新性,找到自身文化阐释、效果呈现、沟通表达中的不足;朋辈互评侧重沟通策略优化、表达细节完善,实现互相进步;中小学生对受众问卷反馈聚焦文化传播的趣味性、易懂性与接受度,为传播内容和形式优化提供参照依据。

在持续优化文化传播内容与形式的过程中,推动文化领悟更深入、传播更优质、认同更坚定,切实强化师范生沟通素养提升的育人实效,实现中华优秀传统文化活态传承与创新发

四、总结与展望

“中华民族在几千年历史中创造和延续的中华优秀传统文化，是中华民族的根和魂。”习近平总书记多次强调要重视中华优秀传统文化、促进其传承发展的重要意义，指出将中华优秀传统文化教育贯穿国民教育始终是文化传承的核心要求。中华优秀传统文化的活态传承，关键在于人才培育，师范生作为基础教育的源头师资，其文化领悟能力、传播表达能力与文化价值认同，具有重要的时代价值意义。

研究提出的“一核三阶”递进式的文化传播传播实践路径，较好地实现了将师范生职业素养发展中迫切需要强化提升的沟通素养与中华优秀传统文化的传承传播育人两者的有机结合，形成以文化领悟推进传播能力、以传播实践深化文化认同，最终以自我化育、内在生长的递进式循环发展。

（一）初显成效

经过近年的实践探索，一是能较好地推动师范生实现从“不敢表达”到“开口表达”，提升文化领悟的深度与传播的效度，实践路径以围绕中华优秀传统文化为话题起点，提供了覆盖读、诵、讲、演、说、悟、译等多种细分技能点的开展形式与训练机会，不同性格特点的师范生都有机会开口表达，认识到日常训练的重要性。二是从第一课堂校内浸润和第二课堂丰富的校园文化活动浸润中不断拓宽传统文化传承传播的广度，如早读微讲堂曾累计开展近200场次，“羊城西关文化故事趣味讲堂”走进广东广雅中学、广州中学、广州市第十六中学等校园开展服务近400人次，师范生们在与不同人员沟通交流之中更好地共同传递和感受传统文化温度，同时也在身份交叉切换之中体验自我成长、互相成就的合作价值；三是在文化传播实践转换中，师范生不断地提升沟通表达能力、创新传播形式内容、对接服务受众需求，实现了植根中华人文精神的职业核心能力的稳步提升。

（二）研究展望

诚然，体系的构建仍存在一定的不足与局限，一是现有实践侧重于传统文化内容的传承传播，在文化传承内容创新与创造方面关涉不多；二是结合数字传播资源推进长效建设方面探索仍不足，对实体资源挖掘后的数字转化思考不够。

后续会继续将实践路径融入师范教育培养体系当中，持续优化完善实践体系，争取整合出更多优秀实践成果，以及推进培育出一批兼具扎实沟通素养、深厚文化底蕴与创新传承能力的新时代师范人才。

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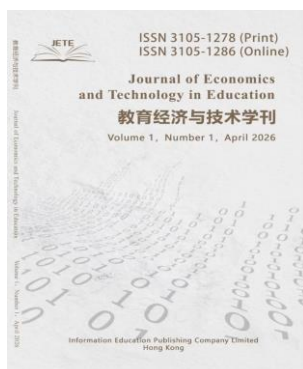
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教学改革何以撬动学校组织变革？

——基于广州大学附属东江中学“三基于”模式的个案研究

陈红星（Chen Hongxing）

摘要：本文以广州大学附属东江中学“三基于”课堂教学改革为个案，深入探讨了一项植根本土的教学创新如何超越课堂技术层面，演变为驱动学校整体组织发展的核心引擎。研究指出，其关键在于该模式同时扮演了“战略聚焦点”“专业联动机制”与“文化意义载体”的三重角色。“战略引领—专业传递—系统融合”的系列推进，除了带来教学质量提升及教师赛事成绩外，更重要的是推动了学校的管理机制由自上而下的垂直单一走向多元参与的专业治理、组织形态由行政主导的层级式走向民主协商的学习型组织、学校发展模式由他律驱动的适应性转向自主发展的创造性。本研究为理解教学改革引发深层组织变革提供了“技术—制度—文化”互动的分析框架，也为县域高中依托内生性课堂改革实现治理升级与内涵式发展，提供了具有可操作性的实践范式。

关键词：县域高中；课堂改革；学校治理；个案研究；三基于模式

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Title: How Can Instructional Reform Leverage School Organizational Change? —A Case Study Based on the “Three-Based” Model at Guangzhou University Affiliated Dongjiang High School

Abstract: Taking the “Three-Based” classroom teaching reform at Dongjiang High School Affiliated to Guangzhou University as a case study, this paper probes deeply into how a locally rooted teaching innovation transcends the technical dimension of classroom teaching and evolves into a core engine driving the holistic organizational development of the school. The study points out that the key lies in the fact that this model plays a triple role simultaneously as a “strategic focal point”, a “mechanism for professional collaboration” and a “carrier of cultural significance”. The progressive implementation of the “strategic guidance-professional transmission-system integration” approach has not only led to the improvement of teaching quality and better performance of teachers in various competitions, but more importantly, promoted the transformation of the school’s management mechanism: from a top-down, vertical and centralized structure to a multi-stakeholder participatory model of professional governance; the transformation of the organizational form: from an administration-dominated hierarchical structure to a democratic and consultative learning-oriented organization; and the transformation of the school’s development model: from an externally regulated adaptive model to an independently driven creative model of self-development. This study provides an analytical framework of “technology-institution-culture” interaction for understanding how classroom teaching reform triggers in-depth organizational changes and also offers an operable practical paradigm for county-level high schools to achieve governance upgrading and connotative development by virtue of endogenous classroom teaching reform.

Keywords: County-level high schools; Classroom reform; School governance; Case study; Three-Based models

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一、问题提出与研究背景

在新时代建设高质量教育体系以及大力加强县城普通高中建设的大背景下，县域高中是整个基础教育的重要组成部分，在落实教育均衡、为高校提供优质生源方面发挥着重要作用（教育部，2024）。但是，目前大部分县域高中的发展都面临着自我活力不够的问题，教学改革往往局限于形式上的变革，难以突破组织惰性和制度障碍，“碎片化推进、表面化实施”，另一面是不少学校过分追求升学分数等单向度目标，办学路径趋同，陷入“回应式发展”的怪圈（李政涛、李栋，2026；吴刚平，2023）。根据《中国县域教育发展报告（2025）》，我国县域高中有 68.2%的教学实践与组织变革脱钩。三是 73.5%的学校缺乏可持续的内生发展机制，在此情境下如何通过具有结构穿透力的教学变革激发组织内部要素的活力，推动学校由“回应式发展”向“生成式发展”的转变，促进学校教学改进与组织成长的融合，是县域高中发展急需解决的一个重要命题。

本文所要重点讨论的“三基于”模式，是广州大学附属东江中学课改理念及实施的基本思路，即“基于问题”的课改理念渗透到课前、课中、课后三个教学阶段，以学为本，在重视课前预习、课中小组合作探究以及课后分层作业三个途径下打造高效课堂，最后，“以生为本、素养立人”课堂实践促使教师真正从单一的技术层面走向了学校组织层面。基于此，本研究以广州大学附属东江中学为个案，采用深度案例研究法，探究“三基于”教学改革撬动学校组织变革的内在机制，试图打开教学创新与组织变革之间的“转化黑箱”，为县域高中内生发展提供理论参考与实践范式。

二、文献综述与分析框架

目前的相关研究主要有两条线索，都存在一定的理论局限，为本研究的切入留下空间：其一是课堂教学改革相关的研究，这类研究大多关注特定教学方式的效果，以“输入—输出”的效度检验为主线，讨论学案导学、小组合作、项目式（PBL）教学等方式对学习成绩、思维能力的影响（景民、张铁道，2021；钟启泉、崔允漷，2018）。比如有实证研究表明 PBL 教学方式有助于学生批判性思维能力和解决问题能力的发展，但这些研究更多地聚焦于课堂教学这一微观世界中，把课程变革看成独立的“干预措施”，没有关注到课程改革给整个学校的

组织形式、权利关系以及文化样式所带来的“涟漪”。无法解释教学生态向组织能力转化的过程。

二是学校组织管理的研究。这一类是从学校的宏观层面上去考察校长领导力、战略、学习型组织建设对学校效能的作用机制，并建构了比较完善的理论框架。领导者的愿景、政策支持、教师的卷入等等。然而，这些工作对于变革动机的追寻往往停留在外部政策压力或者领导个人意志上，而忽略了来自课堂教学层面的实践性创新对组织场域的自觉“建构”，没有回答清楚“课堂教学创新如何引领整个学校的改革”这一内在机理的问题。

因此，已有研究并未很好地揭示教学创新与组织变革的关系，存在着一定的“理论缝隙”。为了弥补这一“缝隙”，本文引入组织社会学中的新制度主义理论，提出一种以“技术—制度—文化”的交互作用为核心的分析框架。在这一分析框架下，组织变革并不是技术替代或者主观的设计过程，是教学技术要素进入制度逻辑并产生组织意义的过程。“三基于”首先以“教学技术系统”的形态在组织中出现；然后，在制度层面上将技术固定下来、固化下来，并成为常态；最后，进入组织文化层面，成为价值认同及习惯性行动。三者之间的相互作用推动了教学改革带动组织转型这一核心命题。

三、个案分析：“三基于”模式撬动组织变革的机制建构

（一）技术赋能：从理念到组织化实践的转化

一项教学革新能否从个别教师的课堂试验演变为全校范围的稳定实践，其核心挑战并不在于技术方案本身的精妙程度，而在于它能否完成从“个人技艺”到“组织资产”的位阶跃迁。广州大学附属东江中学推行的“三基于”模式恰好提供了一个值得深究的案例。该模式最初只是针对讲授式教学的修补策略，后来却被学校管理层成功转化为驱动整体变革的技术基座。这一转化过程揭示了技术赋能的真实含义：不是简单地向教师投放更多工具，而是通过一整套制度操演，让教学技术获得组织层面的合法性、嵌入日常运作的节律并配给持续运转的资源。以下将从合法性建构、常规化嵌入与支持性配置三个维度，逐一拆解这一组织化转化的内在机理。

1. 合法性建构：从教学技术到战略资产的符号重塑

一种教学技术想要摆脱“可选项”的暧昧身份，首先需要被组织正式承认为“必须做的事”。这并非技术本身的属性，而是一个符号政治过程。学校管理层将“三基于”写入年度发展规划，并置于“三个重要抓手”的首位，这一举动看似平常，实则完成了一次关键的制度命名。在组织社会学视野中，命名即赋权。当一项活动被战略文件明确标注为“抓手”，它就脱离了教师个人兴趣的范畴，升格为组织目标的合法延伸。该校校长在一次内部会议中反复强调：“三基于不是某几个人的教学偏好，而是我们落实新课改精神的基本路径。”这种话语

绑定策略将微观教学行为与宏观政策叙事挂钩，使反对者难以在道义上立足。

值得细究的是，合法性并非一次性授予的静态资格，而需要不断通过仪式性展演来维系。该校每学期的开学工作报告中，“三基于”总是以独立段落出现，且措辞逐年升级——从“探索”到“深化”再到“全面落地”。这种修辞上的递进制造出一种不可逆的变革势能。与此同时，学校将“三基于”与外部评估挂钩：上级部门的教学视导、示范性高中复评等场合，校方汇报材料中均将“三基于”列为首要创新点。这种外向的合法性展示反过来强化了内部认同，形成一种“内外同构”的强化回路。

这一过程对教育技术扩散研究提出了一个容易被忽视的命题：技术的采纳率并不完全取决于其相对优势或兼容性，而很大程度上取决于它是否被成功地叙事化为“组织命运的攸关之物”。当一项技术被感知为关乎学校生存与发展时，教师的犹疑与观望会被集体行动压力迅速消解。该校的经验表明，合法性建构的关键操作是将技术从“教学工具箱”中抽离出来，重新安置于“战略议程”的顶端——这一位置本身就是一种权力宣言。

2. 常规化嵌入：教学事务链条的技术重构

获得战略地位只是第一步。若不能在每天的铃声节奏中找到落脚点，任何宏大的改革叙事都会沦为空洞的修辞。该校的第二项操作是对日常教学事务进行系统重构，将“三基于”强制嵌入集体备课、公开课评议与教案撰写三个惯常环节。这种嵌入的实质是一种“常规化暴力”——用制度力量打断既有惯习，迫使教师在被迫重复中形成新行为模式。

以集体备课为例。改革前，备课组活动通常围绕教学进度协调与习题资源共享展开，讨论质量参差不齐。改革后，学校规定每次集体备课必须依次呈现三份文档：“课标分解表”要求教师逐条列出本节课对应的课标条目并阐释其具体化路径；“教材分析卡”强制教师标注教材中哪些内容服务于哪个核心素养；“学情诊断报告”则要求基于前测数据说明本班学生在哪些预习环节存在典型障碍。这三项产出直接与备课组绩效考核挂钩，未完成的组别将被公示。这种极细颗粒度的程序规训产生了双重效果：一方面，它确实将“三基于”从抽象口号还原为可检查的操作清单；另一方面，它引发了部分资深教师的抵触，认为这种“表格化教学”侵蚀了专业自主性。值得玩味的是，经过两个学期的强制推行，抵触声逐渐减弱——不是因为教师被驯服，而是因为他们发现按照模板备课确实减少了教学设计的盲目性，课堂上的无效环节明显下降。这种“实效性自证”是常规化得以持续的关键。

从制度理论视角审视，常规化嵌入的深层机制是“时间结构的重组”。学校通过将“三基于”锚定在备课、上课、评课的时间节点上，重构了教师的行动时序。过去，教师可能在学期初思考一次教学理念，而后便沉入日常忙碌；现在，每四十分钟的集体备课时间都在强制追问“你的课标依据是什么”。这种高频重复制造出一种近乎条件反射的专业警觉。埃利亚斯曾用“习性”描述这种身体化的规则记忆，该校的实践恰恰印证了习性可以通过制度化的时

间编排被有意识塑造。当然，这一过程存在明显限度：过度标准化可能催生仪式性遵从——教师填写表格但内心疏离。该校后续通过竞赛机制部分化解了这一矛盾，但常规化与能动性之间的张力始终存在。

3. 支持性配置：降低遵从成本的资源逻辑

合法性赋予遵从压力，常规化制造遵从机会，但若遵从成本过高，教师仍会以“表演式参与”敷衍了事。该校第三项操作是设立专项资金，用于三个方向：培训服务采购、校本材料开发与实践研讨组织。这看似平常的资源配置，背后隐藏着一条重要的行为经济学洞见——任何制度变革都必须计算教师的“行为切换成本”。

切换成本包括显性成本与隐性成本。显性成本如时间投入：一名数学教师初次尝试按照“三基于”框架设计一节课，可能需要额外花费两小时查阅课标解读文献、编制学情前测问卷。隐性成本则更为致命：试错风险——按照新方法上课可能效果不佳，被学生或同行质疑。该校的专项资金策略精准地针对这两类成本。培训服务采购邀请外部专家进校进行“课标分解工作坊”，将教师自主摸索的两小时压缩为专家指导下的四十分钟，大幅降低显性成本。校本材料开发则由骨干教师先行试水，产出半成品模板供其他教师修改使用，这实质上是将试错风险从个体分散承担转变为组织集中承担。一位参与材料开发的教研组长坦言：“我们做出来的模板不一定完美，但至少能保证不会出大错，普通老师拿来就能用。”这种“脚手架思维”是降低隐性成本的关键。

更具创新性的是资源配置的分配方式。该校没有采取平均划拨，而是引入竞争性申报：教研组需提交“三基于”融入教学的实施方案，经学术委员会评审后分档资助。这一设计产生了意想不到的溢出效应。为了争取更高额度的经费，教研组之间开始自发交流方案、互相critique，那些原本持观望态度的教师发现，若不参与，本组在资源竞争中就会处于劣势。这种“竞争性压力”比行政命令更有效地激活了基层的创新意愿。从资源依赖理论看，当组织内部各单位为争夺稀缺资源而主动调整行为时，制度变革的扩散速度会显著加快。该校的经验提示我们，支持性配置不应被理解为简单的“给钱给物”，而应被设计为一种精巧的激励结构——让遵从行为获得即时回报，让观望行为付出机会成本。

4. 强制与自主的悖论：技术赋能的限度

上述三项操作共同完成了“三基于”从教师可选项到学校强制规范的身份转换。这一转换奠定了组织变革的技术基础，但也埋下了一个不可回避的悖论：强制规训在确保技术落地的同时，可能窒息教师的创造性回应。调查显示，在推行初期，约有四成教师承认自己“按照模板填写但内心并不认同”。这种“脱耦”现象在组织制度主义中早有论述——当制度压力与专业信念冲突时，个体会采取表面遵从、私下回避的策略。该校后续通过“以赛促研”机制部分修复了这一问题，因为竞赛场景激发了教师的荣誉感与专业自尊，使遵从行为从“被

迫”转向“自发”。这提示我们，技术赋能的理想状态不是单纯的强制，而是在强制建立底线标准的基础上，留出足够的弹性空间供教师进行情境化调适。该校的实践表明，组织化过程必须同时包含“硬化”与“软化”两股力量——前者通过制度规训确保技术不被稀释，后者通过专业自主确保技术不被僵化。

综上，“三基于”的技术赋能历程提供了一个清晰的理论意象：教学技术向组织资产的转化，本质上是合法性符号、常规化程序与资源激励三股力量交织作用的结果。这三者缺一不可——没有合法性，技术只能停留在个体层面；没有常规化，技术无法渗入日常节奏；没有资源支持，教师的遵从成本将高到难以承受。这一发现对县域高中改革的启示是直接的：与其反复培训教师“更新理念”，不如花力气在组织层面搭建技术落地的制度脚手架。理念可以宣讲，但习惯只能通过制度化的重复来塑造

（二）制度中介：“以赛促研”机制的动力传导

战略合法性为“三基于”模式铺就了组织承认的温床，但合法性本身并不自动催生教师的实质性行动。一种常见的改革溃败形态是：文件写得很漂亮，会议开得很热闹，课堂却纹丝不动。广州大学附属东江中学的案例显示，弥合这一“执行沟壑”的关键装置是一套精心设计的“以赛促研”制度。该制度扮演了联结宏观战略与微观行动的中介角色，将学校层面的变革势能转化为教师群体的实践动能。以下从竞赛的转化功能、知识生产循环以及动力传递的微观政治三个层面，拆解这一制度中介的内在机理。

1. 竞赛作为转化器：从模糊理念到可操作标准

“三基于”的核心诉求——“问题导向、素养立意”——本身具有相当程度的模糊性。这种模糊性是双刃剑：它赋予教师因地制宜的阐释空间，却也导致“人人都在说，做法各不同”的涣散局面。竞赛制度的首要功能就是将这种模糊理念转化为可观测、可比较、可评判的行为指标。该校参与的市一级“命题·析题”竞赛提供了一个绝佳观察窗口。比赛要求参赛教师提交一份完整的单元测试卷，并附上“命题说明”——逐题阐述该题对应哪个课标条目、考查何种素养、情境素材如何体现“基于问题”的设计逻辑。这份说明实质上是一份“三基于”的实践脚本。评委打分的核心依据并非试题的难度或区分度，而是命题说明与“三基于”理念之间的吻合程度。

这一转化过程暗含了一种深刻的制度逻辑：竞赛将“好教学”的抽象标准具象化为“好命题”的具体技术。教师不再需要揣摩“什么叫问题导向”，而是必须展示“我的这道题是如何从一个真实情境问题出发的”。这种具象化降低了认知负荷，也消除了搪塞空间。一位参赛教师坦承：“以前觉得‘三基于’是校领导喊的口号，但准备比赛时不得不逐条对照，才发现自己以前的教学设计有很多漏洞。”竞赛的强制暴露功能在此显现：它迫使教师将自己惯常的教学行为置于标准化的审视之下，那些过去被熟视无睹的缺陷变得无所遁形。

从组织社会学的视角看，竞赛实质上是一种“制度化的同行评议”。与自上而下的行政检查不同，竞赛的评价压力来自同行比较和外部专家。这种水平向的压力比垂直向的行政指令更容易被教师接受——不是因为压力更小，而是因为它披着“专业荣誉”的外衣。该校的竞赛成绩被纳入教研组年度考核，个人获奖情况与职称评定挂钩，这进一步强化了竞赛的激励刚性。值得注意的是，竞赛标准本身也在动态演化。第一年比赛中，评委主要关注“是否体现了问题导向”；到了第二年，标准升级为“问题设计的真实性层次”；第三年又加入了“问题链的结构化程度”。这种标准的逐年精细化，实质上是学校管理层通过竞赛这个杠杆，持续提升“三基于”的实践深度。

2. 知识生产循环：从隐性经验到可扩散资产

竞赛制度的另一项隐蔽功能是启动一个自组织的知识生产与扩散循环。该校的“实践—竞赛—总结—再实践”链条值得深描。在常规教学阶段，教师积累了大量关于“三基于”的零散经验——某节课的提问设计收到了意想不到的效果，某个探究活动激发了学生的激烈讨论。这些经验通常以隐性知识的形态储存在个体教师头脑中，难以传递，更难以积累。竞赛的到来打破了这种封闭状态。为了在比赛中拿出有竞争力的作品，教师被迫将自己那些零散的经验整理成系统化的教学设计或命题方案。这一整理过程本身就是一个知识外显化的过程——隐性的“我知道怎么教”被转写为显性的“这是设计依据、这是实施步骤、这是效果证据”。

赛后总结环节则完成了知识的横向扩散。该校规定，参赛教师必须在教研组内进行“赛后复盘”，分享自己的设计思路、遇到的困难以及改进策略。这些复盘活动产生了强烈的同伴学习效应。一位没有参赛的年轻教师表示：“看别人的参赛作品就像拿到了一个高质量模板，我知道下次自己参赛时该怎么做了。”更有趣的是，赛后复盘往往演变为对“三基于”内涵的集体再阐释。在某次市命题比赛后，教研组围绕“素养立意”展开了激烈争论——有人认为素养必须通过情境题来考查，有人则认为情境过度会干扰基础知识的检测。这种争论没有达成统一答案，但恰恰是这种“未完成的共识”保持了概念的开放性，使其不至于被教条化。

从知识管理理论看，该校的“以赛促研”机制契合了 Nonaka 提出的“SECI 模型”（社会化—外显化—组合化—内隐化）。竞赛前的集体备赛是社会化过程——教师观摩往届获奖作品，模仿其设计逻辑；竞赛作品撰写是外显化过程——隐性经验被编码为可传递的文本；教研组复盘是组合化过程——不同作品中的碎片被整合为更完整的知识体系；而教师将复盘收获应用于下一轮日常教学，则是内隐化过程。这一循环的独特之处在于，它以竞赛为“脉冲节点”，将原本零散、偶发的知识流动制度化、周期性发生的组织学习事件。比起依赖教师自觉的教研活动，这种“竞赛脉冲”模式具有更强的节奏感和可预期性。

