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Collaboration: Exploring the path of novice teachers' growth in teaching and research activities

Chenyi Ruan[1], Zhuoyi Cheng [2]

[1] College of Education, Zhejiang Normal University, Jinhua 321004, China
[2] College of Chemistry and Materials Science, Zhejiang Normal University, Jinhua 321004, China

Abstract: For novice teachers, collaborative teaching and research activities are an important way to enhance their professionalism and realize their aspirations as teachers. In diverse collaborative teaching and research activities such as teacher-apprentice systems and group listening and evaluation, teachers are able to find their own breakthroughs in imitation, practice and reflection, shaking off the pain of identity change in a short time and moving towards the goal of teacher excellence. However, existing collaborative teaching and research activities are generally characterized by formalism, lack of teacher initiative and utilitarian outcomes, which hinder the development of novice teachers. Therefore, based on the above background, this paper proposes an effective path for novice teachers to achieve growth in collaborative teaching and research activities from two dimensions: extrapolation and endogenization, with the aim of using teachers' endogenous motivation as the source and efficient and diverse collaborative teaching and research activities as a scaffold to help novice teachers achieve growth and transformation.

Keywords: Collaboration; Teaching and research; Teacher professional development.

1. Introduction

In the report of the 20th Party Congress, education, science and technology and talent were deployed as one for the first time, pointing out that the whole Party should focus on promoting the high-quality development of basic education in the new era, fully reflecting the high importance it attaches to the development of education and putting forward higher requirements for the professionalism of teachers. However, as new blood in schools and other educational institutions, novice teachers are removed from the theoretical teaching environment of universities at the beginning of their careers, causing them to experience severe pain when they are put into real teaching practice. If this pain is not 'treated' in a timely and effective manner, it will gradually erode the educational aspirations and professional identity of novice teachers, to the detriment of the long-term enhancement of their teaching professionalism. In fact, novice teachers do not need to 'go it alone' and close themselves off from their teaching dilemmas, but can use a variety of teaching and research activities to collaborate with experienced 'veteran' teachers, thinking through exchanges and working together in mutual support, in an effort to break through We can use a wide range of teaching and research activities to collaborate with experienced teachers, to think through exchanges, to make progress together, to break through bottlenecks, to find our own path to professional development, and to be "different".

2. What makes collaborative teaching and research activities successful for novice teachers

2.1. Mentor-apprentice pairing, growing through mutual support

Mentor-apprentice pairs are also commonly referred to as young teacher mentoring.[1]The aim is to help the novice teacher adapt to a tight teaching schedule in as short a time as possible and to develop the ability to handle classroom tasks independently. Not only the new teachers, but also the author was assigned a mentor during her apprenticeship. This master first assigned me simple tasks such as correcting homework and managing the class lunch break, and allowed me to follow the class throughout and observe the whole process of its lessons. Immediately afterwards, she and I discussed the content and presentation of the lessons during the apprenticeship, and the overall pace of the teaching was very fast. This model largely 'forced' me to get to grips with the work of a frontline primary school teacher in a short space of time, and I was able to gain experience in teaching a large number of the master's home lessons.

In addition to the one-to-one mentor-apprentice system, there are now a number of 'one-teacher-multi-apprentice' systems based on the master teacher workshops. The Master Teacher Studio takes the lead in selecting the best young teachers in the city, and the Master Teacher in the studio will work with the selected teachers to form a teaching and research team to carry out a series of subsequent teaching and research projects. The topics studied by this new collaborative are often based on the textbook, but are far above it, seemingly out of the norm, but with a unique and innovative twist

2.2. Listening and evaluating courses to improve through communication

The classroom, as the 'real battlefield' for teachers, is the best place to test their 'real' teaching skills and provides an excellent opportunity for teachers to engage with each other and make progress together. Whether it is a home class or an open class, listening and evaluating lessons is a common collaborative activity in primary and secondary schools in China, and is closely related to teachers' daily practice. For new teachers, listening to and evaluating lessons is an important part of the process of reflection and self-improvement through a variety of evaluations, which cannot be ignored. In most cases, the complete process of listening to and evaluating a lesson consists of three main parts: listening - speaking - and evaluating.[2] How novice teachers

make the most of this series of activities deserves an in-depth analysis.

