

# From Disciplinary Expertise to Teacher Identity: Rethinking Teacher Preparation in Research Universities

Linbei Li

Institute of Higher Education, Fudan University, Shanghai, China

---

**Abstract:** This conceptual paper reconfigures teacher preparation in research universities as a process of identity formation. Drawing on scholarship on teacher identity, teacher knowledge, school-based experience and reflective practice, it proposes that disciplinary expertise is a necessary but not sufficient foundation for becoming a teacher. Prospective teachers need to adjust their disciplinary knowledge according to the demands of learners and develop teaching judgement and a sense of responsibility. The three tensions of the change in identity are: disciplinary identity versus emerging teacher identity; high-achieving student identity versus novice teacher identity; and initial career attraction versus professional commitment. To help prospective teachers address the aforementioned problems, research universities can connect disciplinary study with long-term school-based practice, organised reflection, and participation in professional communities. Research universities, as the subject of this paper, have certain strengths in their disciplines, and more importantly, they also have the ability to inspire academically excellent students to take initiative in education.

**Keywords:** Teacher Identity, Pre-Service Teacher Education, Research Universities, Disciplinary Expertise, Professional Commitment.

---

## 1. Introduction

Teacher education in China has expanded beyond the special teacher-training institutions. A national policy in 2018 encouraged top comprehensive universities to participate in teacher preparation [1], and the national excellent primary and secondary school teacher training programme launched in 2023 requested that leading universities, especially Double First-Class universities, integrate advanced disciplinary study with teacher education courses and school-based practice [2]. As a result, research universities have begun to play an increasingly prominent role in the preparation of future teachers by providing disciplinary strength and academically excellent students. They have also posed the problem of how to integrate strong disciplinary training and high academic achievement with the professional requirements of teaching [3].

This transition involves more than adding teaching knowledge to disciplinary knowledge. Students at research universities may already consider themselves high-achieving learners, members of the disciplinary community, or prospective scholars. Teachers need to learn how students learn and be able to present this knowledge in a way that is understandable to students. Therefore, the transition will require reconstructing their conception of knowledge and ability, as well as their sense of profession.

The stakes of this transition are also not theoretical. When academically excellent graduates join the teaching staff but cannot apply their subject knowledge in a way that helps novice learners learn, the power of the discipline will remain a private possession rather than a shared resource for teaching. Understanding how prospective teachers negotiate this transformation, and how teacher education programmes can support it, therefore directly affects the design of research universities' curricula, the allocation of school placements, and the construction of mentoring relationships for this

growing group of prospective teachers.

Teacher identity serves as the analytical focus of this conceptual paper. Disciplinary knowledge is required but not sufficient for developing a pedagogical conception and a sense of professional responsibility. Teachers' identities in pre-service teacher education are examined, disciplinary expertise as both a resource and a source of tension is studied, three kinds of identity tensions are identified, and how research universities can help prospective teachers manage these tensions is discussed.

## 2. Teacher Identity as an Analytical Lens for Pre-service Teacher Education

Teacher identity refers to both what prospective teachers know and are capable of doing and how they perceive themselves in their teaching. Sachs shows that professional identity is formed by competing discourses of managerial and democratic professionalism [4]. Prospective teachers also bring their own prior knowledge of themselves, their subjects, and the work of teaching to teacher education.

Teacher identity is fluctuating and contextual. Beijaard, Meijer and Verloop describe it as continuously interpreted and reconstructed through experience [5], and Flores and Day focus on the influence of personal biography and institutional context [6]. Students at research universities show this tendency more clearly: long-term academic success over many years tends to foster a strong identity as high-achievers or members of a disciplinary community well before, and often independently of, any sense of self as teachers. Their teacher identity does not start from scratch; rather, it needs to be built in conjunction with, or even in opposition to, the existing identities.

Learning to teach thus involves negotiating existing self-concepts and new professional identities. Rodgers and Scott

have shown the connection between people's personal growth and their careers [7], while Akkerman and Meijer believe that teachers' sense of self is formed through continuous interaction at various stages [8]. Izadinia's study has also found that pre-service teachers' identities are formed through prior experiences, reflections, relationships and participation in teacher education and school environments [9]. Teacher training should therefore consider whether students have acquired pedagogical knowledge and classroom skills, as well as how they have grasped the purpose and responsibility of their work and developed an initial professional identity. Research universities have a particular problem: a strong sense of disciplinary identity does not automatically lead to the wish to become a teacher, and although it can provide support and intellectual resources, it may also limit how future teachers envision their own careers.