3. 动力传递的微观政治：竞赛如何消解变革抵制

任何组织变革都会遭遇不同程度的抵制。该校推行“三基于”的过程中，部分资深教师曾公开质疑：“我们教了几十年书，难道还比不上一个比赛模板？”这种抵制并非源于对技术本身的否定，而是源于对专业自主权被侵蚀的焦虑。竞赛制度的精妙之处在于，它将变革压力重新包装为专业挑战，从而消解了“行政强制 vs 专业自主”的二元对立。

具体而言，竞赛为抵制的消解提供了三条路径。第一，竞赛创造了一种“非零和”的激励结构。在传统的行政检查中，教师的得失是单向的——达标是应该的，不达标受惩罚。而竞赛中，获奖者获得荣誉与资源，未获奖者也不会受到直接惩罚，只是失去了机会。这种“正向激励”结构降低了教师的防御心理。第二，竞赛为资深教师提供了一个展示经验优势的舞台。那些教学经验丰富的老教师，在命题设计、问题情境创设等方面往往具有年轻教师难以企及的积淀。他们在竞赛中的出色表现，反过来验证了“三基于”并非对传统教学的全盘否定，而是对优秀经验的提炼与系统化。这种“经验合法性”的确认，有效消解了抵制情绪。一位曾经抵触的老教师在获得市一等奖后改变了态度：“原来我平时做的那些事，就是‘三基于’啊。”这句话揭示了一个重要机理：当教师发现改革与自己的既有实践存在连续性而非断裂时，抵制的心理基础就会瓦解。

第三，竞赛催生了一种横向的同伴压力。当某个教研组在竞赛中连续获奖，其他组会自发产生追赶的动力。这种动力不是来自校长的批评，而是来自同行比较中的相对失落感。组织行为学将这种现象称为“参照性竞争”——当参照群体的表现被公开比较时，个体倾向于调整行为以缩小差距。该校并未刻意营造竞争氛围，但成绩排名、获奖公示等常规操作已经足以激发这种参照效应。一位教研组长坦言：“看到别的组拿奖，我们组开会时气氛都很压抑，下次不拼不行。”这种来自同侪的压力，往往比自上而下的指令更具穿透力。

4. 竞赛制度的限度与反讽

尽管“以赛促研”机制展现出强劲的动力传导效能，我们仍需警惕其内在限度。最突出的风险是“为赛而教”的异化倾向。当竞赛成绩与职称、绩效过度捆绑时，教师可能将精力集中于打磨“参赛作品”而非改进日常课堂。该校管理层的应对策略是要求参赛作品必须来源于真实教学——参赛的教学设计必须是在实际课堂上实施过的，且需附上课例视频片段及学生反馈数据。这一规定在一定程度上遏制了“表演式参赛”的冲动。另一个风险是竞赛标准的固化可能压制教学创新的多样性。当所有人都按照同一套标准打磨作品时，那些不符合主流标准但同样有价值的探索可能被边缘化。该校通过每年修订竞赛标准、引入校外不同背景的评委来部分缓解这一问题，但结构性矛盾依然存在。

综上，“以赛促研”作为制度中介，其核心价值在于将战略层面的变革意志转化为教师能够感知、愿意参与、可以掌控的专业实践。竞赛不是目的，而是杠杆——它撬动了教师的专

业自尊、同伴压力与成就动机，使“三基于”从“学校要我做”悄然转变为“我要做得比别人好”。这种转变的微妙之处在于，教师并未意识到自己正在被制度塑造，他们只是觉得“参加比赛、争取荣誉”是理所当然的事。而这恰恰是制度力量最成熟的形态——当制度的逻辑被行动者内化为理所当然的信念时，它就不再需要外在的强制。

（三）系统耦合：管理体系的适应性重构

一项教学改革若想获得持久生命力，仅靠合法性背书与竞赛脉冲尚不足够。前者解决“能否做”的问题，后者解决“愿不愿做”的激励，但改革持续推进还面临一个更隐蔽的障碍：原有管理体系与新技术要求之间的结构性摩擦。广州大学附属东江中学的案例表明，当“三基于”模式试图扎根时，科层制下惯常的权力配置、评价尺度与资源流向产生了排异反应——教研组有责无权，评价指标与改革目标错位，资源分配遵循资历而非实绩。该校随后进行的三重适应性重构，即管理权限下沉、激励机制重塑与资源倾斜配置，构成了一组“系统耦合”动作。以下逐一剖析其设计逻辑与运作效果。

1. 管理权限下沉：行政线与专业线的叠瓦结构

传统县域高中普遍奉行直线职能制：校级领导决策，中层处室传达，教研组执行。这种结构的优势是指挥链清晰，缺陷是专业判断常被行政层级过滤。在“三基于”推进中，学校发现许多教学改进决策——例如某单元是否适合采用探究式学习、某个竞赛题的设计是否偏离素养导向——需要即时且情境化的专业判断，而教务处自上而下的指令无法覆盖这类微观场景。于是，校方将原本集中于校级的管理权限向教研组、备课组梯次下放。

下放的具体边界经过审慎切割：人事任免与财务审批仍归行政系统，但教学设计审定、竞赛备赛方案选择、校本材料开发的最终决定权移交给教研组。这种“财权上收、事权下放”的格局既规避了基层滥权的风险，又保证了专业事务的专业裁决。一个标志性事件是市“命题·析题”竞赛的备赛过程：参赛人选不由教务处指定，而是由教研组内部通过“模拟命题+同行评议”产生；训练计划不须报校级审批，教研组可自主安排每周的研磨时间与辅导专家。行政系统退居支持角色——负责协调场地、报销差旅、对接外部资源。这种“专业线主导、行政线保障”的叠瓦结构，打破了科层制中“官大一级压死人”的僵硬逻辑。

从组织理论看，这一调整本质上是一种“去中心化”但非“无中心化”的治理实验。学校保留了战略方向的否决权，但在战术执行层面赋予了专业单元充分的裁量余地。这种分权设计产生了两个意外收益：一是教研组长的角色从“传声筒”转变为“议程设定者”，其专业权威在同事中迅速积累；二是年轻教师获得了更多参与决策的机会——过去只有资深教师才能在行政通道中发出声音，现在只要专业能力突出，就有机会在教研组议事中占据一席。这种“专业声望政治”对传统“行政等级政治”的替代，是组织活力被激活的深层密码。

2.激励机制重塑：双驱动模式的操作化路径

任何管理体系的核心都是“什么人被奖励”。该校在推行“三基于”之前，评价体系偏向资历与工作量——教龄长、课时多者更容易获得评优。这种导向与改革要求的“创新质量”存在根本冲突。校方随后对激励机制进行了两项关键修订：一是将“三基于”实践成效纳入年度绩效考核的刚性指标，权重占到 30%；二是将竞赛成绩作为职称评定和职务晋升的加分项，且加分幅度足以改变排名顺序。

值得细究的是“精神鼓励为主、物质鼓励为辅”这一表述背后的制度设计。很多学校将此理解为“少花钱多表扬”，结果激励效果微弱。该校的做法恰恰相反：物质奖励的绝对数额并不低——市级一等奖可获得 3000 元奖金，相当于半个月工资；但校方刻意将物质奖励的仪式感做得很轻（奖金直接打入工资卡，不搞表彰大会），而将精神奖励的仪式感做得很重——获奖者照片登上校园“教改光荣墙”，在全体教职工大会上由校长亲自颁发证书，获奖案例被编入校本培训教材并署名。这种“重符号、轻物质”的配置策略，利用了心理学上的“内在动机优先”原理：当外部奖励被感知为“认可”而非“收买”时，个体的自主性动机反而更强。一位获奖教师说：“钱当然重要，但更在意的是自己的做法被当成样板让大家学。”

双驱动模式的另一支柱是“组织利益与个人利益的捆绑”。该校在年度考核中设置了“教研组协同分”——如果某教研组有教师获得市级以上教学竞赛奖项，全组每人获得额外加分。这一设计巧妙地将个人成就转化为集体荣誉，促使组内其他成员主动为参赛教师提供支持，而非冷眼旁观。社会困境理论中的“选择性激励”在此得到印证：当集体利益无法自动催生合作时，向贡献者提供可排他的正向激励，并让旁观者分享部分收益，可以有效化解搭便车难题。

3.资源倾斜配置：改革优先的筛选与放大

资源稀缺是县域高中的常态。该校的专项资金总额有限，若平均撒胡椒面，任何方向都难有实质突破。校方选择的策略是“改革优先”——将培训进修、课题立项、外出学习等发展性资源集中投向在“三基于”实践中表现突出的教师及团队。这一策略包含两个阶段：首先是筛选，通过竞赛成绩、教学设计评审等公开透明的程序识别出“改革积极分子”；然后是放大，为这些教师提供进阶研修机会（如参加省级课标解读工作坊）、课题申报辅导、跨校考察交流等资源，使其能力进一步提升，形成“先富带后富”的梯队格局。

这种配置方式的深层逻辑是“资源跟随绩效”，而非“资源跟随身份”。过去，外出学习机会往往按教研组平均分配或偏向行政干部；改革后，任何教师只要拿出过硬的教学改进证据，就有机会获得资助。一位入职三年的青年教师因在“命题·析题”竞赛中获市一等奖，获得了参加华东师范大学举办的“素养导向评价设计”研修班的机会——这在过去是只有教研组长才能享有的待遇。这种“破格”产生的示范效应远超资源本身的价值：它向全体教师

传递了一个清晰信号——改革是通往发展资源的真实通道。

当然，倾斜配置也存在明显风险。最突出的是“马太效应”——少数骨干教师获得越来越多资源，而普通教师愈发边缘化。该校的应对措施是设置“资源转化义务”：获得倾斜支持的教师必须在规定时间内产出可共享的成果（如公开课、校本材料、工作坊），并在教研组内进行知识转移。这一规定将个体受益与组织学习挂钩，一定程度上抑制了资源囤积。

管理体系的适应性重构绝非零散的制度修补，而是一套精密的耦合工程。权限下沉解决了“谁来决策”的合法性，激励机制解决了“为何努力”的驱动力，资源倾斜解决了“如何成长”的可能性。三者咬合形成的系统刚度，使得“三基于”模式在遭遇日常教学的反复摩擦时，不会轻易松动或走形。

四、组织变革效应：学校治理体系的重构逻辑

（一）治理结构转型：从行政主导到专业共治

推进“三基于”，促使学校管理由传统的科层制行政主导管理模式向行政权威与专业权威并重的管理模式转变。“三基于”的深入实施，使得一些具有较强的专业权威，在教改及竞赛中表现突出的教学骨干崭露头角，他们的专业声望和话语影响力增强，成为教学的意见领袖和问题解决者。

行政领导在作出学校重大决定的过程中，特别是在涉及教学改革、参加竞赛人选安排、教研活动取向等专业性较强的事项上，应多征求骨干教师及教研组长的意见，形成有教学实证支撑下的集体决策模式。如市“命题·析题”比赛备赛期间，参赛选手的遴选、参赛训练计划都是由学科教研组来完成的，行政系统提供资源支持是专业权威对教学的主导地位的体现。“行政权威—专业权威”的共治理模式消除了传统管理模式中等级的藩篱，提高了学校治理专业化程度。

（二）组织文化升级：学习型共同体的生成

“三基于”模式的持续实践，推动学校组织文化从“保守执行型”向“学习创新型”转型，生成了以“敢改、共研、求精”为核心的新型组织文化。有了“三基于”的改革合法性支撑后，教学创新由个人行为变成有组织的集体行为，“敢改”，成了教师的共识；在备战各类竞赛、日常教研过程中，涌现出大量跨年级、跨学科的教学团队，深度合作是解决教学难题的主要途径，而不是“单打独斗”。在“以赛促研”竞赛中，区级比赛成绩是衡量教师专业水平的标准之一，让教师把“精益求精”由被动转为主动。

这种新型组织文化，与 Senge 提出的“学习型组织”内核高度契合，为学校的持续发展提供了文化支撑。

（三）发展路径重塑：从被动响应到主动建构

“三基于”建设促使学校发展方式由“外部驱动回应型”转向“内部生成自塑型”，形成了一条富有韧性的办学发展之路。学校不再是简单地照搬照抄兄弟学校的成功做法，也不再是机械地对应上级考核评价标准，而是围绕“三基于”这一核心目标打造出了“教学变革——师资成长——学校变革”的自主发展之路，凝练出鲜明的办学特色和品牌印记。

面对新高考改革、课程方案修订等外力冲击，学校能借助“三基于”的支架来理解并转化这些外来要求，在“问题设计”“探究活动”等课堂教学中渗透新课程的理念，用分层教学解决学生差异的问题，具有良好的环境适配性。这种以基本教学模式消解外界影响、转为发展机遇的能力，就是“战略韧性”，是学校的立身之本、发展之基！

五、讨论与结论

（一）核心发现：教学改革撬动组织变革的三重逻辑

本研究通过个案分析发现，“三基于”教学改革之所以能撬动学校组织变革，关键在于其同时承担了“技术载体、制度中介、文化符号”三重功能，形成了教学创新向组织变革转化的完整逻辑链条。作为技术工具，“三基于”提供具体的教学实施路径，为组织变革奠定实践基础；作为制度媒介，经过组织化的过程，促进管理系统的适切调适，实现变革力量的传递；作为文化表征，其所承载的“以生为本、素养立人”的理念进入组织的文化层面，形成稳定的价值共识。这三种功能的综合作用，将个人教师的创新能力汇集于组织发展轨道，并实现教学改进与组织发展的融合。

（二）理论贡献与实践启示

首先，在理论层面上，本研究建构起来的“技术—制度—文化”的三重互动模型，打开并部分地揭示了教学创新与组织变革之间“转化黑箱”，弥合了既有研究中微观教学与宏观组织脱钩的理论裂缝，为认识县域高中组织变革的内部机理提供了一个新范式。同时，本研究立足于中国县域学校的地方实践，拓展了教育组织变革理论的本土内涵，贡献于国际教育变革研究的中国经验。

从实践层面看，本文也为县域高中内生发展提供了一些实践启示：第一是要重视教学改革战略地位，把优质的教学革新作为学校的策略性行动，给予组织合法性；第二是要建立“以赛促研”等中介变量，促进教学技术的可见性和传播力；第三是要实现管理系统的柔性转型，四是做好文化建设工作，围绕教学改革建设学习型组织文化。

（三）研究局限与展望

本研究属于单个案研究，所得结论是否具有普遍意义还有待进一步检验。后续研究可以采取多个案例对比研究的方式，选取不同地域的不同发展水平的县域高中进行研究，“教学改

革撬动组织变革”机制在情境上的适宜度存在何种异同？还可以开展跟踪式研究，了解“三基于”模式对学校组织变革的影响是否会随着时间推移而发生变化，以及新教改环境下的不断更新迭代。

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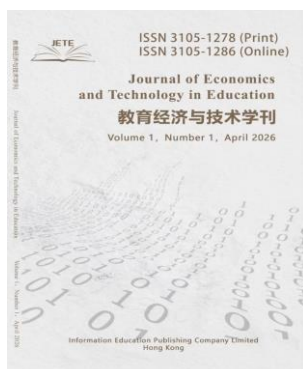
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教育强国背景下学校课程体系建设探析——“教育强国背景下县域中小学课程体系建设的挑战与路向”研讨

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梁家俊 (Liang Jiajun), 梁淑瑜 (Liang Shuyu)

摘要：为贯彻国家及广东省关于基础教育高质量发展的战略部署，第二届珠江教育论坛暨广州大学纵向帮扶清远“三所学校”质量提升研讨会于2025年7月在清远召开。会议聚焦“教育强国背景下县域中小学课程体系建设的挑战与路向”，旨在解决当前课程体系未能充分满足教师、学生、家长及用人单位需求的核心问题，探索构建人民满意、平衡个人与社会价值、兼顾当下与未来、协调个性与全面发展的课程体系。围绕方案锚定：教育强国背景下课程体系的全景设计；理论支撑：创新学校课程体系改革方案；经验转化：探索国内外课程发展的实践智慧；未来展望：跨学科教学赋能育人路径议题，提出教育强国背景下课程发展与改革的关键方向，以赋能中小学课程体系建设。

关键词：学校课程体系；教育强国；学校课程改革

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Title: Curriculum System of County Primary and Secondary Schools: Challenges and Optimization Paths for Building a Powerful Education Country

Abstract: To implement the national and Guangdong Province's strategic plans for high-quality development of basic education, the Second Zhujiang Education Forum and the Quality Enhancement Seminar for the Three Schools in Qingyuan under the Vertical Support of Guangzhou University was held in Qingyuan in July 2025. The conference focused on the challenges and directions of the curriculum system construction in county-level primary and secondary schools under the background of building an educational power, aiming to address the core issue that the current curriculum system fails to fully meet the needs of teachers, students, parents, and employers, and to explore the construction of a curriculum system that satisfies the people, balances individual and social values, takes into account the present and the future, and coordinates individuality and all-round development. The conference centered on the following topics: panoramic design of the curriculum system under the background of building educational power; theoretical support for innovative school curriculum system reform plans; transformation of experience: exploring practical wisdom in domestic and international curriculum development; future outlook: interdisciplinary teaching empowering the educational path. It proposed key directions for curriculum development and reform under the background of building educational power to empower the construction of primary and secondary school curriculum systems.

Keywords: School curriculum system; Educational power; School curriculum reform

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为深入贯彻习近平总书记关于加快教育强国的重要论述，积极响应广东省委、省政府加快基础教育高质量发展的号召，全面落实广东省人民政府中小学“百千万人才培养工程”及《基础教育课程教学改革深化行动方案》的战略部署，结合《教育强国建设规划纲要（2024—2035年）》的教育愿景，探索基于中小学课程体系建设以推动基础教育高质量发展的理路，第二届珠江教育论坛暨广州大学纵向帮扶清远“三所学校”质量提升研讨会应运而生，并于2025年7月4—7日在广东省清远市顺利召开。本届论坛以“教育强国背景下县域中小学课程体系建设的挑战与路向”为主题，遵循“顶层方案设计—理论支撑—实践落地—未来展望”的递进逻辑，共商中小学课程体系创新构建与实践优化的路径，旨在打造契合时代发展、创新育人路径、注入科技创新活力的课程新生态。

一、方案锚定：教育强国背景下课程体系的全景设计

教育强国愿景的实现，亟须学校课程体系进行一场深刻的系统性、全景性设计，从根本上回应让人民满意的课程体系建设，聚焦于以“毕业生形象”为锚点的课程研制，直面当前教育中矛盾以系统化拟定课程建设方案体系两部分，为后续的深入探讨奠定了基础。

（一）紧扣毕业生形象的课程研制体系

论坛开始前开展的会前工作坊，旨在为当地学校进行课程实施方案设计提供理论指引与方法指导。在该工作坊中，广州大学谢翌教授及其团队指出，构建支撑教育强国愿景的学校课程体系，需要以清晰的“毕业生形象”作为核心“粘合剂”和评价基点，以此系统性地统整学校各领域、各学科、各活动，并高度关注课程内外的协同，通过设计长程性、复杂性学

习任务来实现育人目标。课程研制本身应被视为一个“寻根”过程，深入发掘学校文化脉络并将其“聚魂”为共享的精神内核，进而凝练出明确的核心理念。目标设计层面需秉持科学、细致的原则，强调以动态视角审视目标体系建设、回归本校文化根基、组建多元协同力量参与，以及确保各级目标的一致性。课程内容的选择与组织则需超越学科知识的简单切割与拼接，将其定位为促进学生生命成长的经验汇聚过程，核心目的在于支持学生核心素养的发展。课程实施环节应基于“多元协同共生”的发展观，综合考量相关要素，精心设计策略以实现真正的课程共生。最后，构建科学、多元、发展性的课程评价体系至关重要，应以“本校毕业生画像”作为评价体系设计的核心基点与关键抓手。

（二）系统指明学校课程体系建设思路

贾建国（2022）指出，课程体系建设以实现教育强国愿景为核心，通过一系列有效的机制与策略将割裂的课程主体、课程结构等“黏合”起来，形成强大的课程整体育人力量。谢翌、程雯、杨志平等（2023）强调，高质量课程体系建设则是新时代教育发展诉求的关键，论坛从学理层面厘清学校课程体系的发展和文化使命，更深入研究课程结构优化的具体要求。广州大学教育学院谢翌教授围绕“教育强国愿景下的中小学课程体系发展”，指出进入快速时代的教育是“累”并“内疚”着的教育，存在师生负担、课程建设等方面的不足。教育强国愿景下的教育，要站在学生的立场去考量，建设人民满意的课程体系，关注教育中“人民”的美好生活体验。教育语境中学生才是“最重要的人民”，让人民满意的课程体系样态应该寻求个人本位与社会本位的平衡，即意味着人人有获得感和意义感、每个学生获得幸福生活的能力、每个学生全面而有差别化地发展。立足明确“让人民满意”的价值定位，促进个人发展与社会发展的协同；秉持“大课程体系观”，实现课程体系内外部系统的统一；观照文化变革的力量，根植学校文化做本校课程体系规划；把握技术革新的契机，处理好“人一机一人”的协同关系。从而平衡个体与社会价值，关注当下与未来发展、个性与全面发展的矛盾，从价值定位、课程体系观、文化变革和技术革新等方面构建。

二、理论支撑：创新学校课程体系改革方案

教育强国的背景下全方位推进课程体系的改革优化，构成以文化取向为先、核心素养为核、多元评价驱动的课程创新发展方案，旨在为实现教育强国愿景提供坚实的理论支撑。

（一）优化面向教育强国的课程文化

学校在课程建设中需要担负起文化变革的使命，实现一种新的课程文化再造。湖南科技大学教育学院杨志平副教授围绕“教育强国背景下学校课程体系建设文化使命及其实现”展开探讨，学校层面课程建设是教育强国对内认同性与对外引领性形成的关键。学校课程建设的取向与识别逻辑可归纳为：教育强国的核心关切既指向拔尖创新人才与全体人的培养，

也关乎知识原创性与中国教育国际引领性的提升，其内在逻辑体现为本土性与原创性的统一，学校课程建设需在文化自信与课程问题解决的互动中推进，文化取向由此成为新时期课程建设的必然选择。教育强国的时代背景下，学校课程建设不能仅仅停留于门类增减或实施方式修订，而应致力于构建系统、整体且具有教育强国特征的课程文化。学校课程建设的文化框架涵盖其文化使命涵盖观念、符号、行动三个层级，学校课程建设文化使命遵循政治、文化、课程三重逻辑进行系统重构，为教育强国建设提供支撑。