Firstly, in the listening session, novice teachers have a dual role in that they need to listen to other teachers as well as getting used to other teachers coming to their own lessons. The tabooest aspect of the listening session for novice teachers is to treat it as a compulsory school task, to treat it perfunctorily and to do so-called business while listening to the lesson. Such novice teachers often overestimate their own abilities and do not bother to listen carefully to what other teachers are teaching. Ultimately, this is a blindly confident, closed-door mentality that prevents them from glimpsing their own shortcomings in their interactions with others and keeps them in place within their own teaching comfort zone, making it difficult to make a breakthrough.

In this article, the author will offer some practical advice from the perspective of the novice teacher as a lecturer. Before listening to a lesson, teachers should familiarise themselves with the corresponding textbook and think about how they would design the lesson if they were teaching it. In addition, as a 'bystander' in the classroom, the listener has a more comprehensive view of the classroom.[3] They can also take advantage of this to focus on different students. If there are students whose performance is of particular interest to you, you can record it in time, and it may become an entry point for future research.

The next part of the lesson is the elaboration and commentary of the lesson leader on his or her design ideas and implementation process, which is actually a process of self-explanation, self-evaluation and self-reflection.[4] This is a process of self-explanation, self-evaluation and self-reflection, which makes the subsequent evaluation session more focused. The evaluation process is an important way for teachers to use evaluation to diagnose and improve their teaching, and it is therefore particularly important to develop novice teachers' evaluation skills. On the one hand, novice teachers need to have a strong sense of evaluation as part of their daily teaching activities, which is a prerequisite for forming evaluation habits and improving evaluation skills. In addition, teachers should have a good grasp of the body of assessment knowledge, such as the establishment of assessment objectives and the presentation of assessment results, and everyday collaborative listening and assessment activities are an important way of arming this knowledge. On the other hand, novice teachers should also actively take advantage of opportunities to evaluate lessons and develop their ability to apply their evaluation knowledge in practice. Effective lesson evaluation not only helps teachers to better understand what their students are listening to, but also provides an opportunity to reflect on and improve their own teaching practices.

2.3. Public lectures, transformation in practice

For novice teachers, the open class is a hurdle that cannot be overcome. As a basic form of competition, open lessons are often highly valued by schools at all levels. However, under some deformed evaluation systems, a small number of open lessons are reduced to 'performance lessons' or 'vase lessons', in which the students are not the subject of the lesson, but the teacher's supporting role.[5] Students are not the main subject in the classroom, but rather the supporting role of the teacher. Novice teachers tend to shy away from open lessons because of their inexperience in teaching, and therefore tend to work alone in the preparation stage, writing very detailed lesson plans. In reality, however, novice teachers should make full use of the wisdom of their teaching and research teams to go through the process of 'finding problems - improving them - perfecting the classroom'. In trial lessons on platforms such as Homework, teachers from the teaching and research team are able to identify problems from different perspectives, point novice teachers in the direction of solving them and, with the strength of the team, polish the lesson to make it a "good lesson that can be decently publicised". The experience gained by the novice teachers in these open lessons is also a strong guide to the more common lessons.

3. The disorientation of novice teachers in collaborative teaching and research activities

3.1. Lack of initiative

The author's interviews with frontline teachers revealed that novice teachers currently lack a comprehensive understanding of collaborative teaching and research activities, are not sufficiently proactive and may even be resistant to them. New teachers are in the throes of changing from student to teacher status and are blindly confident in what they have learnt at university, preferring to work on their own and ignoring the valuable opportunities provided by the school for group workshops. On the other hand, some novice teachers are often reluctant to consult experienced teachers out of a desire not to bother others. This collaborative approach to teaching and research is not a one-way flow of experience, but a platform for each participant to think deeply and make progress together. In general, novice teachers still maintain the inertia of their student learning styles, fail to adapt to their new roles in teacher work settings in a timely manner, and neglect the importance of collaborative teacher teaching and research.

3.2. Formalization

Faced with a wide range of teaching and research activities, novice teachers generally regarded them as a task that had to be completed, and were content to complete formal and superficial tasks without thinking deeply about them. An experienced teacher once told me that novice teachers often borrowed the format and content of their notebooks from the Internet when listening to and evaluating lessons. This suggests that they did not really follow the lecturer's ideas during the listening session, but saw it as a task to turn in and spent a very small amount of time after the lesson, hastily coping with it. In addition, in the lesson evaluation session, the novice teachers' comments were mostly empty and clichéd, with a strong sense of boilerplate, and did not offer constructive comments specific to the lesson.