### **3. Disciplinary Expertise as a Resource and a Tension in Teacher Preparation**

Research universities are well-suited to provide prospective teachers with deep subject knowledge, analytical abilities and experience in disciplinary inquiry. These are the foundations for teaching, but they do not automatically equate to teaching ability. Shulman's division of subject-matter knowledge, pedagogical content knowledge and curricular knowledge indicates that knowing a subject is not the same as knowing how to present it to learners [10]. Therefore, prospective teachers need to learn how to organise disciplinary knowledge according to students' previous knowledge, common difficulties and learning needs.

Academically high-achieving students face this problem in a specific way. Although their education may have given them a sense of self and independence in thought, classroom teaching also requires other kinds of judgements, such as diagnosing learning difficulties, modifying explanations, arranging content logically, and accommodating different strengths among students. At the same time, one should be able to teach what one has learned.

A short example is as follows. A graduate in Mathematics can construct a proof fluently and explain the reasoning of this proof to a colleague in a few sentences. Teaching the basic concept to a class of sixteen-year-olds is a different matter: one needs to predict which steps will confuse the students, select representations that can help them learn abstractly, organise the sequence of ideas to find misunderstandings early, and adjust the speed according to the students' hesitant or incorrect answers.

Grossman, Hammerness and McDonald believe that the organisation of teacher education should be based on teaching practice rather than on a set of independent academic departments [11]. Research universities should thus create several occasions for students to turn subject knowledge into explanations, examples, questions, representations and learning tasks repeatedly. Disciplinary knowledge is still needed; however, in order to have educational value, it should aim for learners' comprehension and be combined with pedagogical judgement. Knowing how to teach is not the same as knowing what one is teaching; it also calls for a certain attitude and identity. It is unlikely to be achieved through a single methods course or a short practical training; like other parts of the development of identity discussed above, it generally requires multiple, guided attempts

throughout a programme and feedback that makes visible what cannot be learned from disciplinary expertise alone.

This redirection can also start in the disciplinary courses themselves, before prospective teachers enter dedicated teacher education modules. For example, in a literature seminar, the teacher can ask the students to produce their own readings of a text, anticipate two or three ways a first-time reader might misunderstand it, and explain why. A physics course may need to guide students in discovering everyday intuitions for counter-intuitive ideas through examples, and present standard derivations for more straightforward material. These tasks do not replace disciplinary rigour; rather, they expand it by requiring prospective teachers to learn how to treat other minds as serious objects of intellectual inquiry.

## **4. Three Identity Tensions in Becoming a Teacher**

To become teachers, prospective teachers need to adjust their identities that have been shaped by their studies in school. This negotiation is often more demanding in research universities, where disciplinary achievement strongly shapes students' sense of their own ability and future careers. The three tensions at the core are outlined below. These tensions can be understood through the dialogical view of identity mentioned above: prospective teachers hold multiple, sometimes conflicting, positions, such as disciplinary specialists, high-achieving students, novice practitioners, and future professionals, and they negotiate among these positions rather than adopting one wholesale [8]. Tension is therefore not necessarily a sign that something has gone wrong in preparation; it can be viewed as a normal attribute of identity development that teacher education either fails to address or actively supports.

### **4.1. Disciplinary Identity and Emerging Teacher Identity**

Many prospective teachers in research universities initially identify more strongly as members of a discipline than as educators. Their disciplinary knowledge is a necessary resource for teaching, and thus teachers need to select, organise and present this knowledge in various ways for different learners. There is a conflict between participation in the discipline and the responsibility to help others join it.

Their ideas of teaching are also based on their previous experiences as students. Lortie calls this an "apprenticeship of observation"; the next generation of teachers will study what effective teachers do for several years, but they will not know why [12]. Academically successful students may thus believe that good teaching is rich subject knowledge and clear explanations, and underestimate the need to understand students' thinking, predict misconceptions, and adapt teaching.

The formation of teacher identity should not be opposed to disciplinary identity but should instead be oriented towards student-centred goals. For instance, the teacher of history should consider whether the interpretation aligns with historical evidence and help students learn to judge based on evidence to form their own historical opinions. Disciplinary identity is pedagogically productive when expertise is used to support others' participation in the disciplinary ways of knowing.

## 4.2. High-achieving Learner Identity and Novice Teacher Identity

The first problem of tension is how to shift disciplinary knowledge for learners; the second is how future teachers understand competence and assess themselves. Students at research universities are more accustomed to showing their abilities through self-study, tests, research tasks and class discussions. Classroom teaching, however, requires a different foundation for judgement ability: prospective teachers need to consider the subject matter, students' answers, teaching speed and unforeseen circumstances at the same time. Therefore, their ability will be judged by how well they can learn and help others learn, not just by what they know.