（二）深化核心素养统领下的课程改革

通过核心素养导向和学校文化引领，以深入推进课程改革，从而为教育强国愿景下课程体系建设与优化明确变革方向。汕头大学周仕德教授聚焦教育强国背景下的课程改革核心命题，剖析了中国基础教育的三大根本问题：明确“基础”在于筑牢国民素质、终身发展及国民教育体系根基；解析高质量教育从“有学上”到“上好学”再到“人本化普及”的演进逻辑；结合六大体系加快构建基础教育高质量发展的未来布局。接着，指出核心素养是立足中国基础教育课程新发展的新创造，推动课程目标从知识技能导向（1.0版）、向三维目标（2.0版）升级为素养导向（3.0版）。在此基础上，指明2022年版新课标修订逻辑，以素养为导向重构课程体系，引入学业评价梯级推进法，实现教、学、考一致。最后，在落地层面，强调校长课程领导力、教师素养提升、评价体系优化及多主体协同，结合“规范管理年”行动，保障改革实效。广东省国基教育发展研究院执行院长、华南师范大学客座教授骆龙衍同样聚焦基础教育发展的矛盾与破局路径，指向高质量课程改革。通过剖析当下教育的多重挑战，以社会、人口变化、技术发展、AI发展等，从历史“故纸堆”转向未来“会客厅”，在变革路径上，提出“全景、共识、行动”框架。以乡村学校为例，倡导“飞鸿精神”，构建兼具乡村气息、城市品质、时代精神的办学愿景，明确“怀梦想、持坚毅、习智慧、行仁爱”的育人目标。在课程与实施层面，打造“知行信”理念下的OTC课程体系，通过OKR管理平台统筹任务，构建教联生态，推动学校从“资源孤岛”变为“生态枢纽”、教师从“经验驱动”转向“数据赋能”、学生从“被动接受”走向“主动成长”，最终实现课程的高质量改革。

（三）构建多元评价驱动的课程完善机制

课程体系的多元评价有助于推动课程体系建设的完善。广州大学教育学院博士生袁玉莹从“高质量课程体系评价之维：教育强国的视角”出发，阐述课程评价的价值向度、内容要素与实践路径，提出教育强国背景下课程体系的教育价值是实现社会与个体协同发展的关键枢纽。课程体系质量直接决定着人才培养与社会服务协同发展水平；课程体系评价锚定个体与社会协同发展的价值追求；课程体系评价助推共享意义体系的构建。而教育强国背景下课程体系的课程价值是促动课程持续改进的内生动力，体现在对课程规划“适切性”的科学检

验与“方向性”的动态校准和推动课程实施从忠实执行转向情境化创生两个层面。教育强国背景下课程体系的育人价值，是培养“三有”时代新人的成长引擎，体现在引领学校构建“价值—能力—责任”的三维评价框架；推动人才需求与教育供给的动态平衡以及助推中小学培育学生的创新能力与批判性思维。学校课程方案研制质量作为表征课程顶层设计水平的重要内容；教师教学质量作为检视课程转化能力的关键维度；学生学习质量作为考察课程育人成效的核心指标；涵盖了评价目标、评价任务以及评价工具三个要素。倡导教育强国视角下高质量课程体系评价要基于多元协同构建课程评价共同体；基于发展取向形塑课程评价文化；构建素养导向的课程体系质量评价标准。

三、经验转化：探索国内外课程发展的实践智慧

课程发展需要兼具国际视野与国内本土课程，将课程发展的“实践智慧”有效转化为高质量课程体系建设的内在动能。通过借鉴国际课程改革经验，凝练本土课程体系优化策略，将改革深化至作业结构这一微观层面探索，共同构成了课程体系的实践图景。

（一）借鉴国际课程发展先进经验

在国内外的课程改革中，广州大学教育学院博士生冯帆梳理国内外课程改革发展脉络，国内外课程改革都关注协同机制，强调多主体协作、资源共享和场域联动；重视人才多维发展，通过主题式学习和关键素养培育契合强国诉求；还强调课程与科技、人才的互动关系。从制度、工具、行为和价值四个维度梳理国内外课程改革的脉络，能清晰地看到国外课程改革的制度设计受文化和历史传统影响，国内则以政策主导为重心；工具革新方面，国外强调课程材料的动态适配，国内聚焦人工智能等技术赋能；实践路径上，国外形成多元协同模式，国内注重本土资源开发；主体性提升上，国外关注综合素养发展，国内聚焦教师专业能力提升。我国课程改革形成了有中国特色的路径和经验，提升课程主体的专业引领力，推动课程改革更好地服务于教育强国建设。

国内外课程体系的发展为当前的课程体系建设提供借鉴之道与优化策略，广州大学任平副教授以“人工智能时代中小学科学教育的国际经验与中国路径—超越STEM课程的德国MINT课程”为题，分析德国MINT教育改革源于PISA测试结果引发的“教育灾难”震动，以及社会对高端技术劳动力的迫切需求，为突破困境，德国开启全方位改革。其课程改革特征鲜明：课程目标着重培养学生科学的学科素养；课程内容紧密联系生活实际；课程编制围绕主题整合知识，如柏林多所高中开展的《智慧城市—未来的城市》项目，学生从多学科视角探索城市发展，提升综合能力。在改革举措上，德国制定战略规划，推出“MINT行动计划”；构建校内外合作培养模式，鼓励企业等与中小学合作；运用数字化教学提升科学教育质量。德国经验对于我国教育具有丰富的启示与经验，我国应制定科学教育推进法律，加强科学教

育专业师资与教学设备建设,营造学校、企业与社会联合的良好氛围,开发高质量教材,以提升我国科学教育水平,培养适应时代需求的创新人才。

(二) 凝练本土课程体系优化策略

国内课程也通过各校的探索与实践,创新了课程经验体系,凝练出本土课程的经验模式。首先,课程经验借助新视角,批判课程内容结构化与缺乏关注主体经验,主张动态资源、知识统整等,以重构课程结构化逻辑,广州大学教育学院李俊堂博士剖析了课程内容结构化现存问题,提出“课程地理学”新视角及实践路径。课程地理学是以人文地理学为基础,从人地关系视角考察空间、资源等客观因素与主体情感、体验等主观因素如何影响课程内容生成、运作和变迁,核心是探究知识价值的生成条件与位置,方法为空间分析,为课程结构化提供新方向。接着依托本土资源,通过构建科学课程体系,以培育时代新人,正如江西科技师范大学李亚培博士指出,依托地方千年古邑文化底蕴与生态资源,以生态共生为核心理念,构建“自然+人文”五育融合的科学课程体系,不仅让学生在探索古邑生态中厚植科学素养,更以“知行合一”的实践,培养兼具人文情怀与创新能力的时代新人。首都师范大学吕晓娟教授在北京市X学校开展“现在进行时”校本课程,以当前正在发生的、鲜活的社会与自然重大事件为主题,以培养“三有”时代新人为目标,实现跨学科主题学习与学科深度融合,突破分科课程的局限另辟蹊径,为教育创新开拓新方向。广州大学附属中学席长华博士、副校长建设“大国防教育课程”,成立“国防班”,明确育人目标,构建科学课程结构,合理规划课程学时,通过沉浸式实践推动课程实施。最后,结合清远市本土实践,清远市教师发展中心雷俊星主任系统阐述了立足清远自身区位优势与劣势,以SWOT分析开展提升学校课程建设指导力的实践探索,通过多方协同推进,实现课程育人质量的提升,为基础教育课程改革的区域化实施提供可借鉴的实践样本。

(三) 探索作业结构的实现育人的融合创新

教育教学实践基于本土课程经验,进行面向作业的探索,基于“双新”背景阐释作业结构。李学书博士在“双新”背景下,系统阐释作业的课程形态演进与优化路径,指出作业定位经历从教学论视域“环节论”到课程论视域“形态论”的深刻转变。教学论视域的“环节论”将作业视为教学管理手段,其印刻着管理、惩戒、训练的“胎记”,育人价值长期被遮蔽,且因教学论聚焦“中心教学”而缺乏系统研究;课程论视域的“形态论”则凸显作业的独立课程形态属性。杜威强调作业的“活动属性”,认为其是社会生活活动的复演;克伯屈突出其“课程价值”,将作业与项目、任务等作为课程重要环节。

随着国内课程改革推进,作业作为课程论话语体系的重要部分,呈现出参与、合作、探究等价值导向,兼具“课程”与“学习方式”双重教育意蕴,课程形态具体分为构成性结构形态、过程性运行形态与作用性关系形态三类。同时,为实现作业形态优化,应完善作业结

构的纵横一体化关系、构建多元主体协同育人机制、强化学段作业的衔接性设计、增强作业与社会场域的适应性互动的四大优化路径。作业需以核心素养为导向，本质是“微课程”、素养转化场域及学生发展主阵地育人价值，要求教师强化学习理论认知、运用整合思维、精进设计技术，深层彰显与实现作业育人功能。

四、未来展望：跨学科教学赋能育人路径

立足于人工智能与全球科技创新趋势，课程体系的育人路径朝着前瞻性、现代化、科技化突破，勾勒出以技术融合与模式创新的发展方向：推动人工智能与基础教育深度耦合，以跨学科教育为核心培育新时代人才，从而培养学生具备面向未来的问题解决能力与核心素养。

（一）推动人工智能赋能基础教育

《教育强国建设规划纲要（2024—2035 年）》中明确提出要促进人工智能以助力教育变革，将人工智能与教育领域深度融合。华南师范大学黄甫全团队针对珠三角地区对卓越教师的迫切需求与边远地区优秀教师短缺的现状院校（U-S）协同难题，率先开创实验教学，成功研发出“师德高尚、能力卓越”的AI全科主讲教师“华君”。通过“实验室演练打磨——一线教学评修优化——多校协同创新”的三阶开发模式，推动“华君”完成中小学幼儿园多科课程 881 节系列课例开发，覆盖数学、语文、英语、科学、道德与法治等 8 大学科，进入课堂授课 459 节，并开展“AI与真人教师同课异构”教学观摩验证活动 54 次，深受校长、教师、学生及家长认可。实证研究显示，“华君”教学成效显著优于一线优秀教师水平，能有效增强学生学习动机与学习效果，在助力“双减”政策落地、推动教育均衡发展等方面表现突出——尤其在解决乡村优秀教师短缺问题上展现独特价值，AI课堂的学习动机效应较传统课堂提升显著。同时，创新性构建“AI与真人教师共同成长”的课程开发模型，搭建起AI与真人教师课堂卓越研究性教学支持体系，开辟了AI赋能的新师范模式。

（二）跨学科教育培育新时代人才

基于全球创新趋势与中国教育现状，培养创新科技人才已成为必然趋势，而跨学科教学则为新时代育人提供关键路径。澳门城市大学教育学院彭俊副教授结合全球创新趋势、教育现状及澳门实践，深入探讨跨学科教学对创新科技人才培养的重要性与路径。《2024 年全球创新指数报告》显示，中国在全球创新格局中排名第 10，居中等收入国家之首，但教育领域仍存在现实问题与矛盾：中国学生学习时间长但效率低、幸福感低，反映出传统教育重解题能力、轻创造力与问题解决能力的短板。因此，为破解全球创新格局中我国的困境，应以跨学科创新为教育发展的重要趋势。国家已设置“交叉学科”门类，教育部要求义务教育阶段跨学科主题学习课时不少于 10%，澳门非高等教育规划也将跨学科能力培养列为重点，凸显了

跨学科教育的政策支撑。澳门通过跨校教研先导计划，在中小学阶段开展信息化教育实践：菜农子弟学校开展“智慧种植”课程，涵盖 3D建模、数据分析等，将信息科技与学校课程整合；广大中学开展“智慧安保系统开发”项目，将编程内容与生活体验结合，涉及传感器、人脸识别等技术；培华中学“AI烹饪”整合品德课程，运用生成式AI，以项目式学习培养学生数字素养、创新思维等核心素养。同时，澳门从智能知识、能力、应用等维度评估学生AI素养，形成评价报告以指导学生发展。澳门教育实践聚焦于青少年科技拔尖人才培养的培养，将育人理念由“补齐短板”转向“突出长板”，注重差异化教育与合作能力培养。未来教育需解决“重技能轻知识”等偏差，以教育信息化与教育现代化推动跨学科教育常态化，为粤港澳大湾区跨学科教育提供实践范例，共同推进跨学科教学赋能创新科技人才培养。

结语

第二届珠江教育论坛暨广州大学纵向帮扶清远“三所学校”质量提升研讨会承载了第一届教育论坛对“一校一策”课程建设的研讨理念和精神，聚焦“教育强国背景下县域中小学课程体系建设的挑战与路向”主题，通过“纵向帮扶”机制向连州三校注入前沿课程建设体系理念和先进国内外经验分享，并改进课程教学方法，适当调整课程组织形式，持续优化课程作业设计（肖献军，2025），为解决县域基础教育瓶颈、提升育人质量、推动连州中小学迈向更优质的课程体系贡献力量。未来希望有更多教育工作者能够如谢翌教授所呼吁的那样：“打破信息牢笼，坚守育人初心，关注生命感受，真正做有意义的教育，做人民满意的教育！”

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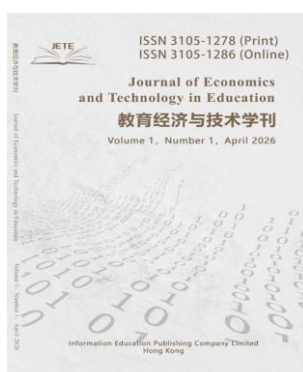
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Diagnostic Assessment of a Chinese ESL Learner: A Four-Skill Case Study and Pedagogical Implications

Liu Jiayi

Abstract: This study conducts a diagnostic assessment of a Chinese undergraduate ESL learner and investigates potential sources of his language difficulties, including internal and external factors. Sing Cambridge B2 First tasks and a semi-structured interview, the study evaluates Z's listening, speaking, reading, and writing skills, along with his motivation, social context, and previous education experience. The results indicate that Z has attained an overall B2 proficiency level while shows weaknesses in spoken accuracy, lexical range, semantic confusions, complex-sentence parsing and listening for detail. The paper argues that these uneven sub-skill profiles are shaped by first-language transfer, exam-oriented schooling, limited naturalistic exposure, and language anxiety. Therefore, valid assessment and effective pedagogy must integrate diagnostic testing with contextualized qualitative data. Based on a detailed, multi-dimensional analysis of the four skills, the paper identifies the learner's strengths and proposes targeted suggestions such as peer feedback, intensive dictation, close reading, and genre-based writing. These diagnoses are drawn with suggestions for practice and further research.

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Keywords: Diagnostic assessment; ESL learner; second language acquisition

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标题: 中国英语二语学习者诊断性测评: 基于四项技能个案研究及教学启示

摘要: 本研究对一名中国本科英语二语 (ESL) 学习者进行了诊断性评估, 并探讨了导致其语言困难的潜在内外因素。研究采用剑桥通用英语第二级 (B2 First) 测试任务及半结构化访谈, 对受试者Z的听、说、读、写技能, 以及动机、社会环境和既往教育经历进行了综合评估。结果表明, Z的总体英语水平已达到B2 等级, 但其口语准确性、词汇广度、语义辨析、复杂句解析能力以及细节听力方面仍存在明显不足。本文认为, 这种不均衡的子技能分布受到母语迁移、应试教育模式、自然语言输入匮乏以及语言焦虑的共同影响。因此, 科学有效的语言评估与教学实践必须将诊断性测试与情境化的定性数据相结合。基于对听、说、读、写四项技能的细致、多维分析, 本文识别了该学习者的优势, 并提出了具有针对性的教学建议, 包括同伴反馈、强化听写、细读训练以及体裁导向写作等。最后, 本文在诊断分析的基础上提出了相关教学实践建议, 并对未来研究方向进行了展望。

关键词: 诊断性评估; ESL学习者; 第二语言习得

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1.Introduction

English proficiency is a key gateway to academic mobility and professional opportunities in China, where national policies have mandated early English education since 2001 (Ministry of Education, 2001). However, decades of classroom-based instruction remain largely exam-oriented, prioritizing reading and grammar over communicative competence. Research shows that such testing cultures, while improving receptive skills, often lead to uneven second-language development, fossilized grammatical errors, and persistent anxiety that impedes oral fluency (MacIntyre, 2017; Arnold, 2000).

Because individual learners bring diverse motivational profiles and sociocultural experiences to the classroom, a single standardized test cannot capture their true abilities or needs (Harmer, 2007; Duff, 2020). A case study approach whose focus is on conducting an “in-depth and contextualized” investigation of “particularities” (Duff, 2020, p. 146; Rose, McKinley & Baffoe-Djan, 2020) enables

the researcher to gain a deeper understanding of the characteristics, strengths and weaknesses of learners in each English skills area. However, empirical work that integrates formal testing with qualitative inquiry into the learner's background remains limited in the Chinese ESL context, leaving a gap in understanding how exam-driven schooling and first-language transfer jointly shape individual skill profiles.

This case study addresses that gap by combining Cambridge B2 First tasks with a semi-structured interview to examine the four-skill performance of a Chinese undergraduate. This study argues that valid assessment and effective instruction require more than numerical scores. Instead, they must synthesize diagnostic test data with the learner's motivational history and sociocultural environment to design truly learner-centred interventions.

2. A summary of the learner's language practices

This study adopts a qualitative diagnostic design that combines standardized four-skill testing with a semi-structured interview in order to investigate not only the learner's measurable proficiency but also the sociocultural and motivational factors shaping his performance.

The learner interviewed and analyzed in this study is a 21-year-old male studying in a sino-foreign cooperation university majoring digital media art in China. He is referred to as Z for the purpose of guaranteeing her confidentiality and anonymity.

2.1 Language background and learning experiences

As a Chinese, Z uses Mandarin as his first language (L1) and English as his second language (L2). Z uses English mainly for academic reasons since there is no specific reason and context to use it outside of school. It is worth mentioning that he has taken the IELTS exam and got a band 6 (Reading 6, Listening 6.5, Speaking 5, Writing 5.5).

In January 2001, The Ministry of Education in China published 'Guiding Proposals of the Ministry of Education for Active Promotion of Offering English Courses in Primary Schools' (Ministry of Education, 2001). This meant that English would be taught to Primary three pupils across the country, beginning in cities and suburbs. Therefore, Z has been learning English since Grade 3. In addition, Z's parents enrolled him in extracurricular English tutoring classes from the third grade in primary school. However, Z did not consider the English education he received during primary school as a helpful practice of improving his English competence. He thought English teachers placed a greater emphasis on teaching reading and writing skills through textbooks, implying that professional listening and

speaking training received less priority. It is because reading has always been the key to success for Chinese students in English acquisition (Jiang, 2019).

Z regarded college as an essential stage that developed Z's English. English was a compulsory course in his first and second years of the university. Furthermore, he has participated in IELTS extracurricular tutoring every weekend. Although the tutorial class was exam-oriented, it enabled Z to enhance his listening and speaking competence due to a certain amount of listening and speaking exercises. Regular interaction with teachers and classmates in his speaking courses strengthened Z's oral confidence and fluency. This supports Hall's (2010) argument that teacher–student and peer interaction is integral to language development.

2.2 Personal factors affecting English learning

Z's personal motivation, language anxiety, and various external factors have played a decisive role in shaping his current English proficiency and the skill-specific strengths and weaknesses revealed later in the study.

2.2.1 Motivation

Motivation, defined as the driving force that determines the pursuit of goals and the subsequent continuous efforts required to achieve them (Williams & Burden, 1997), is a promoting factor for Z's L2 development. In Z's words, his motivation for learning English was to get good scores in exams during junior and senior high school, which is defined as extrinsic motivation (i.e. learn L2 to 'attain some separable outcome') (Ryan & Deci, 2000, p. 60). He admitted that it was a passive process in which he accepted the knowledge taught by the teacher without thinking. Notwithstanding, he acknowledged cramming helped him improve his English to some extent.

As Dörnyei (1998) pointed out that successful second language acquisition reveals the importance of motivation. After entering college, Z's motivation began to change into pursuit of personal purpose, that was, to further his education abroad. He was looking forward to using English as a tool to quickly integrate into local society in the United Kingdom in the future. Therefore, English learning became an active process. He started to consciously read foreign magazines and watch English movies to accumulate authentic English expressions. He mentioned that intrinsic motivation, is considered as someone who is inspired to achieve something because of inner goal and satisfaction (Ryan and Deci, 2000), greatly improved his English competence.

2.2.2 Language anxiety

Language anxiety, generally perceived as a hindrance to L2 development (MacIntyre, 2017), also has an impact on Z's English learning. High level of language anxiety can affect L2 learners' language

development and created a vicious circle (Lou & Noels, 2020). Z recalled that during senior high school years, he was afraid of speaking in public and seldom expressed his opinions in English during group discussions except when he had to do group presentations. Z attributed this to Chinese educational practice, the exam-centered culture cultivated a learning environment that was mistake-intolerant, which valued accuracy over fluency (Gu & Zhao, 2021).

2.3 External factors

Parents' involvement is positively associated with English as the second language (ESL) learners' learning process (Kim & Barrett, 2019). Z's parents played a vital role in Z's English education. As English is a compulsory subject Z's parents paid a lot attention to Z's English competence, they played English tapes on weekends and asked him to read original English books during holidays.

Moreover, Z's teachers have affected his interest in learning English. Language teachers play a crucial role in ESL teaching and learning, influencing students' persistence, effort and autonomy (Mantiri, 2015; Martin et al., 2018). Z believed that teachers' teaching style greatly affected his enthusiasm for learning. For instance, his English teacher in the college used interactive teaching methods, such as organizing debates and role playing, Z was more willing to participate in and focused more on her classes. On the other hand, his middle school English teacher only imparted knowledge rigidly and made the class completely teacher-centered, it was difficult for him to concentrate.

3. A summary of the diagnostic assessment procedures

The diagnostic assessment consists of two parts, including an interview and an English test drawn from the B2 First authentic practice exams. The reason for choosing this exam is that the Z's IELTS band 6.0 corresponded to the B2 level of Cambridge English Qualifications (Cambridge, 2019). The exam consisted of four subtests which tested Z's listening, speaking, reading and writing skills. Z was informed clearly of the format of the test.

3.1 Interview

In order to understand interviewee's perceptions more comprehensively and deeply, it is necessary to conduct a semi-structured interview (Creswell et al., 2006). Therefore, the author carried out an online interview in Chinese, as this language choice facilitated more accurate expression of complex ideas. The interview covered his educational background, daily use of English, English learning experience, factors that influenced his English learning, and his future desires and needs in using English. It was audio-recorded, transcribed and translated.

3.2 Speaking

The speaking test is consisted of four parts. The first part is related to daily life, including questions about media and special occasions. Then, Z was asked to demonstrate two given pictures and comment on the theme of the photos (i.e., help) for 1 minute in Part 2. Z answered a question related to garden as well. In the third part, Z discussed some strategies of attracting more visitors to a town with a learner at the same English level. In the last part, 5 further questions relative to the topic in Part 3 were asked and Z replied them. The speaking test was recorded and transcribed. The author will analyze Z's speaking ability from following five aspects: grammatical range and accuracy, discourse management, pronunciation, interactive communication, and lexical range and appropriacy (Cambridge Assessment English, 2021a).

3.3 Listening

The listening test lasted around 40 minutes and had four parts. Each part was played twice. The text was consisted of monologue and conversation, and test questions were in forms of multiple choice, sentence completion and multiple matching (Cambridge English Assessment, 2021a). The test was designed to assess learners' different listening sub-skills, such as listening for details and listening for the gist.

3.4 Reading

The reading test lasted 45 minutes and contained three passages from Part 5, Part 6 and Part 7 of the Reading and Use of English paper of the B2 First test as these three parts focused on the assessment of reading skills. The learner answered multiple-choice questions, gap-filling questions, and matching questions. All of these questions tested Z's reading subskills at three different aspects (i.e. discourse, sentence, word).

3.5 Writing

There were two parts in the writing test that required the completion of two essays of 140-190 words each within 1 hour and 20 minutes. In response to Part 1, Z wrote an opinion essay to answer the given question of "Can pollution and damage to the environment be solved?" by using two provided notes and creating one new viewpoint. In Part 2, Z chose to write an email to a friend seeking some advice on a touring holiday. Z have written these two genres of essays before, which enhanced the validity of the test (Hyland, 2019).

4. An analysis of Z's language skills

4.1 Speaking analysis

4.1.1 Grammatical range and accuracy

Generally speaking, Z's speech was understandable while lacking grammatical accuracy. There was subject-verb inconsistency in his words (e.g. *the show tell.../this old woman give...*). Furthermore, mistakes from omission of articles (e.g. *give the policeman map/ let visitors live in better...*) to omission of verbs (e.g. *hands lingering fragrance*) occurred in his utterances. Another problem was the misuse of tense. The grammaticalization of tense morphology is one area where Mandarin Chinese and the Indo-European languages diverge significantly, as Chinese does not have grammaticalized tense morphology (Lin, 2002). Consequently, it is common for Chinese learners to make mistakes in tenses when speaking English. Tense inconsistency appeared in Z's speech (e.g. *I was afraid that...think I'm .../When I got lost, I usually ask...*). He had command of basic and simple sentence patterns while the grammar he used in the speaking test lacked diversity. First, he used only two tenses, present simple and past simple. Second, he rarely used compound sentences and complex sentences.

4.1.2 Discourse management

Z showed his willingness to speak at length and his answers were related to the task. He conveyed his opinions in an explicit way and made his words intelligible. In addition, he organized his ideas using some basic linking words (e.g. *first* and *also*) and discourse markers (e.g. *in my opinion* and *well*). By using discourse markers, the speaker manages to make boundaries in his conversation with the other candidate and make the speech more coherent (Carter, 2002).

However, he kept using repetition, self-correction, slow speech to maintain his flow of speech and he was fluent in simple speech but more complex sentences triggered problems. For example, he used fillers like *um* frequently in order to gain more time to organize his answers for questions in part 4.

4.1.3 Pronunciation

Z's pronunciation was intelligible in most cases. He produced most phonemes clearly, despite occasional errors. To start with, Z needs to improve his accuracy in pronouncing vowels and diphthongs. Specifically, he mispronounced the /ɒ/ in *'cost'* as /əʊ/, the /ɪ/ in *'select'* as /ə/, the /ɑ:/ in *'bath'* as /eɪ/, the /i:ə/ in *'really'* as /eɪ/, and the /ɪə/ in *'experience'* as /e/. Moreover, he sometimes made mistakes in consonants as well. He always confuses the pronunciations of /r/ and /l/. For example, he pronounces *'world'* as /wɜ:rd/. Additionally, he had trouble with the pronunciation of *'view'* /wju:/ like most Chinese ESL learners do because there is only a similar consonant /w/ in Chinese Pinyin that sounds like /v/ in English (Han, 2013).

In terms of stress, most of the words were correctly stressed in his speech, except the situation that he placed the stress of 'comfortable' on the second syllable and he used increase as a verb but stressed it on the first syllable.

4.1.4 Lexical range and appropriacy

Z's vocabulary was sufficient to support him express in various topics while his lexical flexibility was limited. He kept reusing some words, such as 'like' and 'think'. Additionally, there were some lexical inaccuracy. To begin with, semantic confusion occurred in his speech. This kind of mistake originated when a learner confuses two L2 terms that have semantic relationships (Zhao & Li, 2022) (e.g. Z said '*having very shops*' while he wanted to express 'having many shops'). Furthermore, mistakes associated with word class frequently occurred (e.g. '*exam is an extreme common form of competition*'). In addition, Z misused the intransitive verb '*travel*' as a transitive one. Last but not least, improper choice of prepositions should be given notice (e.g. '*listen for the radio*' and '*more tourists will visit to the resort*').

4.1.5 Interactive communication

He interacted effectively with his partners and most of his words made sense. In the dialogue, Z used a lot of back-channeling (e.g. 'uh-huh', 'Yeah exactly', and 'I agree'). Previous study indicated that most commonly used types of back channeling were continuers and signals of acknowledgment (Shelley&Gonzalez, 2013). Therefore, Z successfully made his partner clearly feel the attention and made the conversation flow.

In addition, when talking about the development of the resort in the third part, Z demonstrated effective use of turn-taking. He listened attentively while the other candidate was speaking and provided active, supportive responses that served as signals to sustain the conversational flow. This aligns with Schegloff's (2000) conceptualization of turn-taking as an organizational device that facilitates "one-party-at-a-time" speaking while allowing participants to collaboratively manage transitions, minimize overlaps, and avoid prolonged silences.

4.2 Listening Analysis

4.2.1 Analysis from speaking test

To begin with, it can be found from the speaking test that Z can understand the examiner and the other candidate most of the time. To be specific, he gave timely and relevant answers to my questions and expressed his opinions clearly. Additionally, Z applied the metacognitive listening strategy of monitoring in the speaking test, which was identified by previous research as an effective skill in increasing L2 listening proficiency (Vandergrift & Tafaghodtari, 2010). Moreover, Z fully participated

in the discussion, usually by agreeing or disagreeing with his partner's opinions, which is another listening skill he demonstrates.

4.2.2 Analysis of listening test materials

Overall, Z correctly answered 22 out of 30 questions, which indicated that his listening proficiency was at B2 level. Firstly, Z employed the cognitive and metacognitive listening strategies, especially prediction. Specifically, Z demonstrated strong predictive listening skills by anticipating the main idea of the listening text based on the question stem and multiple-choice options before hearing the content. This approach allowed him to form a mental framework and listen with purposeful attention, reflecting effective use of top-down processing driven prior knowledge. Such a strategy aligns with the view expressed by Kveraga et al. (2007) regarding the critical role of top-down mechanisms in cognitive processing: although originally applied to visual perception, their emphasis on the importance of feedback and expectation-driven processes applies equally to listening comprehension.

Secondly, Z was good at listening for global understanding. He paid attention to the main points of the dialogue to get a general understanding of what was being said. While listening the material, Z tried to identify topic sentences and key information that helped him understand the conversation generally.

In comparison with global understanding, listening for details was Z's weakness. He only got marks on 60 percent of questions designed to test this sub-skill. One possible explanation is that he is not inclined to adopt a bottom-up approach. He does not focus his limited attention on decoding sound streams into meaningful units, processing blocks and parsing syntax, which is largely automatic for an experienced audience (Field, 2009). Instead, he tends to pay attention to the overall meaning through top-down inference (Blau, 1990). Another reason might be that Z is sometimes distracted by irrelevant details and fails to grasp the important ones. For instance, Z does not understand the meanings of some conjunctions, especially transitional words like 'while', 'though', and 'but', while important detailed information is always given after these expressions (Celce-Murcia et al., 1983, p. 854).

4.3 Reading

4.3.1 Word Level

Z was good at inferring the meaning of unknown words based on the context. Z mentioned that due to his limited vocabulary, there were a range of unfamiliar words in the reading text. He usually used intensive reading to understand 1 or 2 sentences before and after the sentence with the unknown word and then made the inference. One example was that Z did not know the meaning of "ritual". But with

the adjective “daily” and the phrase “stars at an early age” in the previous passage, Z deduced that ritual was a noun, and that it meant “routine” in the passage. Nevertheless, there were some cases in which Z could not infer the meaning of a word from the context. For example, in Question 47, Z thought that Paragraph C contained the information “Duncan caught up with his team-mates” because he did not know the word “opponent” and there were no clear clues to help him decide the meaning of the word. Consequently, he misunderstood the meaning of “opponent” and thought it was a close synonym for team-mates. Therefore, it is necessary for Z to expand vocabulary, as Alqahtani (2015) stressed, vocabulary learning is an important part of foreign language learning since the meanings of new words are often emphasized.

4.3.2 Sentence Level

Reading at the sentence level was Z’s weakness. It is tough for him to extract detailed information from sentences and he rarely uses various techniques to understand complex sentences. Specifically, he is unable to determine the meaning by using grammatical structures (for example, associating the passive “be made to” in a question with the “force” in the original text), and it is very difficult for him to deconstruct sentences with complex grammatical structures. For instance, in Question 32, it was necessary to parse a complex sentence (Now, Dad normally hates being disturbed...) to understand writer’s implication. The sentence contained both an attributive clause and an adverbial clause while Z was unable to identify the trunk of the sentence and could not fully understand the sentence.

4.3.3 Discourse Level

It is noteworthy that Z had discourse analysis ability, but sometimes he did not make good use of some skills. First of all, Z used to determine the intention of the question in his mind, and adopted the corresponding reading strategy. In the process of answering the question in the fifth part, Z recognized his emphasis on following discourse links. Specifically, Z paid attention to conjunctions, which enabled him to locate the answer more quickly. For instance, he used skimming to accurately locate the answer in the part following the conjunction “but”.

The gaped text in Part 6, with the aim of testing H’s knowledge of cohesion and coherence, was where Z lost the most scores, mainly because he failed to make use of referencing and signposting. Instead of focusing on the whole context, Z only concentrated on one specific keyword. For example, Z identified “technology” as the keyword to answer question 39 after skimming the fourth paragraph. Therefore, he chose sentence C that seemed to be relevant to technology. The reason why he gave wrong answers was that he overused the skimming skill and scanning key words instead of reading carefully.

4.4 Writing

4.4.1 Discourse level

Overall, Z responded well to the writing task. First of all, both of his essays met the requirements of the task and were relevant to the topic. Furthermore, his writings had clear and organised structure. To be more precise, the first essay started with an overall and general answer to the topic as an introduction. Then there were three main paragraphs centered on different viewpoints, each of which are elaborated on with in-depth discussions. The last paragraph was the conclusion of the essay.

The second essay was presented as an email and was formatted accurately. He started by expressing his willingness to help, then gave appropriate answers to two queries, and finally expressed his intention of providing more information.

However, the essay lacked coherence, as some arguments were not expressed clearly or fully developed. For example, in the second main body paragraph, Z directly integrate two ways to solve the problem of environmental pollution in terms of oceans and rivers, that were strict regulations and promoting community-led initiatives for river and beach clean-ups, without providing any explanation or supporting evidence, resulting in lower intelligibility.

Remarkably, Z made good use of linking words and discourse markers, which demonstrated his cohesion skills in writing. In the first essay, he wrote *'firstly'* and *'secondly'* to distinguish different points of view, and ended the essay with "in conclusion" in the last paragraph to make the essay more systematic and well-connected. In the email, discourse markers such as *'alternatively'*, *'additionally'* and *'however'* were used as well. Nonetheless, some omission of conjunctions made his essay lack logical connection. In the second sentence of the first essay, there was a concessive relationship between two successive sentences while he did not use any adversative transitions.

In terms of register, given the target readers and the genres, the essay should have adopted a relatively formal style, while Z used abbreviation of "information" in the email, which could be regarded as informal.

4.4.2 Sentence level

Z made full use of a variety of sentence patterns. Specifically, the first essay contained different grammatical structures like subject clause (e.g. *'adopting eco-friendly vehicles...'*, *'could greatly reduce...'*); the passive voice (e.g. *'need to be enforced'*) and the accompanying gerund clause (e.g. *'with collaborative efforts involving governmental'*). The proper use of a wide range of sentence structures indicated Z's proficiency in English writing. However, Z sometimes failed to use correct grammar in his sentence-level writing sometimes. The author noticed his occasional failure of omitting prepositions

(e.g. *'educating people the importance...'*). Additionally, due to the influence of L1, Z made mistakes in the plural form of the noun. For example, the sentence "*In spite of these opinion*" is incorrect since 'opinion' is a countable noun. This kind of mistake can be attributed to Chinese ESL learners' L1, since the singular and plural forms of a noun are the same in Chinese. Therefore, Chinese learners often omit "s" when forming plural nouns (Zheng and Park, 2013).

4.4.3 Word level

Z demonstrated his command of vocabularies in the writing test, which differed greatly from his performance in the speaking test. To start with, instead of using the same word repeatedly, he wrote synonyms to express the same meaning. (e.g. *environmental issues/environmental challenges; challenging/daunting*). Additionally, he used a lot of expressions that were highly relevant to the topic. For instance, in the first essay related to environmental issues, he wrote *'eco-friendly'*, *'harmful emission'*, and *'sustainable lifestyles'*. Similarly, when responding to a friend's email, he wrote *'treasure trove'*, *'historical landmarks'*, and *'heritage village'*. Moreover, he spelled every word correctly, which implied that he had a basic understanding of these words.

On the other hand, he made errors at the word level. For instance, he misused the verb *'adopt'* in the phrase *'adopting eco-friendly vehicle'*. According to the Oxford English Dictionary (1989), *'adopt'* means to start to use a particular method or to show a particular attitude towards someone or something. Therefore, it cannot be used with a specific object like *'eco-friendly vehicle'*, but rather with approaches, methods, or attitudes. In the meanwhile, he had difficulties in dealing with articles (e.g. *'visit museum'*, *'yet I believe it can be addressed to significant extent'*), partly owing to the absence of this notion in Chinese (Swan & Smith, 2001).

5. Applying the lessons of assessment

The uneven skill profile is best explained by a constellation of learner factors. Diagnostic assessment can not only examine learners' academic performance but also demonstrate the effectiveness of teaching, helping teachers better plan their courses. Further suggestions for improving Z's English proficiency must be learner-centered, and effective advice should be put forward based on his educational background, learning motivation, needs, as well as his strengths and weaknesses.

5.1 Speaking

Z should prioritize pronunciation accuracy and lexical range. Prior to university, he had limited systematic exposure to English. As a result, he has a limited range of vocabularies (for example, he used *'like'* and *'think'* nine times each in the speaking test). To address these weaknesses, I recommend a combination of interactive practice, focused noticing, and targeted pronunciation work.

Active participation in guided group discussions is an effective way to promote both accuracy and fluency. In such settings peers can provide immediate, task-focused feedback during or after interaction, helping Z to notice recurring errors and to experiment with alternative grammatical forms and lexical items (Hyland & Jiang, 2021; Vuogan & Li, 2022). Structured peer feedback tasks (e.g. error-spotting, corrective recasting, or feedback checklists) will make the feedback more pedagogically useful.

Regular online conversation with native or proficient English speakers is also recommended. Z currently studies in China and therefore lacks frequent exposure to naturalistic English, online exchanges offer flexible opportunities for authentic interaction. Given Z's reported L2 anxiety, online one-to-one or small-group conversations can reduce social pressure and encourage greater willingness to take speaking risks, thereby increasing opportunities for language knowledge. This kind of communication contributes to the improvement of his pronunciation as well. He can listen to how the phonemes mispronounced by himself are pronounced by expert speakers and 'notice the gap' (Schmidt & Frota, 1986; Pennington, 2014).

5.2 Listening

Diagnostic results show that listening for detail is Z's main weakness. Intensive listening tasks such as full-text dictation of news reports can sharpen perception of connected speech and highlight unknown words. After transcription, checking the original text and analysing misheard segments fosters bottom-up processing (Hunt & Pickles, 2014).

To speed speech processing without loss of comprehension, Z can combine pre-listening transcript reading with fast-rate listening (Vandergrift, 2007). Gradually removing the transcript will help him adapt to natural speech rates.

5.3 Reading

In the process of reading, it is possible for Z to develop his ability to read intensively and gradually reduce the excessive use of skimming. Reading more English newspapers, magazines and journals will strengthen Z's ability to locate detailed information and expand vocabulary. Careful reading exercises, such as underlining discourse markers and parsing long sentences into clauses, can improve his handling of complex syntax and cohesive devices (Halliday & Hasan, 2014; Ballard, 2022). Meanwhile, Z's limited vocabulary will be expanded through reading more different types of English materials. For example, if he wants to deepen his understanding of terminology, he can read more journal articles, which will also help him achieve the language learning goal of acquiring professional knowledge and reduce the probability of encountering words he does not know in the future reading process. Finally, given the fact that Z plans to resit the IELTS, he should also practise timed careful

reading to balance speed and accuracy, while extensive reading of academic articles can increase discipline-specific lexis and overall fluency (Grabe & Stoller, 2019).

5.4 Writing

Z's writing is generally sound but needs stronger cohesion and a more appropriate academic register. He should support main points with examples or sub-arguments and use clear sequencing to improve textual coherence (McCarthy, 1992). Pre-writing activities such as outlining will help organise ideas logically.

Analysing model texts of target genres can raise awareness of discourse patterns and register, enabling him to imitate effective structures and lexical choices. Sustained reading will expose him to natural collocations and formal style, while maintaining a vocabulary and grammar notebook promotes noticing of recurrent issues (Krashen, 1985; Swain, 1985).

6. Conclusion and reflection

Conducting this diagnostic assessment allowed the author to examine an English learner from the perspective of a native Mandarin speaker and to recognise that language proficiency cannot be defined by test scores alone. Z's uneven skill profile, particularly the gap between his relatively strong receptive abilities and weaker speaking performance, shows that sub-skills within one individual develop at different rates. Such differences arise from multiple factors, including personal motivation, learning experiences, and external influences such as family and teachers. Recognizing these complexity highlights the broader significance of diagnostic assessment in the ESL context.

For practice, the study highlights three priorities. First, teachers should identify individual strengths and weaknesses through ongoing observation and dialogue. Second, they need to address language-learning anxiety and foster resilient attitudes toward difficulty. Finally, bridging theory and practice. It is essential for teachers to design learner-centred instruction that cultivates intrinsic motivation and sustained language growth. By demonstrating how the profiles of individual learners reflect complex internal and external factors, this study helps to gain a more detailed understanding of second language assessment and provides a model for customizing teaching in different ESL settings.

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A Distribution Network Planning Method for Coordinated Optimization of Electricity Pricing Mechanisms

Yin Xuanyi, Liu Run

Abstract: This study investigates the electricity price game problem in demand response by analyzing how real-time electricity price optimization influences both grid revenue and user demand. A Stackelberg game framework is adopted to characterize the leader–follower interaction between the grid operator and electricity users. User demand behavior is modeled using a Logistic demand response function, which captures the nonlinear relationship between price signals and load adjustment. To ensure practical applicability, grid operational constraints and electric vehicle (EV) charging constraints are incorporated through penalty terms, and the resulting constrained optimization problem is solved using the Sequential Least Squares Programming (SLSQP) algorithm. Demand elasticity coefficients, which critically affect optimization outcomes, are estimated using both historical load data and external commercial data. Comparative experiments are conducted to evaluate how different elasticity coefficients influence pricing results and load regulation performance. The results demonstrate that iterative Stackelberg-based optimization can effectively balance grid revenue and load stability, while elasticity

coefficients derived from local load data yield better alignment with actual demand behavior. These findings provide theoretical and practical support for real-time electricity pricing strategies.

Keywords: Demand response; Real-time electricity pricing; Stackelberg game; Demand elasticity; Electric vehicle charging; SLSQP optimization

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标题: 面向电价机制协同优化的配电网规划方法

摘要: 本研究通过分析实时电价优化如何同时影响电网收益和用户需求,研究了需求响应中的电价博弈问题。采用 Stackelberg 博弈框架来刻画电网运营商与电力用户之间的领导者—跟随者互动关系。用户需求行为采用 Logistic 需求响应函数进行建模,该函数能够描述价格信号与负荷调整之间的非线性关系。为确保研究具有实际应用价值,在模型中通过惩罚项引入了电网运行约束和电动汽车(EV)充电约束,并利用序列最小二乘规划(Sequential Least Squares Programming, SLSQP)算法求解由此形成的约束优化问题。需求弹性系数是影响优化结果的重要参数,本研究利用历史负荷数据以及外部商业数据对其进行估计。通过对比实验分析不同弹性系数对电价结果及负荷调节性能的影响。研究结果表明,基于迭代 Stackelberg 博弈的优化方法能够有效平衡电网收益与负荷稳定性,而基于本地负荷数据获得的弹性系数与实际需求行为具有更好的匹配度。研究结果为实时电价制定策略提供了理论依据和实践参考。

关键词: 需求响应; 实时电价; Stackelberg 博弈模型; 需求弹性系数; 电动汽车充电约束; 序列最小二乘规划(SLSQP)算法

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1.Introduction

With the increasing penetration of distributed energy resources, demand response has become an essential mechanism for improving power system flexibility and operational efficiency (Albadi and El-

Saadany, 2008). Electricity pricing plays a central role in demand response, as it directly influences user consumption behavior while determining grid revenue. Consequently, the design of effective pricing mechanisms requires a careful balance between economic efficiency, system security, and user acceptance.

Existing studies have explored price-based demand response using game-theoretic approaches, particularly Stackelberg models, to describe the interaction between electricity retailers and users (Xu et al., 2021). However, most existing works focus on single objectives or simplified constraints, and the influence of demand elasticity estimation on pricing outcomes is often insufficiently examined. In practice, elasticity coefficients are difficult to estimate accurately and may vary significantly across datasets and regions.

To address these issues, this study proposes a real-time electricity pricing optimization framework based on a Stackelberg game model. By integrating a Logistic demand response function, multiple operational constraints, and data-driven elasticity estimation, the proposed approach aims to answer the following questions:

How can grid revenue be maximized through price-based game strategies?

How can system security and user satisfaction be ensured under multiple operational constraints?

How do elasticity coefficients derived from different data sources affect optimization results?

Which elasticity estimation approach better reflects actual demand behavior?