This change may make the students used to academic success feel uneasy. They will feel inferior if they cannot express their thoughts, correct mistakes or lead the class. Therefore, new teachers need to be willing to face the unknown, readily accept criticism and adapt by redefining ability as context-aware judgement and responsiveness to learners.

Reflection can help new teachers view the problems as chances for learning. Walkington believes that before teaching, new teachers should consider what they believe and feel about teaching, and with the support of mentors, discover their own identities [13]. Through reflection, they can learn how their previous academic achievements have formed their expectations and integrate the strengths of their discipline with the relational and judgement-intensive requirements of teaching.

A prospective teacher who has always answered questions correctly and quickly, for example, may experience real discomfort the first time a class of thirty adolescents does not respond to a clear explanation, or when a well-prepared lesson unravels because students already hold a misconception that the plan did not anticipate. Based only on a person's own study results, they may feel disappointed and think they have failed. Interpreted as general attributes of learning to teach, however, they become material for reflection: evidence of students' thinking, the gap between lesson planning and classroom implementation, and the responsiveness required for effective teaching.

## 4.3. Initial Career Attraction and Professional Commitment

A third tension lies between an early attraction to teaching and a lasting commitment to it. In China, the national excellent primary and secondary school teacher training programme hopes to attract academically excellent students who are willing and able to study teaching [2]. Such initiatives can make teaching a more visible professional choice, but admission to a programme does not automatically imply a deep-seated interest in teaching or extended career plans as an educator.

Prospective teachers may enter for overlapping reasons, including subject interest, educational purpose, employment prospects, institutional opportunities, and uncertainty about other careers. These motives should not be reduced to a simple contrast between external and internal motivation. Research indicates that the initial motivation to become a teacher is related to one's perception of programme quality and classroom experience; teaching experience and teacher self-efficacy are associated with anticipated persistence in the profession [14]. These connections indicate that the initial

reasons for behaviour may not be permanent and are subject to changes through teacher training and teaching experience.

Students at research universities are more likely to retain this question because they have often seen multiple reasonable career paths and do not consider teaching to be a definite choice. School life offers guidance and reflection on how learning can better realise one's abilities, values and goals. Professional commitment should thus be understood as an informed identification with the work and responsibilities of teaching, rather than mere conformity to programme demands. Initial career attraction may open a pathway into teacher preparation, but professional identity develops through sustained participation in teaching.

## 5. Implications for Pre-service Teacher Education in Research Universities

If teacher preparation in research universities is viewed as identity formation rather than the addition of pedagogical skills to disciplinary knowledge, five elements of programme design follow.

Continuous, close-knit school-based experiences provide the foundation for this process. Gradually more difficult teaching tasks such as observation, tutoring, lesson analysis, etc., can help prospective teachers test their assumptions and gain experience in how students learn and use disciplinary knowledge in the classroom [15].

Disciplinary study should be combined with teaching work, and prospective teachers need to convert their subject knowledge into explanations, examples, questions, representations and learning tasks, and adjust these based on students' thinking [10, 11]. In practice, a paired assignment can be organised in which a disciplinary course and a teacher education course address the same content from two perspectives; prospective teachers first solve a problem or interpret a text at an advanced disciplinary level, and then redesign it as a lesson segment for a specific year group, providing pedagogical justifications for each choice based on expected student difficulties. Repeatedly appearing in the programme, such assignments make the transformation of knowledge for teaching an explicit and observable skill, rather than an implicit expectation for students to discover in their practice.

Organised reflection should be conducted at various times during practice through diaries, teaching stories, case discussions and other means. The above activities can help students reflect on how their studies have shaped their aspirations, understand difficulties in actual application, and reconsider the reasons for teaching [13].

Programme design should create a network of enduring connections among disciplinary faculty, teacher educators, school mentors, peers and prospective teachers [6, 8, 9, 15]. Mentors can provide practical examples and specific advice based on their professional experience to help prospective teachers solve work-related problems and show how to balance disciplinary integrity, curriculum requirements, and learners' needs in practice.

Research on the programme should be extended over time. Research universities can study how prospective teachers link disciplinary courses, teaching modules and school placements over time instead of evaluating them separately. An organised professional portfolio may contain lesson plans, analyses of students' misconceptions, mentor feedback, self-reflection comments and revisions to teaching plans. Regular portfolio

conferences can bring together teachers from different departments, teacher trainers, and school counsellors to guide students in self-exploration and discussion of their own qualities. Therefore, such an evaluation would not consider identity an inherent quality. It can record the development of professional judgement, the reasons for selecting teaching methods, responses based on students' learning outcomes, and adjustments to previous beliefs. Thus, the evaluation will help promote the coherence of the curriculum and allow new teachers to understand that teaching involves continuous integration of subject knowledge, teaching methods, and values.