In this research project, the study was conducted through a collaborative workflow involving two components. One component focused on data acquisition, preprocessing, and elasticity coefficient estimation, while another part concentrated on model construction and optimization. Specifically, in first component, researchers collected multi-day time-series datasets of electricity price and demand from public platforms such as Uber demand datasets and academic databases. These datasets were normalized and processed to eliminate regional differences and to ensure comparability across different samples. Machine learning-based regression models were then applied to fit the relationship between electricity price and demand. Among several candidate models, including random forest regression, polynomial regression, and ensemble models, Gaussian Process Regression demonstrated the highest fitting accuracy and was therefore selected for further analysis. Based on the fitted demand curves, elasticity coefficients for peak, flat, and valley periods were calculated and provided as key parameters for the optimization model developed by the junior research group.

2. Demand Response Model

Electricity user demand is modeled using a Logistic demand response function, which reflects the nonlinear adjustment of electricity consumption in response to price signals (Palensky and Dietrich, 2011). Compared with linear demand models, the Logistic function can capture saturation effects and diminishing sensitivity at extreme price levels, making it more suitable for real-world demand response analysis.

For each time period (i), the electricity demand is expressed as:

$$D_i(P_i) = \frac{Q_{\max, i}}{1 + e^{k(P_i - P_{0,i})}}$$

where $D_i(P_i)$ denotes the electricity demand in time period i, $Q_{\max, i}$ represents the maximum transferable load, $P_{0,i}$ is the baseline price, and k is the price sensitivity coefficient. Through this formulation, users respond to electricity prices in a smooth and continuous manner, providing a foundation for subsequent elasticity analysis and pricing optimization.

3. Calculation of Demand Elasticity Coefficient

To quantify the sensitivity of demand to price variation, the demand elasticity coefficient is calculated based on baseline electricity price and baseline load.

The elasticity is defined as:

$$E = \left(\frac{P_{\text{base}}}{P - P_{\text{base}}} \frac{Q - Q_{\text{base}}}{Q_{\text{base}}} \right)$$

Based on the elasticity value, the demand elasticity coefficient b is defined as:

$$b = \frac{|\text{elasticity}|}{Q_{\text{base}} \cdot P_{\text{base}}}$$

where Q_{base} and P_{base} are obtained by calculating the average load and average electricity price during peak, flat, and valley periods.

The coefficient b represents the degree of user demand sensitivity to electricity price changes and serves as a key parameter in the optimization model (Borenstein, 2005).

The elasticity coefficients used in the optimization model were obtained through a data-driven estimation process. Multiple days of hourly electricity price and demand data were collected from public datasets and commercial platforms. Because the data were obtained from different geographical regions and time periods, normalization was performed to reduce the influence of regional scale

differences. Specifically, the demand and price values of each day were divided by the daily maximum value, allowing the model to capture relative variation patterns rather than absolute magnitude differences. After preprocessing, regression analysis was performed using machine learning tools. The regression models were evaluated using performance metrics including the coefficient of determination (R^2), mean squared error (MSE), and root mean squared error (RMSE). The Gaussian Process Regression model achieved the best fitting performance and was therefore selected to derive the elasticity coefficients used in the optimization framework.

4. Introduction of External Elasticity Coefficients

To enhance the robustness of elasticity estimation and evaluate its influence on pricing outcomes, external commercial data are introduced for comparative analysis. In addition to elasticity coefficients derived from local load data, elasticity values obtained from commercial datasets and literature are also considered.

The estimation procedure consists of data import, regression model training, demand prediction, and performance evaluation using R^2 and MSE metrics. Among the tested models, Gaussian process regression demonstrates superior fitting accuracy and is therefore selected for elasticity extraction. By comparing elasticity coefficients derived from different sources under the same optimization framework, the sensitivity of pricing strategies to elasticity estimation is systematically examined.

Using 2018 data from a specific region, multiple regression models are tested. Based on fitting accuracy comparison, Gaussian process regression achieves the best performance, with higher R^2 and lower MSE compared to other models. Elasticity coefficients are then calculated for peak, flat, and valley periods to support optimization.

Optimization	Model Number	Model Type	RMSE	MSE	R^2	MAE
1	2.18	Gaussian process Regression	0.121639	0.014796	0.844193	0.076417
2	2.2	Gaussian process Regression	0.121739	0.01482	0.843936	0.073994
3	2.16	integration	0.122054	0.014897	0.843128	0.088143

Fig. 1 The Parameter of Different Models

```

---Model parameters---
MSE: 0.0121
RMSE: 0.1101
MAE: 0.0757
MAPE: 21.9596%
Explained Variance: 0.8747
Median AE: 0.0521
R2: 0.8747

---Time-based Price Elasticity Analysis---
morning/evening peak: 0.0988
middle of the night/wee hours: 1.7478
off-peak hours: -0.3253
    
```

Fig. 2 The Parameter Calculation Using Python

5. Optimization Objectives and Constraints

5.1 Objective Function

The optimization objective is to maximize the net revenue of the grid operator while incorporating user demand response behavior and system security considerations. The objective function is defined as:

$$\max \left(\sum_i (P_i - C_i) D_i(P_i) - \lambda \cdot \text{Penalty} \right)$$

Where P_i is the electricity price in time period i , C_i is the grid-side cost price, and λ is the penalty weight.

5.2 Constraints and Penalty Terms

The penalty term includes the following constraints:

5.2.1 Load balance constraint:

Preventing excessive deviation from baseline load;

5.2.2 Peak/valley constraints:

Peak demand shall not exceed 90% of peak load;

Valley demand shall not be lower than 110% of valley load;

5.2.3 Price smoothing constraint:

The difference between the maximum and minimum electricity prices shall not exceed 0.6 CNY/kWh;

5.2.4 Electric vehicle (EV) charging constraints:

Total EV charging energy is close to 500 kWh; Valley-period charging accounts for no less than 40%; Single-period charging power does not exceed 200 kW.

6. Optimization Algorithm

The Sequential Least Squares Programming (SLSQP) algorithm is employed to solve the constrained optimization problem (Mohsenian-Rad et al., 2010). The electricity price in each time period is constrained within the following range:

$$C_i \leq P_i \leq a_i$$

where a_i denotes the user-acceptable maximum price and C_i represents the grid-side cost price.

A dynamic Stackelberg game framework is adopted (Wan et al., 2024), and the optimization process is carried out through iterative updating. Stable optimization results are obtained after 3000 iterations.

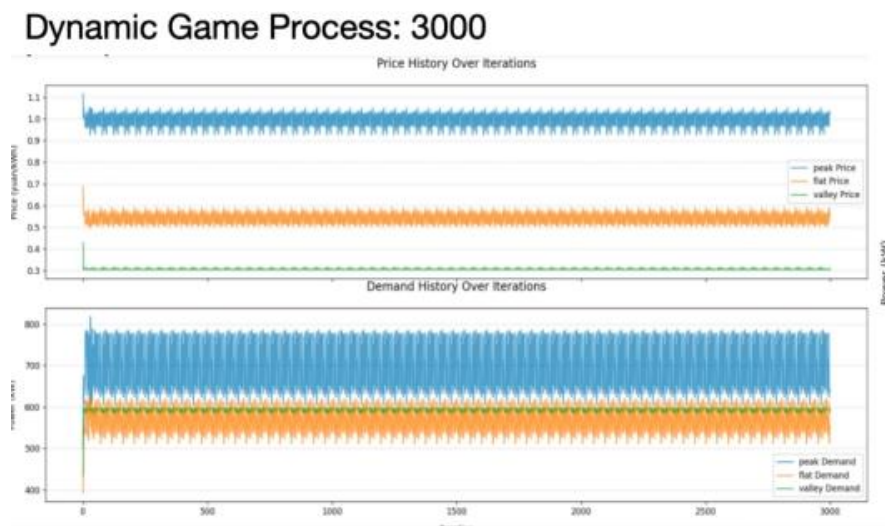


Fig. 3 Iterative Evolution of Electricity Price and Demand in the Dynamic Game Process

7. Results and Comparative Analysis

The experimental procedure follows a multi-stage workflow. First, the elasticity coefficients calculated from historical load datasets and external commercial datasets were imported into the optimization framework. Second, the Stackelberg game-based pricing model was solved using the SLSQP algorithm under multiple operational constraints. Third, iterative optimization was conducted for 3000 rounds to obtain stable electricity price and demand responses. Finally, the optimized pricing results were compared with baseline results and with results derived from different elasticity coefficients to evaluate the effectiveness of the proposed method.

Comparative experiments are conducted by substituting different elasticity coefficients into the optimization model, including coefficients calculated from load datasets, coefficients derived from Uber data, and coefficients obtained from other literature. Datasets from 2018 and 2019 are used for

cross-year comparison.

The results indicate that elasticity coefficients calculated from historical load data better align with actual demand curves, reducing deviations in peak, flat, and valley periods. Compared to non-optimized baseline methods, the SLSQP-based iterative pricing mechanism significantly improves prediction accuracy and peak shaving effects.

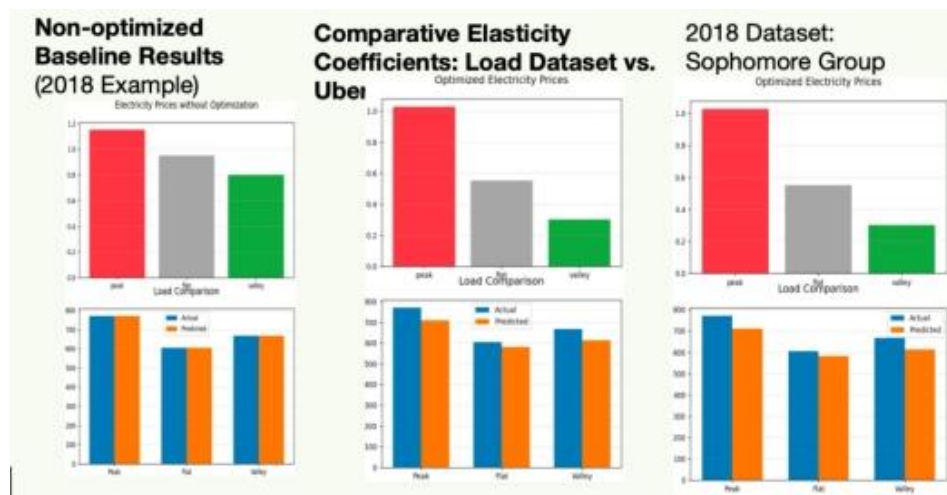


Fig. 4 Load Comparison under Baseline and Optimized Electricity Pricing with Different Elasticity Coefficients

Additionally, based on the load data used to calculate elasticity coefficients and the predictions made for both load and electricity prices, the results indicate that future electricity prices are projected to be:

Peak period: 0.95–1.05 CNY/kWh

Flat period: 0.5–0.6 CNY/kWh

Valley period: approximately 0.35 CNY/kWh



Fig. 5 Daily Load Forecast Results for the 2018 Dataset

8. Conclusion

The results demonstrate that multi-constraint balancing, including load balance, energy conservation, peak and valley limits, price smoothing, and electric vehicle (EV) charging constraints, effectively enhances both grid revenue and system security. The incorporation of soft constraints, such as load balance and EV charging, enables the model to balance economic benefits and operational safety, although the selection of penalty weights still requires further sensitivity analysis.

The elasticity coefficients calculated from historical load data are shown to better align with actual demand curves, reducing deviations during peak, flat, and valley periods. Compared with non-optimized methods, the SLSQP-based optimization and iterative pricing mechanism significantly improve prediction accuracy and peak shaving performance.

Overall, the proposed Stackelberg game-based model effectively optimizes real-time electricity prices, enhancing grid revenue while ensuring system security. By comparing elasticity coefficients derived from grid load data and Uber commercial data, the study validates the importance of local load data for accurate parameter calibration. By combining mathematical optimization using SLSQP and iterative pricing with multi-constraint balancing, the proposed approach outperforms non-optimized methods in both prediction accuracy and load regulation. This work provides theoretical support for electricity market pricing strategies and demonstrates strong practical implementation potential. Future extensions could include multi-agent game models or machine learning techniques for parameter optimization.

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Reimagining Young Emergent Bilinguals Through Multimodal Literacies: A Review of *Multimodal Literacies in Young Emergent Bilinguals: Beyond Print-Centric Practices*

Xu Yani, Yang Jiabao, Chen Ying

Abstract: This article reviews the book *Multimodal Literacies in Young Emergent Bilinguals: Beyond Print-Centric Practices* (edited by Sally Brown and Ling Hao, 2022), which focuses on the integration of multimodal literacies and the literacy development of young emergent bilinguals (EBs). Through empirical studies and case analyses, the book demonstrates that multimodal literacies effectively promote EBs' bilingual development, cultural identity construction, meaning-making, and social participation across diverse linguistic and cultural settings. It addresses the marginalization of EBs in conventional educational systems and provides practical insights for teaching and research. While the book is highly accessible and insightful, it could be enhanced by a "Suggested Reading" section. Overall, this seminal work enriches the field of multimodal literacy and language education, serving as a valuable resource for teachers, researchers, and graduate students.

Keywords: Multimodal Literacies; Young Emergent Bilinguals; Literacy Development; Bilingual Education; Semiotic Resources; Out-of-School Contexts; Cultural Identity

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标题：走向多模态：早期双语者读写教育的新实践——评《超越纸本：早期双语者的多模态读写》

摘要：本文评述由 Sally Brown 与 Ling Hao 主编的《超越纸本：早期双语者的多模态读写》（2022）。该书聚焦多模态素养与早期 emergent bilingual (EB) 儿童素养发展的融会议题，通过实证研究与案例分析，论证多模态素养能在多元语言文化环境中有效促进儿童双语发展、文化身份建构、意义建构与社会参与。该书回应了传统教育体系对 EB 儿童的边缘化问题，并为教学与研究提供实践启示。全书可读性与学术性兼备，若增设“推荐阅读”板块将更完善。总体而言，该书是多模态素养与语言教育领域的重要成果，适合教师、研究者与研究生参考。

关键词：多模态素养；早期双语学习者；素养发展；双语教育；符号资源；校外情境；文化身份

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Multimodal literacies are concerned with “the multifaceted ways in which languages (art, drama, music, movement, written/oral, math) can be studied in school contexts” (Sanders & Albers 2010: 4). It has gleaned considerable attention worldwide in the new era that calls for “a much broader view of literacy than portrayed by traditional language-based approaches” (New London Group 1996: 60). This new

perspective of literacy will especially benefit the marginalized population (e.g., immigrants) who struggles hard in the school systems “restricted to formalized, monolingual, monocultural and rule-governed forms of language” (New London Group 1996: 61). This volume thus integrates the fields of multimodal literacy and young emergent bilinguals (EBs), aiming to expand our understanding of the sophisticated ways of making and representing meanings in diverse cultural and linguistic settings.

Subsequent to the general introduction, the following 23 chapters are concisely structured in four parts based on children’s age groups, focusing on preschool (Chapters 2-7), kindergarten (Chapters 8-10), primary grades (Chapters 11-19) and out-of-school contexts (Chapters 20-23) respectively.

Chapter 1 offers a glimpse of the field with a synthesis of literature concerning EB children’s multimodal literacy practices. Anchored in the social semiotic theory, sociocultural theory and translanguaging theory, it analyzes 30 qualified articles retrieved from 2000 to 2020. Evidences demonstrate that multimodal literacies are being widely used in various bilingual teaching and learning contexts, serving as good tools to promote EBs’ English literacy development, bilingual and home language development, and cultural identity shaping.

Part 1 (Chapter 2-7) revolves around preschool children’s multimodal literacy practices. Chapter 2 studies the multimodal literacies of a four-year-old boy during his play with a monolingual four-year-old girl. The research shows “play is a developmentally appropriate child-centered literacy” (p. 27), in which, children could make full use of multimodal resources (e.g., toys, furniture) around them to fluidly negotiate non-verbally and actively co-construct meanings. Chapter 3 features a four-year-old girl’s multilingual and multimodal literacy experience at home. Findings reveal in a supportive home environment, she could skillfully orchestrate multilingual (English and Chinese) and multimodal repertoires (e.g., spatial knowledge, body language) to achieve her communicative purposes and successfully develop her biliteracy in English and Chinese. Chapter 4 reports the multimodal narrative composition of two four-year-old boys. In their narration, they collaboratively engage in multimodal composition with deployment of movement, gestures, toys, etc., while in their sustained conversations, they tend to apply their funds of knowledge, lived experiences of their own and others, and their cultural identities in their robust interactions. Chapter 5 shares two literacy-as-events of young EBs from two longitudinal research projects. The research, from the perspectives of translanguaging and multimodality, highlights how young children navigate rich linguistic and multimodal resources flexibly in meaning-making to attain their goals in diverse linguistic and cultural settings. Chapter 6 foregrounds a multiple case study of pre-kindergarten bilinguals in their study of the 24 solar terms that are used to denote Chinese agricultural seasons and guide agricultural activities. It showcases their

multicultural, multilingual and multimodal approach of learning, in which, EBs participate in various literacy events, such as songs, experiential activities, etc. to boost their understanding and learning. Chapter 7 proposes an explicitly critical and multimodal pedagogy to challenge the monolithic and monolingual ideologies in the Brazilian education. It examines how semiotic modes are utilized in going-to-bed activities to expand preschoolers' funds of knowledge and experiences, which can support a "politically engaged, critically informed and socioculturally just education" (p. 88).

Part 2 (Chapter 8-10) exhibits kindergarteners' multimodal literacy practices. Chapter 8 illustrates multimodal storytelling activities in a bilingual kindergarten, in which orchestration of semiotic resources such as oral and written languages, drawing, material objects and movement is constructive for EBs to interpret and compose stories and thus advances their multiliteracies development. Chapter 9 describes two multimodal literacies activities - meaning-making activities in a bilingual text and joyful play in fairy tales. In both practices, students conduct multilingual and multimodal interactions with engagement of diverse resources (e.g., language, cultural, family and contextual resources). It is thus suggested that opportunities be offered to young EBs to engage in literacy multilingually and multimodally. Chapter 10 probes bilingual identity construction and development of dual-language kindergarteners. Guided by a three-phase multimodal approach, the authors portray the ways the young EBs understand bilingualism and express their bilingual identities through multimodal resources including portraits, literature, music, writing, drawing and discussion to negotiate and communicate meaning.

Part 3 (Chapter 11-19) is devoted to the EBs' multimodal literacies in primary schools. Chapter 11 introduces a multimodal social semiotics approach to analyze children's multiliteracies experiences. Two bilingual first-graders harness multimodal expressions and modes (e.g. project-based approaches, creative storytelling) in their learning, which informs us of their meaning-making processes, funds of knowledge and life experiences, etc. outside of school. It offers insights into incorporation of a multimodal approach in instruction for children' development in biliteracy and bilingualism. Chapter 12 foregrounds two seven-year-old bilinguals' multimodal learning experiences with a mobile storytelling app- StoryKit®, which is an exciting experience for children in terms of self-authoring, oral and digital retellings, playful learning and engagement in multimodal literacies. Multimodal and digital literacies prove to be valuable tools for social interaction, language development and literacy learning in homes and classrooms. Chapter 13 examines a multimodal approach to writing instruction. Teachers resort to diverse semiotic resources of embodiments, gestures, gaze, proximity, etc. to instruct young EBs in authoring picturebooks, which facilitates children's multimodal composing in designing,

drafting, revising and editing, etc. The author firmly recommends infusing multimodal work within reading and writing processes and workshops in view of the positive outcomes. Chapter 14 spotlights a STEERS Model (sponsors, tools, emotions, experiences, reflexivity and syncretism) for multimodal literacies development. It is illustrated with the experience of young bilingual learners with an online writing tool - wiki. The affordances of wiki increase their engagement with schooled literacy and have attained positive outcomes. Therefore the Model is proposed as a beneficial way to boost bilingual children's multimodal and digital literacy practices and address issues of social inequities. Chapter 15 delineates a case study on how three refugee children employ semiotic resources to make sense of themselves and their family stories in a family literacy project. Analysis reveals children position themselves in different ways through the stories in their multimodal drawings, which reflects their cultural knowledge, religious literacy practices and daily educational experiences in the multimodal artifacts. Chapter 16 calls attention to another special group of people - Black girls' multiliteracies practices in dual language bilingual education programs. The authors examine the language and literacy practices of two Black girls who demonstrate brilliance in their learning, braiding visual images, gestures, music and artifacts fluidly across languages and modes. It evidences translinguaging and multimodal modes are conducive to literacy development and identify construction. Chapter 17 concerns a specific sociocognitive skill - Theory of Mind (ToM). The authors stress the facilitative role of multimodal texts in fostering ToM and enhancing reading comprehension, and provide empirical evidence of ToM as a unique predictor of both oral and reading comprehension of EBs. Accordingly, explicit instruction of ToM in narratives is advocated for increasing students' reading comprehension. Chapter 18 presents an ethnographic case study on EBs' engagement in multimodal literacy practices. The fourth-graders' performances in a graphic memoir writing project promote young EBs' identity construction and language development. The authors thus call for a shift away from the linear, text-based approach to a multimodal, multicultural perspective of literacy. Chapter 19 explores the multimodal literacy practices of a young EB, who demonstrates herself as an active, thoughtful and reflective learner with skillful usage of human and non-human resources in several learning events (e.g., reading, Lego construction). The findings provide insights into the instruction of teachers for literacy development (e.g., use of learning stories).

Unlike the first three parts situated in in-school settings, Part 4 (Chapter 20-23) turns to out-of-school multiliteracies practices. Chapter 20 approaches the language learning of Chinese-Norwegian EB children using multimodal literacies at home across age and language dominance. Children have access to ample multiliteracies resources, and there are "robust connections between children's

language dominance and their multimodal literacy experience” and “a correlation between app use (i.e. watching videos and playing games) and children’s language dominance” (p. 269). Chapter 21 discusses the multimodal practices of two young EBs in learning Korean. Participants can strategically and flexibly make multimodal choices to understand YouTube videos, express themselves and make new meanings. The results have several positive educational and theoretical implications of multimodal learning activities. Chapter 22 centers on the multiliteracies learning of a Korean EB child and his family members in a science museum. EB family members engage each other with diverse semiotic resources, such as languages (Korean and English), scientific terms (e.g., gravity), gaze, pointing gestures and parallel environment (objects - text) to make sense of exhibits and to build meaning together. The book wraps up in Chapter 23, giving new avenues to use the findings presented within different chapters in terms of research and classroom practices.

To capulate, this edition contributes substantially to studies on literacies development of young EBs via rich semiotic repertoire. It merits applause in the following aspects. Firstly, the most significant contribution of this volume, as the book title indicates, is “the coupling of multimodal literacy and young emergent bilinguals” (p. xxi). In this digital word, more than ever before, attention has been given to multimodality, and new literacies (Sanders & Albers, 2010). Yet, students are still confined to “verbo-centric literacy curricula” (p. 64); the emergent multilingual children in particular, are following “monolingualism, monomodal print texts and white suburban ways of knowing as inviolable gold standards - labeling all else as inferior” (p. xx), who are deprived of full participation in classroom activities. Against this backdrop, this volume not only enriches our knowledge about multimodality and multimodal literacies, expands our understandings of the complicated literacy learning for young EBs across the world, but also speaks back to “an oppressive power dynamic that willfully misconstrues linguistic diversity as a pathology to be diagnosed and remediated” (p. xx).

Secondly, this volume is reader-friendly, especially for novice researchers. The opening chapter with a systematic literature review of research on multimodal literacies of young EBs serves as the springboard for early-career researchers to have a quick grasp of the field; then readers are provided with studies on a broad coverage of EBs in in-school settings and out-of-school settings, framed from a multiple perspectives of social semiotic theory, sociocultural theory, translanguaging theory, nexus theory, etc. Based on these findings, new directions in research and teaching are finally summarized in the closing chapter. The book not only familiarizes readers with the critical issues in this field, but also illuminates them to go on in clear directions.

Although the value of this edition is undeniable, had the editors included “Suggested Reading”, it would be more supportive to enrich the knowledge of interested readers. Taken as a whole, this book sheds light on the literacy development of young EBs through the lens of multimodality. This seminal book will serve a wide range of readership such as teachers, teacher leaders, literacy researchers and graduate students, etc. interested in the domains of multimodality, multimodal literacy and language education, etc.

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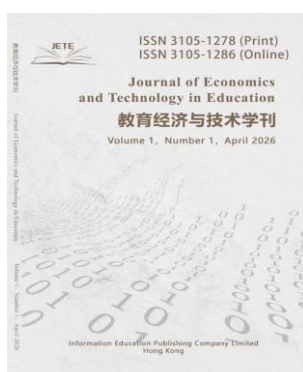
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New Directions for Teacher Development in the Transformation of Intelligent Education: A Review of *How to Be a Teacher in the GenAI Era: Empowering Teaching and Research with Generative Artificial Intelligence*

Wang Chunli, Duan Junyi

Abstract: The rapid advancement of Generative Artificial Intelligence is profoundly reshaping the educational landscape, presenting new challenges to the professional role and competency development of teachers. Within this context, the book *How to Be a Teacher in the GenAI Era: Empowering Teaching and Research with Generative Artificial Intelligence* systematically addresses this critical issue of our times. This review first analyzes the book's contemporary background, highlighting its provision of timely theoretical and practical guidance aligned with national educational digitalization strategies and teacher development needs. Subsequently, the review examines the book's logical framework and distinctive content features through four core dimensions: confronting the challenges of transformation, innovating methodological systems, empowering the entire teaching chain, and constructing a human-machine collaborative ecosystem. Finally, the review emphasizes that the core value of this work lies in its

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impetus for the transformation of the teacher's role from "knowledge transmitter" to "learning designer," providing systematic support encompassing philosophy, methodology, and tools for this shift. It holds significant reference value for promoting teachers' professional autonomous development and the co-evolution of human-machine collaboration within the educational system.

Keywords: Generative Artificial Intelligence; Teacher Professional Development; Human-Machine Collaboration; Learning Designers

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标题: 智能教育变革中的教师发展新路向——评《GenAI 时代如何做教师：生成式人工智能赋能教学与研究》

摘要: 生成式人工智能（GenAI）的迅猛发展正深刻重塑教育生态，对教师专业角色定位与能力发展提出全新挑战。在此背景下，《GenAI 时代如何做教师：生成式人工智能赋能教学与研究》系统回应了这一时代命题。文章首先剖析了该书的时代背景，指出其为国家教育数字化战略与教师发展需求提供了及时的理论与实践指南。进而，文章从直面变革挑战、方法体系创新、教学全链条赋能与人机协同生态建构四个核心维度，评述了该书的逻辑框架与内容特色。文章最后强调，此著作的核心价值在于推动教师角色从“知识传授者”向“学习设计师”转型，并为这一转型提供了涵盖理念、方法与工具的系统化支持，对促进教师专业自主发展与教育体系人机协同进化具有重要参考意义。

关键词: 生成式人工智能；教师专业发展；人机协同；学习设计师

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1. Responding to the Times

Today, the education community is deeply exploring how generative artificial intelligence is reshaping the future educational ecosystem. China attaches great importance to the development of artificial intelligence, elevating it to a national strategic level. The State Council (2025) has issued key

documents such as the Opinions of the State Council on Deeply Implementing the “AI+” Action, emphasizing the necessity of deep integration between AI and education. At the same time, to thoroughly implement the national strategic action for educational digitalization, the Ministry of Education (2025) recently issued the Notice on Organizing and Implementing the Digital Empowerment Teacher Development Action, aiming to use digital technologies and artificial intelligence as levers to comprehensively enhance teachers’ digital literacy and empower the construction of the teaching force through digitalization. Against this backdrop, in July 2025, the book *How to Be a Teacher in the GenAI Era: Empowering Teaching and Research with Generative Artificial Intelligence* (Educational Science Publishing House, 2025), authored by Du Yuxia, He Weiguo, and others, was officially published. As an important work systematically exploring generative artificial intelligence (GenAI) and teacher professional development, the book consists of 7 chapters and 29 sections, totaling approximately 310,000 words, and constructs a comprehensive system for GenAI educational application. It incorporates numerous frontline teacher application cases and practical strategies, possessing both theoretical depth and practical feasibility, thus offering high practical value.

GenAI is transforming from an auxiliary tool into a “change agent” for education. The emergence of ChatGPT in 2022 marked the entry of artificial intelligence technology into a completely new historical phase. Its powerful content generation, contextual understanding, and personalized interaction capabilities are reshaping traditional teaching paradigms. This large language model developed by OpenAI, with its astonishing natural language processing and generation abilities, has sparked unprecedented global attention and discussion. It not only demonstrates the tremendous progress of AI technology in understanding and generating human language but also heralds a profound technological transformation facing human society. The rapid development of GenAI is reshaping the development landscape of various industries, and the field of education, as a vital bastion for talent cultivation and knowledge dissemination, is also facing unprecedented opportunities and challenges.

At the same time, teachers, as core participants in educational activities, have seen significant impacts on key aspects of their teaching. The teacher’s role is facing the need to transform from knowledge transmitter to learning designer; teaching models need to shift from standardized, large-scale approaches to personalized, adaptive directions; and learning assessment urgently needs to change from outcome-oriented to a balance of process and development. These changes involve not only technological applications but also systemic innovations in educational philosophy, teaching methods, and evaluation systems. In the GenAI era, teachers need not only to understand the technical characteristics of GenAI but also to integrate them organically with subject-specific teaching strategies

and content representation methods, thereby forming a new form of pedagogical knowledge oriented toward human-machine collaboration (Hu, 2025). Furthermore, the application of GenAI in education faces many challenges: technical issues such as the “hallucination” phenomenon, data security, and privacy protection; ethical issues such as algorithmic bias and the risk of widening the digital divide; and pedagogical issues such as maintaining academic integrity and cultivating students’ critical thinking. These are all important topics that need to be addressed. These challenges require educators not only to master technical application skills but also to possess digital literacy and ethical awareness in order to better fulfill their educational mission in the age of AI.

It is precisely against this contemporary backdrop that the publication of *How to Be a Teacher in the GenAI Era: Empowering Teaching and Research with Generative Artificial Intelligence* by Du Yuxia, He Weiguo, and others not only responds promptly to the needs of the times but also provides a systematic and practical action guide for the vast number of educators.

2. Content and Characteristics

The book proceeds from the background of GenAI’s educational transformation, gradually delving into specific scenarios such as instructional design, resource development, teaching innovation, and educational research, and ultimately envisioning the future ecosystem of human-machine collaborative education.

Chapter One systematically analyzes the features and trends of GenAI and its reconstruction of the educational ecosystem, clarifying new requirements and challenges for teachers in education. Chapter Two provides practical strategies for teachers to master GenAI, including building a personal GenAI resource library, prompt design, and creating educational agents, all highly operational. Chapters Three to Six empower the entire teaching chain with GenAI, focusing respectively on instructional design, resource creation, teaching innovation, and research empowerment. Chapter Seven looks ahead to the future of GenAI and human-machine collaborative education, emphasizing that teachers should maintain educational subjectivity and ethical awareness amidst technological integration. The book has a rigorous structure, progressing layer by layer, making it suitable for in-depth study by educational researchers and as a reference book for frontline teachers.

2.1 Confronting Change: Educational Challenges and Teacher Role Remodeling in the Intelligent Era

Mr. Liang Qichao (1989) once said, “Only through progress can one achieve daily renewal.” This spirit of innovation and progress is particularly pertinent today as Generative Artificial Intelligence (GenAI)

surges forward. When algorithms can instantly generate text, images, videos, and even teaching plans, the education sector is immersed both in the euphoria of “technological liberation” and the anxiety of “loss of subjectivity”: Will teachers be replaced? Will students’ learning processes be manipulated by algorithmic “black boxes”? Hu Wei (2023) points out that the core competence of teachers in the age of AI lies not in racing against technology, but in realizing the unique value of human beings through human-machine collaboration. With breakthrough developments in large models like GPT and Sora, education is facing an unprecedented paradigm shift: it must embrace the efficiency revolution brought by technological empowerment while also guarding against the potential dissolution of subjectivity and ethical dilemmas that technological application may bring. Teachers must reassert their professional subjectivity amidst human-machine symbiosis (Yang & Cai, 2025). The book *How to Be a Teacher in the GenAI Era: Empowering Teaching and Research with Generative Artificial Intelligence*, with its forward-looking theoretical perspective and systematic practical framework, closely addresses the core difficulties and practical pain points for teachers in mastering GenAI, charting a course for educational change in the intelligent era.

Chapter One of the book starts from the technical essence of Generative Artificial Intelligence, systematically explaining its core characteristics as a new intelligent form capable of automatically generating multimodal content based on instructions. By analyzing GenAI’s working mechanism based on large-scale pre-training and probabilistic generation, it reveals its dual attributes in educational applications: empowerment alongside risk. On the one hand, features such as emergent abilities, multimodal expression, contextual awareness, and personalized responses give it enormous potential to reshape the educational ecosystem; on the other hand, the accompanying technical risks warn of the need for rational scrutiny during application. Teachers must become active risk preventers, constructing classroom risk prevention mechanisms, fulfilling data protection responsibilities, cultivating students’ algorithmic critical thinking, and upholding the humanistic bottom line of education. Building on this foundation, the book further explores the transformation of the educational system by GenAI. By constructing intelligent interactive environments, GenAI promotes a shift in learning methods from passive reception to dynamic negotiation, profoundly changing the paths of knowledge acquisition and construction. More notably, its application facilitates the formation of a new “teacher-GenAI-student” triadic collaborative structure, pushing the teaching system from closed to open, from centralized to distributed collaboration. This transformation not only reshapes the logic of teaching organization but also breaks the traditional spatiotemporal boundaries of education, demonstrating revolutionary impact.

2.2 Innovative Methodological System: Providing Actionable Practical Pathways

“What you get from paper is ultimately shallow; you must know the matter thoroughly through practice.” — Lu You’s verse speaks to the importance of practice. While advancing theoretical innovation, *How to Be a Teacher in the GenAI Era: Empowering Teaching and Research with Generative Artificial Intelligence* also strives to construct an innovative methodological system, providing teachers with actionable practical pathways. In Chapter Two, addressing the specific difficulties teachers encounter in applying GenAI, the book develops systematic solutions and practical tools.

Regarding resource selection and management, the book proposes a systematic “six-step method,” offering a clear roadmap for teachers to build a personal GenAI resource library. First, teachers need to clarify the construction goals of their personal GenAI toolbox, anchoring the direction of resource library construction based on authentic teaching needs. Then, they create an inventory of GenAI tools, encouraging extensive collection and preliminary classification and organization of mainstream tools such as ChatGPT, Wenxin Yiyan, and iFlytek Spark using local documents or online platforms. Subsequently, teachers clarify application purposes and match them with application scenarios, which is key to linking tools with teaching practice. Using high school biology teaching as an example, the book details how Biology Teacher Wang correlates specific scenarios such as lesson preparation, courseware creation, experiment design, and homework grading with specific tool functions, creating a navigation map of “which tool to use in which scenario.” After clarifying “what to use,” teachers select and evaluate suitable GenAI tools. Biology Teacher Wang introduces an analytical framework of five dimensions — “reliability, objectivity, pedagogical appropriateness, logic, and currency—to guide teachers in evaluating generated content, ensuring its accuracy and effectiveness for classroom use. Fifth, continuous iteration and optimization emphasize that the resource library is a dynamic, living organism; teachers need to continuously update their tool lists and application strategies by recording application logs and reflecting on usage effects. Finally, establishing application norms sets safety and ethical boundaries for the entire practice, reminding teachers to pay attention to data privacy and avoid over-reliance. These six steps are interlinked, from goal setting to practical verification, to reflection and norms. Together forming a scientifically rigorous methodology that effectively integrates scattered technical tools into a personalized teaching wisdom repository capable of continuous evolution.

In the critical area of prompt design, the book innovatively proposes the “PRTSCE” six-dimension model (Purpose - Role - Task - Structure - Context - Example), providing teachers with a clear design framework. Using a typical high school geography case of “comparing two climate types,” the model gradually demonstrates how precise prompt design guides GenAI to generate a complete plan

encompassing core literacy goals, independent inquiry tasks, student activity steps, and teacher-student evaluation methods. This structured prompting approach not only improves the quality of generated content but also cultivates teachers' computational thinking and systematic design abilities. Regarding the creation of educational agents, the book details the steps and methods for building educational agents from scratch, lowering the threshold for teachers to apply GenAI. These practical tools and strategies not only enhance teaching efficiency but also significantly improve teaching outcomes. Furthermore, the book develops a system for creating educational agents, using the "Ancient Poetry Learning Assistant" as an example to show in detail how to plan functionality, design workflows, and optimize effects of an agent using a low-code platform. This case particularly demonstrates how to organically integrate functions such as OCR recognition, multi-turn dialogue, and automatic question generation to form an intelligent teaching system supporting an integrated "learning-practicing-evaluating" process. Moreover, the book innovatively proposes a "five-step construction method" for building application communities, establishing a sustainable professional development support system through institutional safeguards at the school level and collaborative networks at the teacher level. This approach not only resolves difficulties faced by individual teachers in application but also fosters a healthy ecosystem of collective intelligence co-creation and sharing.

These innovative methodological systems fully embody the design philosophy of "emphasizing both instrumental rationality and value rationality," providing specific and feasible operational guidelines while ensuring that technological application always serves educational goals. Through this systematic practical framework, teachers can gradually realize the role transformation from technology user to educational designer, truly harnessing the empowering role of GenAI in educational reform.

2.3 Empowering the Entire Teaching Chain: Constructing a Human-Machine Collaborative Innovation Practice System

The book does not stop at explaining teaching techniques; instead, it takes "empowering the entire teaching chain" as its core, embedding GenAI into every link of "instructional design — resource development — classroom implementation — educational research," thereby constructing a human-machine collaborative innovation practice system. This system not only addresses the traditional challenges of "what to teach" and "how to teach" but also responds to the new question of the intelligent era: "how to cultivate higher-order thinking through human-machine collaboration."

The quality of instructional design has a critical impact on teaching effectiveness and quality. Chapter Three systematically constructs a comprehensive framework for GenAI-empowered instructional design, covering the entire process from macro curriculum outlines to micro assignment

design. At the level of syllabus development, through multiple rounds of human-machine dialogue and iterative optimization, GenAI assists teachers in generating rigorous and comprehensive syllabi, breaking through the constraints of traditional multi-step approval processes. For the development of guided learning plans, differentiated prompt design based on learner analysis enables GenAI to generate learning task sheets adapted to different cognitive levels, achieving truly personalized learning support. In terms of instructional objective design, GenAI intelligently analyzes curriculum standards and textbook content to help teachers integrate multi-dimensional objectives from knowledge and skills to core competencies, supporting the integration and innovation of interdisciplinary objectives. In the construction of teaching plans, GenAI assists teachers in achieving more precise learner analysis, more efficient learning task generation, and designing more targeted thinking training activities. For assignment design, GenAI provides teachers with intelligent tools that empower higher-order thinking development, interdisciplinary integration, and generation of assignment examples, effectively implementing the requirements of the “double reduction” policy. Through abundant practical cases, the book demonstrates that GenAI is driving a transformation in instructional design paradigms from traditional “experience-driven, one-way output” to “data-supported, human-machine collaborative, dynamically optimized” models, forming a new intelligent education model of “teacher-led — GenAI-generated — teacher-student collaboratively optimized.” This not only significantly improves the scientific nature and efficiency of instructional design but also provides technical possibilities for large-scale individualized teaching, achieving dual enhancements in teaching quality and innovative vitality.

Teaching resources are the foundation for instructional implementation, but traditional resource development suffers from prominent problems such as “time-consuming, unstable quality, and poor subject adaptability.” Chapter Four systematically constructs a methodology for creating teaching resources using GenAI, providing teachers with comprehensive, multimodal resource generation solutions. For textual resources, through precise prompt design, GenAI can quickly generate various textual materials such as concept explanations, case analyses, and inquiry tasks, greatly enhancing content creation efficiency while ensuring resource novelty and richness. Image resource creation breaks through traditional limitations, not only generating static illustrations but also enabling knowledge visualization, transforming abstract thinking processes and logical relationships into intuitive visual representations. Audio resource development relies on advanced speech synthesis technology to generate multi-lingual, multi-timbre reading content according to teaching needs, providing immersive experiences for language learning and context creation. PPT courseware creation leverages intelligent generation of well-structured, illustrated courseware drafts, allowing teachers to

focus on instructional design and content optimization. Video resource development adopts a hybrid-driven strategy, integrating text, image, and audio elements to quickly generate professional-grade instructional micro-videos. Furthermore, the introduction of digital human technology opens up new teaching forms, creating virtual teachers to achieve digital extension of the teaching subject. The entire resource creation process fully leverages GenAI's generative capabilities while ensuring that teachers remain in a design-led position, thus achieving dual improvements in quality and efficiency of teaching resource development.

Teaching innovation is the core driving force for breaking through traditional teaching bottlenecks and improving the quality of education. The technical characteristics of Generative Artificial Intelligence (GenAI) provide crucial support for the transformation of classroom models from "standardized transmission" to "personalized inquiry." In Chapter Five, the author team, closely targeting the core goal of "higher-order thinking cultivation" and grounded in frontline teaching practice, systematically presents the integration pathways of GenAI with innovative models such as "inquiry-based teaching," "project-based learning," and "interdisciplinary teaching." Through typical cases like elementary school Chinese "myth appreciation" inquiry teaching and the "Science in Traditional Culture" project-based teaching, the book clearly demonstrates how GenAI breaks down the one-way classroom structure of "teacher lecturing, students passively listening"—with GenAI assistance, the classroom gradually transforms into a multi-interactive scenario of "teacher-guided inquiry, student collaborative communication, and intelligent tools providing cognitive scaffolding," ultimately putting the "student-centered" educational philosophy into practice at the operational level, providing actionable pathways for cultivating higher-order thinking.

Educational research is the core engine driving teachers to break through experience barriers and achieve sustainable professional development. However, traditional educational research faces practical difficulties such as "topics divorced from practice, inefficient literature retrieval, and high barriers to data analysis," leaving many frontline teachers trapped in a dilemma of "having the will to research but lacking the path to implement it." In Chapter Six, relying on a wealth of research cases from frontline teachers, the book systematically breaks down the complete process of GenAI-empowered educational research—from transforming teaching puzzles into standardized research topics through a "five-step method," to using GenAI to generate precise search expressions and intelligently screen core literature, to leveraging technology to assist research design and automate data analysis, and finally to optimizing the format and logic of research output. Each step provides specific operational methods and tools. This full-process empowerment pathway not only clears the technical

and methodological obstacles of traditional research for teachers but also builds a bridge from “daily teaching practice” to “systematic educational research,” effectively assisting teachers in completing the professional role transition from “experience-based” to “research-oriented.”

At the same time, the book showcases a comprehensive panorama of GenAI applications in educational practice through a large number of rich and diverse cases. These cases span different disciplines, school levels, and educational environments, providing teachers with exemplary practices for reference. For example, in the “Eternal Dragon Boat Festival, Heartfelt Chinese” interdisciplinary curriculum case from Shuitian Primary School in Shenzhen, it records in detail how GenAI was used to design teaching activities integrating knowledge from Chinese, mathematics, science, art, and other subjects: the Chinese teacher used GenAI to generate materials for appreciating Dragon Boat Festival poetry, the mathematics teacher designed tasks for measuring dragon boat dimensions, the science teacher organized buoyancy experiments, and the art teacher guided students in drawing dragon boat design blueprints. This case vividly demonstrates how GenAI helps teachers break down disciplinary barriers and design deeply integrated interdisciplinary learning experiences, enabling students not only to deeply understand the cultural connotations of the Dragon Boat Festival but also to cultivate interdisciplinary thinking and comprehensive practical abilities. Cases like this are found throughout the book, from smart classrooms in developed eastern regions to innovative practices in rural western schools, from ordinary primary and secondary schools to special education schools, fully reflecting the adaptability and practicality of GenAI in different educational contexts and providing vivid and intuitive references for teachers to conduct human-machine collaborative teaching.

2.4 Constructing the Future: Building a New Human-Machine Collaborative Education Ecosystem

Generative Artificial Intelligence (GenAI) is transforming human knowledge production, modes of thinking, and social structures at an unprecedented speed and scale. In Chapter Seven, the authors point out that currently, international technology forces represented by OpenAI, Google, and Anthropic, along with domestic large models represented by Baidu’s Wenxin Yiyao, Alibaba’s Tongyi Qianwen, and iFlytek’s Spark, are rapidly innovating and driving the construction of a global intelligent ecosystem. With its powerful technical system and wide range of application scenarios, GenAI is profoundly changing the relationship between humans and knowledge, creation, and decision-making. Its future breakthroughs in areas such as multimodal intelligence, human-machine collaboration, controllable safety, and ecological symbiosis will undoubtedly bring new opportunities and challenges to the education system. Relevant research points out that the impact of GenAI on education is not

merely an instrumental change but also a relational paradigm shift, in which the teacher's positioning moves from "authoritative knowledge holder" to "learning facilitator," and the human-machine relationship evolves from subject-object duality to symbiosis and co-creation (Creely et al., 2025).