Together, these arrangements show that the special contribution of research universities lies not only in the depth of their disciplines but also in their ability to help academically accomplished students turn that depth into educational responsibility.

## 6. Conclusion

Preparing prospective teachers in research universities involves more than adding pedagogical coursework and school-based practice to strong disciplinary programmes. The main problem is how to help high-achieving students move from learning for themselves to sharing what they have learned with others. From the perspective of teacher identity, this transition involves tensions between disciplinary and teacher identities, high-achieving student and novice teacher identities, and initial career attraction and professional commitment.

Research universities can offer this support by combining disciplinary depth with school practice, reflection and professional communities. The above arrangements can help prospective teachers turn academic confidence into teaching responsibility. As this paper is conceptual rather than empirical, its explanation of the three identity tensions and the ways in which teacher education can help prospective teachers navigate them should be viewed as a set of hypotheses for empirical investigation, not as proven results. Future research could compare different research universities, follow prospective teachers longitudinally from disciplinary study through induction into the profession, and examine how these tensions vary across disciplines. Such studies would help establish how widely the proposed framework applies and where it needs to be qualified or revised.

## ORCID

<https://orcid.org/0009-0006-2640-0792>

## References

- [1] Central Committee of the Communist Party of China, & State Council of the People's Republic of China. (2018). Opinions on comprehensively deepening the reform of teacher workforce development in the new era [Document No. Zhongfa (2018) 4] [in Chinese]. Ministry of Education of the People's Republic of China. (Accessed July 12, 2026).
- [2] Ministry of Education of the People's Republic of China. (2023). Opinions on implementing the National Excellent Primary and Secondary School Teacher Training Programme [Document No. Jiaoshi (2023) 5] [in Chinese]. Ministry of Education of the People's Republic of China. (Accessed July 12, 2026).
- [3] Zhang, J., & Lo, L. N. K. (2023). Exploring the integration of academic and pedagogic orientations: The road to the enhanced development of teacher education in high-level comprehensive universities [in Chinese]. *Educational Research*, 44(2), 150–159.
- [4] Sachs, J. (2001). Teacher professional identity: Competing discourses, competing outcomes. *Journal of Education Policy*, 16(2), 149–161. <https://doi.org/10.1080/02680930116819>
- [5] Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education*, 20(2), 107–128. <https://doi.org/10.1016/j.tate.2003.07.001>
- [6] Flores, M. A., & Day, C. (2006). Contexts which shape and reshape new teachers' identities: A multi-perspective study. *Teaching and Teacher Education*, 22(2), 219–232. <https://doi.org/10.1016/j.tate.2005.09.002>
- [7] Rodgers, C. R., & Scott, K. H. (2008). The development of the personal self and professional identity in learning to teach. In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (3rd ed., pp. 732–755). Routledge. <https://doi.org/10.4324/9780203938690-85>
- [8] Akkerman, S. F., & Meijer, P. C. (2011). A dialogical approach to conceptualizing teacher identity. *Teaching and Teacher Education*, 27(2), 308–319. <https://doi.org/10.1016/j.tate.2010.08.013>
- [9] Izadinia, M. (2013). A review of research on student teachers' professional identity. *British Educational Research Journal*, 39(4), 694–713. <https://doi.org/10.1080/01411926.2012.679614>
- [10] Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14. <https://doi.org/10.3102/0013189X015002004>
- [11] Grossman, P., Hammerness, K., & McDonald, M. (2009). Redefining teaching, re-imagining teacher education. *Teachers and Teaching: Theory and Practice*, 15(2), 273–289. <https://doi.org/10.1080/13540600902875340>
- [12] Lortie, D. C. (1975). *Schoolteacher: A sociological study*. University of Chicago Press.
- [13] Walkington, J. (2005). Becoming a teacher: Encouraging development of teacher identity through reflective practice. *Asia-Pacific Journal of Teacher Education*, 33(1), 53–64. <https://doi.org/10.1080/1359866052000341124>
- [14] Bruinsma, M., & Jansen, E. P. W. A. (2010). Is the motivation to become a teacher related to pre-service teachers' intentions to remain in the profession? *European Journal of Teacher Education*, 33(2), 185–200. <https://doi.org/10.1080/02619760903512927>
- [15] Zeichner, K. M. (2010). Rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *Journal of Teacher Education*, 61(1–2), 89–99. <https://doi.org/10.1177/0022487109347671>