Against this backdrop, GenAI is prompting the deep collaboration and co-evolution of elements such as personnel, technology, systems, and environment within the education system, forming a new pattern. This co-evolutionary relationship significantly drives systemic changes in educational resource allocation methods, teaching organizational forms, talent cultivation models, and educational governance paradigms. On this basis, the book proposes the concept of building a "new human-machine collaborative education ecosystem," clarifying the triadic dynamic interactive relationship of "teacher — GenAI — student." GenAI can engage in cognitive interaction and task collaboration with teachers and students, becoming an intelligent assistant for teacher instruction and an intelligent partner for student learning. Within this triadic collaborative relationship, although the roles of the subjects are reshaped, the core position of "humans" remains unshaken: students are always the center of the learning process, while teachers bear the key responsibilities of instructional design and classroom guidance. GenAI, as an auxiliary force, together with teachers and students, forms a dynamically balanced, synergistically developing organic whole, ensuring the "human-centered" essence of education under technological empowerment. The construction of this human-machine collaborative education ecosystem resonates strongly with cutting-edge global explorations of educational transformation in the GenAI era. Relevant research examines the impact of GenAI on teaching, learning, and assessment, emphasizing that teacher professional development and human-machine collaborative instructional design are key pillars of the future education system (Sampson et al., 2025), providing an interdisciplinary analytical framework and practical strategies for pedagogical innovation, ethical governance, and teacher education in the GenAI era (Corbeil & Corbeil, 2025).

As UNESCO has pointed out, "Proper governance of artificial intelligence is one of the most important challenges of our time" (UNESCO, 2023). The application of AI must aim to strengthen the capabilities of teachers and students, not to weaken or replace the crucial social relationships and humanistic interactions in education. This sounds an ethical alarm for us as we develop GenAI educational applications and highlights the profound significance of the book's theoretical framework.

The new human-machine collaborative education ecosystem is forming an open system based on educational big data, supported by intelligent technology, centered on learners, and organically integrating diverse learning spaces such as campuses, homes, and society, along with virtual and real scenarios. In this new ecosystem, teacher and student development becomes increasingly personalized

and systematic, and educational governance becomes increasingly scientific and precise, driving high-quality development of education and comprehensive improvement in talent cultivation quality. The book's profound elucidation of this ecosystem not only reflects the absorption and reference of internationally advanced educational concepts but also showcases the theoretical confidence and practical innovation of the Chinese education community, providing important Chinese solutions and wisdom for the global digital transformation of education.

3. Conclusion: Teacher as Designer

As the Chinese educator Tao Xingzhi (2008) said, "A good teacher does not teach books, nor does he merely teach students; he teaches students how to learn". *How to Be a Teacher in the GenAI Era: Empowering Teaching and Research with Generative Artificial Intelligence* is precisely a timely response to this famous quote. The book ultimately points to a core and profound conclusion: in the new educational ecosystem reshaped by Generative Artificial Intelligence, the teacher's role is transforming from the traditional "knowledge transmitter" to the future "learning designer." This transformation is not only practically necessary but also theoretically legitimate. As Diana Laurillard (2023) states in *Teaching as a Design Science*, teaching should be regarded as a design science, its core lying in principle-based design, continuous iteration, and collective knowledge construction to systematically enhance teaching effectiveness. The emergence of GenAI provides the technical possibility for realizing this concept. By undertaking repetitive tasks, it frees teachers to engage in higher-order design activities, such as designing project-based learning in authentic contexts, designing cognitive scaffolds for human-machine collaboration, and designing interdisciplinary integration problems. However, technology alone does not necessarily bring educational change. Real change stems from the awakening of teachers' design thinking and the formation of design communities. Teachers need to be able to represent instructional design in an externalized, shareable manner, participate in building the knowledge base of professional communities, and thereby achieve systematic progress in teaching practice. This is exactly the professional development path advocated by the book — teachers are not just technology users but also participants in educational design and contributors to pedagogical knowledge.

In the GenAI era, the design mission entrusted to teachers acquires new connotations. They are no longer limited to traditional board design and lesson plan writing but focus on student-centered personalized learning experience design (Chen, Yang, & Zhou, 2025). Specifically, teachers need to carefully design authentic projects that deeply stimulate students' desire for inquiry. These projects are

not fictional scenarios but are closely related to real life, allowing students to truly understand the value and application of knowledge while solving practical problems. For example, in a science course, designing a project on local ecological environment research, students conduct fieldwork, data collection, and analysis, propose plans for ecological improvement, and in the process, not only master scientific knowledge but also cultivate practical abilities and a sense of social responsibility.

At the same time, teachers should design progressively layered cognitive scaffolds for human-machine collaboration. Cognitive scaffolds are like scaffolding for building a tall structure, helping students gradually elevate their cognitive levels. For example, in Chinese reading instruction, teachers use GenAI tools to first provide students with background knowledge of the text, then guide them to analyze the text structure, and finally encourage in-depth discussion of the theme. Each step is completed collaboratively by the teacher and intelligent tools, helping students climb step by step on their existing cognitive foundations. Furthermore, teachers need to design open-ended questions integrating multidisciplinary knowledge. In today's era of high knowledge integration, single-discipline knowledge is insufficient to cope with complex real-world problems. Teachers should encourage students to cross disciplinary boundaries and comprehensively apply knowledge from mathematics, physics, geography, information technology, and other disciplines for thinking and problem-solving. More importantly, teachers ultimately need to design an inclusive, equitable, and growth-oriented educational environment where every student can find their place, realize their potential, and feel respected and cared for. It can be said that teachers in the GenAI era are precisely the designers of education. This book is the key that helps teachers open the door to design, providing a set of systematic methodologies for becoming "intelligent education designers." From prompt engineering to agent construction, from resource development to research empowerment, the ultimate purpose of all these tools and strategies is to empower teachers' design thinking, enabling them to efficiently use GenAI as a powerful "assistant" to transform their educational philosophies and wisdom into tangible teaching innovations.

Therefore, the role positioning of "teacher as designer" not only responds to the challenges of technological change but also reaffirms the human-centered essence of education. As Karl Jaspers (2012) emphasized, "The essence of education means one tree shakes another tree, one cloud pushes another cloud, one soul awakens another soul." No matter how excellent the educational design, its core lies in the teacher's professional judgment, humanistic care, and creative wisdom — things that no algorithm can generate. The future has arrived. The curtain is rising on the era of teachers as "learning designers," calling upon each of us educational practitioners to consciously embrace this creative evolution and response with subjective awareness.

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Driving High-Quality Development of Intermodal Transport through Data Governance: A Review of *Research on Data Governance for Intermodal Transport in the United States*

Wang Baixun, Cheng Wanhong

Abstract: This article reviews *Research on Data Governance for Intermodal Transport in the United States*, following its demand-driven logic and governance closed loop to synthesize the book's argument from institutional arrangements and organizational structures, through planning-oriented data requirements, cost and demand data, performance indicators and survey methods, to the design of data quality, security, and architecture. The review contends that the book conceptualizes data as a foundational capability for public-sector planning, investment, regulation, and accountability. It proposes a structured process for assessing data requirements, outlines approaches to indicator computation, and develops an interoperability framework, which together support component-based architecture and a tiered implementation roadmap for a national freight data platform. These contributions provide useful references for China in strengthening intermodal transport data standards, data-sharing mechanisms, and security governance. The review further notes that incentive-compatible public-private

collaboration and the integration of emerging technologies warrant more extensive discussion.

Keywords: Intermodal transport; High-quality development; Data governance; U.S. experience; Information systems

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标题：以数据治理驱动多式联运高质量发展——评《美国多式联运数据治理研究》

摘要：本文评介《美国多式联运数据治理研究》，以数据需求牵引与治理闭环为主线，梳理其从制度组织、规划数据需求、成本与需求数据、绩效指标与调查方法，到质量、安全与架构设计的论证逻辑。文章认为，该书将数据界定为公共部门规划、投资、监管与问责的基础能力，提出需求评估流程、指标计算思路与互操作框架，并据此形成全国货运数据平台的组件体系与分级实施路径。其对我国多式联运数据标准、共享机制与安全治理具有参考意义。同时提示政企协同激励与新兴技术融入仍需再展开。

关键词：多式联运；高质量发展；数据治理；美国经验；信息系统

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The strategic importance of intermodal transport has continued to rise amid the accelerated restructuring of integrated transport systems. The key determinants of operating efficiency and service quality extend beyond physical facilities such as corridors and terminals; they increasingly reside in the capacity for coordination across transport modes, administrative departments, and regions. In this sense, intermodal transport has shifted from a narrowly defined problem of transport organization to a more complex problem of system governance. Coordination capability rests on a robust data foundation. Data

must be defined with consistent conventions, shared in an orderly manner, and traceable, while also supporting performance evaluation and the implementation of accountability. As policy agendas converge, including the national strategy of building China into a transportation powerhouse, integrated development, digital government and digital governance, and the institutional recognition of data as a factor of production, the principal constraint on intermodal transport has gradually shifted from insufficient infrastructure supply to insufficient data supply and governance capacity.

Practice further corroborates this shift. The freight chain spans multiple links and involves heterogeneous actors, including regulators, operating enterprises, port and terminal operators, information service providers, and shippers; any link may generate informational isolation and fragmentation. Although the volume of data resources continues to increase, recurrent problems persist, including inconsistent statistical conventions, mismatched spatiotemporal granularity, the absence of quality control mechanisms, and ambiguous access boundaries. These deficiencies leave public decision-making with incomplete information. Planning proposals often lack verifiable empirical bases, the relationship between investment and output remains difficult to quantify, and performance indicators related to congestion, safety, and the environment struggle to form a calculable, comparable, and traceable closed loop. Interregional coordination therefore becomes vulnerable to divergent conventions and rising coordination costs. Accordingly, the binding constraint on intermodal transport typically does not lie in whether facilities exist, but rather in whether data are available, whether they circulate in an orderly way, and whether circulating data can be transformed into decision support and governance instruments.

A Study on Data Governance for Intermodal Transport in the United States advances a systematic argument around these constraints and highlights the foundational role of data governance in intermodal transport development. The volume does not equate digitalization in intermodal transport with platform construction or information-system upgrading. Instead, it develops a coherent logic that starts with how public agencies articulate data requirements, proceeds to how they organize data resources, operationalizes governance applications through performance indicators and survey methods, and ultimately relies on governance arrangements to ensure data availability, controllability, and shareability. On this basis, the book offers a transferable systemic framework for China, encompassing data requirement assessment, data organization frameworks, performance indicator systems and survey methods, as well as data quality management, security controls, and data architecture design. This framework emphasizes unified conventions and shared reuse, reinforces an indicator-driven decision loop, and foregrounds the sustainability and governability of long-term platform operation. It thereby

provides intellectual support for the transition of intermodal transport from a project-construction orientation toward a governance-capacity orientation.

The book is authored by a cross-institutional team comprising Yang Lei, Hao Panfeng, Xu Jiefeng, and Li Jichun. Yang Lei, affiliated with the China Academy of Railway Sciences, has long specialized in railway containerization and intermodal transport and has participated in drafting multiple national and industry standards and policy documents. Hao Panfeng earned a doctoral degree at Beijing Jiaotong University and serves as Secretary-General of the China Container Industry Association; he has sustained engagement in consulting on corridor economies, hubs, and supply chains, supported by extensive practical cases. Li Jichun leads the logistics center at the Water Transport Research Institute of the Ministry of Transport and has directed multiple research and engineering programs as well as standard-setting initiatives. Xu Jiefeng brings a North American background in data-driven optimization and management research and has accumulated substantial experience across aviation, railways, and maritime logistics.

This combination of research institutes, industry associations, government research organizations, and internationally oriented consulting enables the book to align with public-sector decision logics while attending to the engineering details of data collection, standards, platforms, and applications. The authors do not treat data governance as synonymous with informatization. They situate it within the broader chain of transport system governance and organize the discussion around performance indicators, planning evaluation, data quality and security, and cross-departmental sharing mechanisms. Drawing on an extensive body of policy documents, standards, and case materials, the book explains how U.S. practice enables data to serve decision-making, accountability, and continuous improvement. This approach directly addresses China's practical challenges of fragmented data, limited sharing, and limited evaluability in intermodal transport.

The chapter organization presents an incremental relationship among transport planning data, performance indicators, and governance and platform recommendations, while the argument proceeds through problem definition, requirement derivation, and governance implementation. The authors first clarify the key governance problems that intermodal transport must address and the performance outcomes that require evaluation. They then derive the corresponding data requirements, propose schemes for data organization, collection, and dissemination, and finally establish institutional and procedural mechanisms that secure data sharing, responsibility tracing, and sustainable operation, thereby transforming data capacity into public governance capacity. For this reason, the book does not begin from platform construction; it examines intermodal transport within the framework of integrated

transport governance. It emphasizes that transport networks exhibit attributes of public systems, and data therefore carry not only enterprise operational information but also a shared medium for public planning, investment, regulation, and performance accountability. Under this positioning, the boundary of data governance follows the governance structure itself, and institutional arrangements and organizational division of labor directly determine the scope, granularity, and modes of data sharing and use.

1. Institutional Arrangements and Governance Actors Delineate the Boundaries of Data Governance

1.1 Repositioning Data within the Context of Public Governance

The book examines intermodal transport within a public governance framework and argues that, once a transport network functions as a public system, data cease to be confined to firm-level operational information and instead become a shared language through which public agencies conduct planning, investment decision-making, regulation, and performance accountability. The involvement of multiple actors increases coordination complexity and, in turn, elevates institutional requirements for data consistency, traceability, and verifiability. Accordingly, public authorities need to establish a unified data foundation on the basis of clearly defined responsibilities, well-specified authority–accountability chains, and explicit performance obligations, thereby enabling cross-modal and cross-regional comparative analysis and coordinated governance.

1.2 Institutional Requirements Imposed by Multi-level Governance Structures

Against the backdrop of the institutional environment of intermodal transport in the United States, the authors note substantial heterogeneity across rail, highway, waterway, and air transport in terms of operational organization, cost structures, and risk profiles. Freight markets exhibit a high degree of market orientation, with extensive inter-state and cross-border connectivity. In matters such as corridor governance, hub integration, safety oversight, and environmental management, public agencies require data support that spans actors and modes in order to make testable judgments regarding operational efficiency, public safety, and externalities. A division of labor and collaborative relationship emerges among federal authorities, state departments of transportation, metropolitan planning organizations, and industry bodies with respect to mandates, budgets, and governance instruments. The multi-level nature of decision chains therefore demands that data coverage, statistical definitions, and update mechanisms align with governance responsibilities. In this context, data governance shifts from an optional technical choice to a binding governance constraint, with objectives oriented toward strengthening public-sector

decision capacity and governance capability rather than improving the informatization performance of any single organization.

1.3 Credibility Foundations of the Research Perspective and Writing Motivation

The author team comprises members with long-term engagement in research on intermodal transport, standards, and policy, combining expertise in transport systems analysis with experience in standards development, policy evaluation, and consulting practice. The book organizes its materials primarily from the vantage point of public governance and planning decision-making, systematically drawing upon policies and regulations, departmental mandates, and practical cases, and emphasizing implementable pathways from needs identification to a complete governance cycle. This approach enhances both the credibility and the usability of the book's arguments. The authors further remind readers that the core of data governance does not lie in the accumulation of technologies; rather, it lies in the boundaries of data that are jointly shaped by institutional design, organizational coordination, and accountability mechanisms.

2. Data System Development Driven by Demand and Performance

2.1 Demand Identification and Strategic Assessment for Constructing a Data Inventory

The book decomposes data work in transportation planning into interrelated stages that include articulating data needs, assessing those needs, organizing data, and integrating data collection. It argues that public-sector data needs do not arise from arbitrary enumeration; statutory requirements, strategic objectives, and the management system jointly constrain them. Because the planning system defines not only goals and responsibilities but also the scope of data coverage, statistical definitions, and update frequencies, demand identification requires systematic comparison of the responsibilities and focal concerns of planning entities at different levels. Such comparison supports a shareable data foundation and enables cross-regional and cross-modal benchmarking. For needs assessment, the authors propose an operational pathway consisting of internal assessment, external assessment, and strategy selection assessment. Internal assessment identifies existing data assets, data quality conditions, and management capabilities. External assessment evaluates contextual conditions, stakeholder structures, and technical feasibility. Strategy selection assessment links needs to implementable measures through gap identification, option selection, and strategy formulation. This pathway filters conceptual desires into essential data requirements and establishes correspondence between data needs and policy instruments, management measures, and resource commitments.

2.2 Responsibility Mapping and Data Organization to Enhance Implementability

The authors further stress the importance of responsibility mapping and argue that data requirements should correspond to accountable entities and executable actions. A single governance objective often spans multiple units, including operational management, engineering construction, and public transit management. When data cannot be mapped to organizational mandates, project measures, and performance appraisal requirements, public agencies encounter difficulties in performance evaluation and cannot establish a clear accountability chain. In data organization and integration, the book explains interdependencies among traffic monitoring, outcome evaluation, long-term planning, project implementation, and appraisal and improvement within the planning cycle. It shows that the manner in which management systems embed into planning processes determines the efficiency of data sharing and reuse. Building on information engineering and business-oriented approaches, the authors argue that data models, database design, and application design should evolve iteratively with business processes, and that data systems should serve continuous improvement rather than one-off construction. Regarding the organization of a data program, the book proposes that a dedicated entity coordinate needs assessment, data organization, data collection, and data dissemination under constraints of coordination, integration, organization, and consistency. It specifies primary and secondary data sources and defines corresponding storage and access mechanisms. The authors also emphasize that planning should incorporate externalities such as safety, environmental impacts, energy, and economic development into a measurable framework so that policy evaluation and resource allocation can rely on consistent evidence.

2.3 Key Data Types and Evaluation Instruments as a Governance Closed Loop

Regarding key data types, the authors position cost data as a critical nexus between firm-level decision-making and public investment. Firms use cost data to conduct modal choice and system optimization analyses, whereas public agencies rely on cost structures and determinants to identify investment priorities, formulate maintenance strategies, and assess the feasibility of policy tools. In intermodal contexts, handling and transshipment, waiting and queuing, and mode-transfer time and fees generate cumulative effects that can substantially shape overall efficiency. Without stable and comparable cost data, public agencies cannot readily locate the sources of efficiency losses or distinguish among infrastructure, organizational, and regulatory bottlenecks. Demand data underpin the capacity to forecast freight flows, scales, and spatiotemporal distributions. Demand generation reflects shipper behavior, carrier organization, land-use structure, and changes in economic activity, and it should remain consistent with the input structure of forecasting models. Accordingly, the authors recommend

designing collection and updating mechanisms in reverse from model requirements, thereby building linkage among models, data, and policy and avoiding a disjunction between data and models that would weaken the evidentiary basis for planning decisions.

To embed data within a governance closed loop, the authors further examine the complementarity between performance indicator systems and freight demand survey methods. Performance indicators specify governance objectives and evaluation dimensions, whereas surveys provide stable data supply and updating mechanisms. Together they enable cross-regional and cross-modal comparison and policy evaluation. The book reviews major evaluation dimensions that include safety, system maintenance and preservation, mobility and reliability and congestion, availability and connectivity, environmental impacts, cost efficiency, and economic development. It argues that modal heterogeneity requires a framework that balances comparability with differentiation. Indicator systems should include both computational logic and data collection logic. They achieve comparability through explicit definitions of denominators, time windows, and spatial units. The book presents a comprehensive set of computational approaches, including weighted representations of mobility and reliability, intensity-based measures of safety risks, intensity-based expressions of energy consumption and emissions, unitized accounting of operating costs that incorporates labor, fuel, insurance, maintenance, and depreciation, and representations of investment effects through employment contributions. These computable indicators provide a technical basis for cross-regional and cross-modal comparison and offer actionable tools for budget allocation, project prioritization, and policy evaluation.

In data acquisition mechanisms, the authors note that freight demand surveys confront structural complexity caused by diverse commodity categories and measurement conventions, the coexistence of public and private actors, and nested cross-modal and cross-jurisdictional movements. Method selection therefore entails trade-offs among accuracy, cost, data availability, and compliance. The authors argue that surveys should not merely fill data gaps. Public agencies should define standards for statistical definitions, update frequencies, privacy protection, and boundaries of commercially sensitive information, and align survey processes with indicator systems, planning models, and management responsibilities. Such alignment supports a planning and evaluation system that can operate stably over time and continue to enable cross-departmental collaborative governance.

In addition, the authors contend that indicator systems should align with stakeholder demand structures. Shippers and carriers prioritize timeliness, reliability, and predictability. Public agencies prioritize safety, environmental performance, and infrastructure preservation. Investors prioritize cost efficiency and the performance of capital utilization. Only when an indicator framework provides an interpretable

logic of trade-offs across these dimensions can public agencies allocate resources transparently and communicate effectively with society.

3. A Data-Governance Loop and Platform Pathway Integrating Quality, Security, and Architecture

3.1 An Operational Governance Model Centered on Leadership and Accountability Chains

Building on the demand and methodological system, the book proposes a sustainable data-governance framework that institutionalizes governance capabilities through the coordination of quality, security, and architecture. It places data leadership at the center of overall coordination and relies on data architecture as the supporting backbone. It treats data quality, data security, data operations, and data implementation as core pillars, forming a governance structure that enables accountable performance assessment and reduces the extent to which any single tool determines governance outcomes. In its governance scheme, the book maps the relationships among data users, data types, and application scenarios. These scenarios include traffic operations and incident management, analysis and planning, model development and validation, and information services. This mapping presupposes clear boundaries of authority and authorization rules, thereby providing an institutional foundation for data sharing and reuse.

3.2 A Closed Loop for Quality Management and the Implementability of Standardization

For quality management, the authors construct a closed-loop process that begins with business needs. It proceeds through needs definition, information-environment analysis, governance and business-impact assessment, root-cause identification, and improvement plan formulation. Control measures then support both correction and prevention. By linking quality improvement to business consequences, the authors make improvement goals measurable and provide data-based grounds for accountability and continuous improvement. For security and standards implementation, the book emphasizes unified terminology and executable rules. It regulates data transfer through requirements on coverage rates and minimum data volumes, improving both comparability and compliance in cross-departmental exchange. The authors also propose an interoperability framework that connects institutional arrangements, including operating policies and procedures, demand definitions and use cases, implementation guidance, and collaboration agreements, with technical functions such as data exchange standards, asset catalogs, gap identification, and interface standardization. This integrated pathway supports stable exchanges across systems and data nodes and enables querying, responding, and business coordination through multiple exchange modes.

3.3 Domain-Segmented Architecture and Processing Pathways for Trusted Sharing

In its architectural discussion, the book proposes a data-center approach that separates public domains from trusted domains. Multi-source heterogeneous data enter the data center through access and transformation interfaces, and the system then supplies downstream functions such as data warehousing, search, business intelligence tools, and business applications. This design enables trusted connections across systems. The authors compare ETL and ELT processing pathways in cloud environments, arguing that each better fits different requirements such as batch processing versus analytical elasticity. They also stress that architecture selection should balance processing efficiency, system scalability, and governance costs. Overall, the book integrates quality, security, and architecture into a single governance loop and provides a holistic design logic for platform construction that spans accountability chains and technical support.

3.4 A Gradualist Approach to Building a National Freight Data Platform

The book extends the above framework to platform construction recommendations for China. It argues that the accuracy, timeliness, and completeness of freight data directly shape the scientific quality of demand assessment, network performance evaluation, and investment decision-making. Although China's infrastructure supply capacity continues to improve, persistent problems remain, including dispersed data resources, inconsistent statistical definitions, and unclear boundaries for sharing authorization. These issues constrain cross-modal and cross-regional coordination while hindering stable performance evaluation and accountability tracing. The authors propose that an intermodal-transport authority or coordinating body lead a national research initiative to specify platform objectives, service scope, and top-level architecture. This initiative should integrate existing information resources in rail, road, water transport, aviation, and pipelines and should advance interconnection and resource sharing. The platform architecture should cover physical elements of the transport system, freight elements, functional roles and business processes, data sources and freight-related datasets, model systems, data standards, and user interfaces with supporting documentation, thereby ensuring scalability and continuous evolution. The authors also recommend embedding data-governance rules into collaborative mechanisms. They call for unified terminology and classification systems, a freight data-source inventory, explicit accountability boundaries and audit requirements, and a tiered authorization system that balances openness and sharing with national security and commercial confidentiality.

For implementation, the authors emphasize an application-scenario-driven and gradualist pathway. They recommend initiating the program with one or two core decision scenarios to conduct baseline

data inventorying and gap analysis. The program should then expand from single-application coverage to multi-application coverage and finally to comprehensive coverage. In parallel, decision makers should evaluate centralized and distributed storage routes, improve compatibility and integration with existing architectures and industry standards, and avoid redundant construction. The authors further note that platform implementation requires coordination across technical compatibility, the policy scope of openness, cost constraints, and stakeholder collaboration. A phased implementation plan and supervision mechanisms should support long-term operation. To increase implementability, the book proposes strengthening guidance and oversight in areas such as architecture definition, component inventories, phased plans, participation agreements, gap analysis, data classification, and storage-route selection. It also stresses strict data privacy protection strategies and security audit mechanisms to mitigate data security risks, together with integration interfaces that connect to existing standards and systems to reduce duplication of investment.

Finally, the authors argue that platform implementation should include comprehensive cost–benefit accounting. This process should identify hidden costs such as efficiency losses and resource waste caused by data fragmentation, thereby determining priority application scenarios and data domains. The book recommends leading with unified terminology and standards, progressively improving interface specifications and data catalogs, and expanding the scope of sharing within a tiered authorization and audit framework. This approach can release the value of data as a factor of production while preserving controllability.

Implications

Overall, Research on Intermodal Data Governance in the United States offers value not merely by summarizing U.S. experience, but also by articulating a transferable analytical framework and an implementable pathway.

First, the book demonstrates strong systemic coherence. It begins with the institutional environment and organizational arrangements, proceeds to the identification and assessment of data needs, data organization and collection, performance indicators and survey methods, and ultimately concentrates on data quality management, data security, and interoperability architecture, before deriving policy recommendations for platform development. This analytical chain foregrounds the intrinsic linkage among institutions, organizations, and data, and it avoids reducing platform development to a narrowly construed digitalization project.

Second, the book provides methodological clarity. It presents the strategic assessment process for

data needs, the composition of data plans and responsibility mapping, and the alignment between performance indicators and functional objectives in stepwise, checklist-oriented forms, which facilitates reuse across regions and transport modes.

Third, the book emphasizes practical operability. It consistently attends to the economic feasibility of data collection, integration bottlenecks, and boundary conditions, while proposing rules such as minimum data-volume and coverage requirements, a closed-loop approach to quality management, and coordinated institutional–technical frameworks for interoperability. In doing so, it translates standards, security, and quality into enforceable managerial requirements.

Fourth, the book provides directly applicable guidance. Guided by public-sector decision needs, it develops a component architecture and a tiered implementation approach for a national freight data platform and offers recommendations for oversight and rollout. These contributions supply a workable reference for top-level design, clarification of responsibilities, and collaborative governance in China.

Fifth, the book exhibits notable integrative capacity. It places transportation planning, statistical indicators, survey techniques, data governance, and systems architecture within a single logical framework, thereby offering a shared language for cross-sector and interdepartmental coordination.

At the same time, the book leaves room for further development. The discussion adopts public-sector governance as its main axis, and it could deepen its analysis of incentive mechanisms for enterprise-side data collaboration, particularly regarding data rights, cost sharing, and benefit distribution among shippers, carriers, and platform operators. In addition, the cases and application scenarios largely address generic planning and management tasks; future work could test the adaptability of the proposed framework in more highly constrained contexts such as cold-chain logistics, hazardous materials transport, and cross-border intermodal services. Finally, the book could further elaborate how emerging technologies interface with governance mechanisms, for example privacy-preserving computation, trustworthy data sharing, and intelligent data-quality monitoring, in order to enrich the governance toolkit.

Conclusion

Research on Intermodal Data Governance in the United States connects scholarship on intermodal transport with scholarship on data governance. Its contribution lies not only in its systematic synthesis of U.S. practice, but also in the transferable analytical framework and implementation pathway that it provides. By integrating the institutional environment, organizational arrangements, data requirements, indicator-based evaluation, survey mechanisms, and a governance feedback loop into a coherent logic,

the book offers methodological support for public agencies seeking to advance collaborative governance in intermodal freight. The authors consistently foreground the economic feasibility of data collection, integration bottlenecks, and boundary conditions; they translate standards, security, and quality into operational rules; and they propose actionable recommendations on national-level platform architecture and phased implementation. The book also indicates that incentive-compatible mechanisms for public–private data collaboration and the incorporation of emerging technologies warrant further development. Overall, the book merits the attention of transportation authorities, researchers and practitioners in transportation planning and management, logistics scholars, and leaders responsible for data platforms and data governance, and it can provide both theoretical grounding and practical pathways for promoting the high-quality development of intermodal transport in China through data governance.

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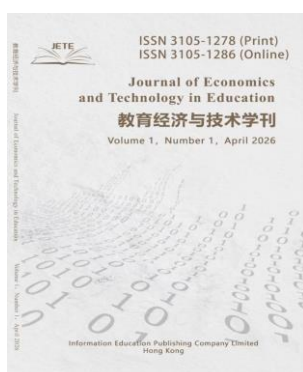
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A Review of Action Research on the Improvement of Junior High School Chinese Teachers' Teaching Literacy Under the Guidance of Educational Quality Evaluation

Wan Xinyi, Zhang Lianqiao

Abstract: The book “*Action Research on Improving the Teaching Literacy of Junior High School Chinese Teachers in Counties under the Guidance of Education Quality Evaluation*” is authored by Senior Teacher Xie Xia from the Teacher Development Center of Rugao City, Jiangsu Province. Its research results stem from the special project on teacher development under the 14th Five-Year Plan of Jiangsu Education Science, titled “Research on Strategies for Improving the Teaching Literacy of Rural Junior High School Chinese Teachers under the Reform of Education Quality Evaluation.” The article is based on the dual needs of the new-era education evaluation reform and balanced county education development, focusing on the practical difficulties in improving the teaching literacy of junior high school Chinese teachers in counties. It constructs a “four-dimensional integrated” literacy model covering teaching design, classroom implementation, evaluation feedback, and digital-intelligent teaching, along with 36 observable indicators. The paper systematically proposes a four-stage improvement path of “resource

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empowerment—practical honing—professional guidance—deep training,” innovates practical strategies such as the “two preparations, two researches, three reviews” resource development process, four-level teaching and research system, and “wild goose formation” echelon training, and leverages the “Zhihui Chinese” resource aggregation network for digital-intelligent empowerment. This effectively forms a virtuous cycle of “excellent teacher training—excellent teaching practice—excellent student outcomes,” providing scientific basis and operational guidelines for education administration to optimize teacher training programs, for schools to enhance the effectiveness of school-based teaching research, and for teachers to carry out personalized professional growth. The book fills a gap in research on the teaching literacy of specific subject teachers in counties under the context of education evaluation reform and has important academic reference and promotion significance for promoting balanced improvement in regional education quality.

Keywords: educational quality evaluation; county-level junior highschool Chinese; teachers’ teaching literacy; action research; teacher development

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标题:《教育质量评价导向下县域初中语文教师教学素养提升的行动研究》述评

摘要:《教育质量评价导向下县域初中语文教师教学素养提升的行动研究》是江苏省如皋市教师发展中心高级教师谢霞的著作，其研究成果源于江苏省教育科学“十四五”规划教师发展研究专项课题“教育质量评价改革导向下农村初中语文教师教学素养提升策略的研究”。该文章立足新时代教育评价改革与县域教育均衡发展的双重需求，聚焦县域初中语文教师教学素养提升的现实困境，构建了涵盖教学设计、课堂实施、评价反馈、数智化教学的“四维一体”素养模型及36项可观测指标。文中系统提出“资源赋予—实践锤炼—专业引领—深度研训”的四阶提升路径，创新“两备两研三审”资源开发流程、四级教研体系、“雁阵”式梯队研修等实践策略，并依托“至慧语文”资源聚合网实现数智化赋能，有效形成了“优师培养—优教实践—优学生成”的良性循环，为教育管理部门优化教师培训

方案、学校提升校本教研实效、教师开展个性化专业成长提供了科学依据与操作指南。全书填补了教育评价改革背景下县域特定学科教师素养研究的空白，对推动区域教育质量均衡提升具有重要的学术参考与推广意义。

关键词：教育质量评价；县域初中语文；教师教学素养；行动研究；教师发展

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Action Research on the Improvement of Teaching Literacy of County-level Junior High School Chinese Teachers Under the Guidance of Educational Quality Evaluation, authored by Xie Xia, takes the reform of educational quality evaluation as the contemporary background, focuses on the key group of county-level junior high school Chinese teachers, and provides a systematic solution for enhancing the teaching literacy of county-level Chinese teachers through a research approach that integrates theory with practice. It is an academic monograph characterized by profound theoretical depth and remarkable practical value.

Against the backdrop of the era's proposition of balanced urban and rural education development, this book breaks away from the "city-centered" research model for teacher development, takes root in the context of county-level education, and closely links evaluation orientation with teachers' professional growth. Its research findings not only offer a practical blueprint for the high-quality development of county-level Chinese education, but also hold significant reference value for the construction of the teaching workforce throughout the basic education stage.

1. Precise Positioning, Closely Targeting Key Points of Educational Reform in the Era

The core value of this book lies in its precise response to the dual demands of educational evaluation reform in the new era and the balanced development of education in counties. It is not only necessary to promote the high-quality development of urban education, but more importantly, to advance the synchronous development of county-level education and promote coordinated progress in "urban-rural integration." (Yang Xiao Wei, 2026, p. 25) The "Overall Plan for Deepening the Reform of Educational Evaluation in the New Era" clearly states: "We must reverse unscientific educational evaluation orientations, establish a teacher evaluation system guided by morality and ability, and eliminate the

evaluation methods of ‘only scores, only entrance examinations’” When these reform requirements are transmitted to county-level junior high school Chinese education, they face practical obstacles of “difficult policy implementation”—the county teacher group generally has outdated teaching concepts, scarce teaching and research resources, and lack of professional development pathways, making it difficult to quickly adapt to the new requirements of teacher teaching literacy imposed by evaluation reforms (Li Bao Hua, 2026, p. 12). At the same time, county education, as a key hub connecting urban and rural education, directly affects the achievement of the goal of balanced development in basic education. As the direct implementers of the Chinese curriculum reform, the teaching literacy of Chinese teachers directly determines the effectiveness of cultivating core literacy among students in counties.

Based on the research results of Jiangsu Province’s “14th Five-Year” plan for educational science, Xie Xia integrates the requirements of education quality evaluation reform with the implementation of county-level Chinese teaching, directly addressing the core issue of “how the evaluation pointer can be transformed into the driving force for literacy improvement.” (Xie Xia, 2024, p. 17) This research positioning not only aligns with the national education reform strategy but also precisely targets the practical difficulties of county education. Regarding research perspective, the book abandons the tendency in traditional teacher development studies to “emphasize theory over practice and cities over counties” and takes county-level junior high school Chinese teachers as the research object, tracking the whole process of teacher literacy improvement to make the research outcomes more realistic and effective.

The book clearly points out that the improvement of county-level Chinese teachers’ teaching literacy needs to break through the limitation of “pure skills training” (Xie Xia, 2024, p. 18) and establish a literacy training system that matches education quality evaluation. This viewpoint meets the academic need for deeper research into teacher professional development—existing studies mostly focus on urban teachers, while systematic action research for county-specific subject teachers is relatively scarce, especially research integrating education quality evaluation with teacher literacy improvement is even more rare. The research perspective of this book precisely fills the gap in this field. Furthermore, the book examines Chinese teaching literacy within the framework of education quality evaluation, emphasizing that evaluation is not only an “identification tool” but also a “pointer” serving a guiding role. This conceptual shift provides a completely new approach for the professional development of county teachers. (Xie Xia, 2024, p. 17)

2. Solid Theoretical Foundation and Operational Practice Path

2.1 Constructing a Scientific Literacy Evaluation Framework

In the book, the author constructs a “four-dimensional integrated” model of teaching literacy for junior high school Chinese teachers at the county level, transforming abstract literacy requirements into 36 visual indicators across 4 major categories. (Xie Xia, 2024, p. 17) Among them, “teaching design literacy” covers 8 indicators such as curriculum standard interpretation, textbook analysis, student situation assessment, and teaching objective setting, focusing on addressing the preliminary questions of what teachers should teach and how to teach; “classroom implementation literacy” includes 10 indicators such as classroom interaction, scenario creation, learning method guidance, and generative teaching, concentrating on teachers practical classroom teaching abilities; “evaluation and feedback literacy” involves 9 indicators including homework design, formative assessment, and the application of evaluation results, responding to the demand for “precise evaluation” in educational quality assessment reform; “digital and intelligent teaching literacy” encompasses 9 indicators such as the use of digital resources, smart classroom operation, and integration of online and offline teaching, aligning with the new competency demands for teachers in the digital era.

This model not only covers traditional competency dimensions such as teaching design and classroom teaching but also incorporates new era requirements like evaluation feedback and digital-intelligent teaching, forming a closed-loop training mechanism of “from diagnosis to cultivation to final proficiency.” Compared with traditional teacher literacy evaluation systems, the innovation of this model lies in its “county-level adaptability,” fully taking into account the limited teacher resources and relatively underdeveloped teaching conditions in counties. The indicator setting is both forward-looking and avoids the drawback of being “detached from reality and difficult to implement.” This approach of concretizing and quantifying core literacy solves the traditional problems of “vagueness” and “generality” in teacher literacy evaluation, providing standards for teachers’ self-diagnosis and professional growth as well as a basis for educational management departments to conduct teacher training and implement teacher evaluations.

2.2 Formulating a Systematic Strategy for Action Improvement

Based on the competency model, the book proposes a four-stage empowerment path of “Resource Allocation—Practice Refinement—Professional Guidance—Deep Research and Training,” demonstrating strong practical guidance. (Xie Xia, 2024, p. 18) At the resource allocation level, emphasis is placed on transforming curriculum standards into operable teaching scaffolds through the

“Two Preparations, Two Researches, Three Reviews” process. For example, the “Excellent Learning and Reflection Guided Learning Plan” in Rugao City, which has been iteratively developed over 23 years, is a typical practical outcome. This guided learning plan is not a simple “replication of lesson plans”; rather, it is tailored to the learning conditions of the students in the county, decomposing core Chinese literacy competencies into every lesson segment. This approach reduces teachers’ preparation burdens while ensuring the baseline of teaching quality.

At the practice level, a four-tier teaching and research system of “School-based Research—Collaborative Research—In-school Observation and Demonstration—Competitive Evaluation” is established, effectively addressing the practical dilemma of teachers’ lessons easily veering off track when taught individually. (Xie Xia, 2024, p. 18) School-based research focuses on the practical teaching problems of the school, collaborative research breaks down inter-school barriers to achieve resource sharing, in-school observation and demonstration enhances the effectiveness of teaching research through expert guidance, and competitive evaluation promotes research through competitions to motivate teachers’ intrinsic drive. These four levels are interconnected, forming a county-level teaching research ecosystem of “joint problem discussion, experience sharing, and co-creation of results.”

At the professional guidance level, platforms such as the “Zhishui Master Teacher Studio” implement echelon training through a “leading geese guiding, flock flying together” approach, (Xie Xia, 2024, p. 18), activating teachers’ intrinsic development momentum. The studio operates through a model of “mentoring by master teachers,” “project-led guidance,” and “result dissemination,” allowing key teachers to serve as exemplars while providing a growth platform for young teachers. This echelon cultivation model addresses the scarcity of master teacher resources in county areas and establishes a virtuous cycle of professional development for teachers.

At the level of digital intelligence empowerment, the “Zhihui Chinese” resource aggregation network is created to promote teachers’ transition from being “resource users” to “resource co-creators.” (Xie Xia, 2024, p. 18) This platform integrates high-quality Chinese teaching resources within the county, including micro-lesson videos, teaching designs, and homework question banks. Teachers can not only download and use resources but also upload their teaching outcomes. The platform encourages teacher participation in resource construction through point incentives and result evaluations. This “co-build and share” model effectively alleviates the difficulty county teachers face in accessing high-quality digital resources. At the same time, constructing a teacher teaching competence framework from the three aspects of digital education professional literacy, digital education practical literacy, and

humanistic literacy is more conducive to promoting the improvement of teachers' teaching competence. (Wang Xiaoqin, 2024, p. 52)

These strategies are not theoretical fantasies but stem from 23 years of continuous teaching research practice in Rugao City. The resulting virtuous cycle of “cultivating excellent teachers—implementing excellent teaching—producing excellent students” has been empirically validated: data shows that county-level junior high Chinese teachers participating in this research improved by more than 35% in teaching design and classroom assessment abilities, and the Chinese literacy assessment scores of their students were significantly higher than those of non-participating schools. This empirical result provides a replicable and promotable practical model for other counties.

3. Highlighted Research Value, Combining Academic and Practical Significance

3.1 Academic Value: Enriching the Theory System of Teacher Professional Development

The author, through a mixed research method, deeply integrates educational evaluation theory, teacher professional development theory, and Chinese language teaching practice, constructing a complete research framework of “evaluation-oriented—competency model—action path—effect verification,” (Xie Xia, 2024, p. 19) with the research methods reflecting academic rigor. During the research process, various methods such as literature review, survey research, action research, and case study are used. Through questionnaires, the current teaching competencies of county-level junior high school Chinese teachers are understood; action research is employed to explore competency enhancement paths; and case studies summarize generalizable experiences. The combination of multiple methods ensures the scientificity and reliability of research conclusions.

The new model of county-level teacher teaching competency structure proposed expands the contextual adaptability of teacher competency research (Xie Xia, 2024, p. 17), breaking the “one-size-fits-all” limitation of traditional teacher competency models, and provides empirical evidence for the rural education theory system. Meanwhile, the book explores new issues such as the “collaborative mechanism of teaching design and homework evaluation” and the “construction of a digital-intelligent teaching and research ecosystem,” responding to the new teacher competency requirements in the “Compulsory Education Chinese Curriculum Standards (2022 Edition),” and promoting the timely development of Chinese language education research. Additionally, this book applies the action research method to the study of county-level teacher competency enhancement, demonstrating the unique value of “researching in practice and for practice,” and providing an excellent model for conducting educational action research.

3.2 Practical Value: Supporting the Balanced Development of Education Quality in Counties

The main feature of the research results in this book is that they can directly serve county-level educational practice, with strong applicability and universality. The greatest fear for policies and strategies is being only partial; they are truly effective only if they can be integrated locally and adapted to the situations of various counties. It is not enough to achieve “comprehensive coverage”; one must also achieve “overall effectiveness” (Gu Qingchun, 2026, p. 67). The regional teaching and research model proposed in the book can provide references for educational management departments in formulating teacher training plans and optimizing resource allocation. The competency model can be used to develop teacher evaluation standards and training programs that match the realities of the county, avoiding “one-size-fits-all” and formalized teacher training. For schools, it can address the inefficiency of school-based training that lacks relevance. For individual teachers, competency indicators allow for self-assessment and help clarify personalized growth directions, especially assisting young teachers in identifying and addressing their shortcomings. (Xie Xia, 2024, p. 19)

The book emphasizes narrowing the urban-rural education gap through innovative teaching and research (Xie Xia, 2024, p. 19), which contributes to promoting educational equity. In the context of uneven distribution of urban and rural educational resources, the book does not simply stress “hardware insertion” but focuses on “software improvement,” activating the endogenous potential of county education by optimizing paths for improving teacher competencies. This idea of “precise policy implementation” provides a low-cost, high-efficiency solution for high-quality county education development. Moreover, the practical results can extend to other subjects, offering references for improving teacher competencies in other disciplines at the county level and promoting the overall development of basic education in counties.

4. Conclusion

Xie Xia’s “Action Research on Improving the Teaching Literacy of County-level Junior High School Chinese Language Teachers under the Guidance of Education Quality Evaluation” provides valuable academic achievements and practical guidance for the professional development of county-level Chinese language teachers in the new era through solid theoretical construction, systematic practical approaches, and abundant research results. The publication of this book not only fills the research gap on the literacy of county-level Chinese language teachers in the context of education evaluation reform, but also highlights the noble spirit of grassroots educational researchers who root themselves in practice

and solve problems. From a theoretical perspective, it broadens the research horizon of teacher professional development and enriches the theoretical system combining educational evaluation with teacher development; from a practical perspective, it provides operational paths and offers concrete and feasible action guidelines for county-level education management departments, schools, and teachers.

Of course, the book still has room for expansion. For example, the research sample is mainly concentrated in Rugao City, Jiangsu Province. If comparative studies including county regions with different economic development levels were further incorporated, the theoretical applicability could be more fully extended. Additionally, with the deep application of artificial intelligence technology in the field of education, future research could further explore the integration paths of artificial intelligence and the improvement of teaching literacy among county-level Chinese language teachers, making the research results more timely. Such improvements will greatly enrich the depth and practical value of this study.

Overall, for education researchers, county-level education administrators, and frontline Chinese language teachers, “Action Research on Improving the Teaching Literacy of County-level Junior High School Chinese Language Teachers under the Guidance of Education Quality Evaluation” is a work worthy of in-depth study. The research ideas and practical experiences it contains will continuously inject momentum into the high-quality development of county-level Chinese language education.

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