They do not see collaborative teaching and research activities at work as valuable opportunities for their own growth, but rather as "homework" that needs to be turned in, and naturally do not invest their efforts in the relevant activities. Over time, it is difficult to make significant progress.

3.3. Meritocracy of results

In collaborative teaching and research activities, there are result-oriented activities such as open classes. Some novice teachers will blindly pursue the accolades behind these activities, neglecting the accumulation of daily work, putting the cart before the horse, as the saying goes. The more

utilitarian you are, the more mysterious the world becomes to you, and this is also true in teaching. A teacher who places too much emphasis on accolades and awards will gradually lose the original intent of her work in education and become lost. If teachers are able to complete their daily tasks with quality and quantity, and are diligent in their thinking and recording, then the so-called 'results' are just a matter of time and do not require too much effort to force them.

4. Pathways for novice teachers to engage in teaching and research activities in a collaborative perspective

4.1. Extrapolation strategies for novice teachers to participate effectively in teaching and research activities

4.1.1. Understand real needs and avoid formalism

Most of the teaching and research activities carried out in many schools nowadays are a continuation of tradition, and there is no significant difference between the activities carried out in schools a decade or so ago, lacking in topicality and sophistication.[6] In addition, the demands of teachers in the process of professional development have been ignored, greatly weakening the effectiveness of teaching and research activities and hindering the professional growth and continuous development of teachers.

Therefore, in order to solve the problem of the discrepancy between teaching and research activities and teachers' demands, schools can make use of the opportunity of recruiting new teachers to understand teachers' demands and ideas on professional growth through interviews and other means, and use this as a certain basis to continuously optimise the existing teaching and research activities in the school and add some collaborative teaching and research activities that fit the theme of the times and have practical value. In the primary school where I work, the theme of "A Cup of Tea" was developed at the suggestion of the novice teachers, which actually has some similarities with the corporate culture of top companies such as Huawei. At Huawei, employees can use coffee vouchers to invite a senior member of the company or even a team to discuss a problem or solve a question over a cup of coffee. This form of collaboration is relatively more egalitarian and the boundaries between top and bottom are not very clear. Some newcomers to the industry have more opportunities to interact with the industry's elite and are free to explore their own areas of interest.

Likewise, the 'cup of tea' programme in the school has broadened the scope of communication between novice teachers, using the light-hearted theme of 'afternoon tea' as a key to deeper communication between teachers. In addition, the invitation process allows novice teachers to think about the direction of their professional development and further enhances their motivation in collaborative teaching and research activities.

4.1.2. Providing equal opportunities for all-round development

For novice teachers, without parity of opportunity, it is difficult to call it an ideal teaching activity. The famous Swedish educationalist pointed out that parity in educational activities should be reflected in three aspects: parity of starting point, parity of process and parity of outcome. Similarly, the parity of teachers' participation in teaching and research activities should also be reflected in these three aspects. Firstly, there should be parity in the starting point of teaching and research activities. Schools should not have a 'discriminatory' mentality towards novice teachers by not providing them with opportunities to participate in various teaching and research activities because of their lack of experience. The diversity of teaching and research activities is a platform for novice teachers to experiment and polish themselves, and it is perfectly normal for them to make some initial mistakes or experience some failures. However, if schools are not willing to bear the cost of trial and error for novice teachers, they will not be able to exercise their boldness and strengths and will not be able to become outstanding teachers. In addition, we should provide a variety of teaching and research opportunities to meet the professional development needs of teachers at different levels and to optimise their development. For example, we can introduce a mentorship system for novice teachers, and an experiential teaching and research programme for young teachers. Next, in the process of teaching and research, units at all levels can follow the general trend towards educational parity and call on quality resources to provide novice teachers with similar teaching and research conditions, equipment and mentoring capacity. Finally, there is parity in the outcomes of teaching and research activities, i.e. ensuring that novice teachers are given the same opportunities for professional development as other teachers.

4.1.3. Carry out cooperative teaching and research to enhance professional quality

For novice teachers, in addition to the traditional "teacher-apprentice system" and "year group preparation", a more popular way of teaching and research in recent years has been the "master teacher studio teaching system". But for novice teachers, the power of a master is, after all, limited, and some "masters" are often limited to their own accumulated teaching experience, not able to keep up with the times, unable to break out of the books for appropriate extension. The author himself once participated in a teaching and research activity at the Jindong Experimental Primary School, where the lead teacher was a member of the teaching and research team formed by the Jinhua Master Teacher Studio. The theme of the study was "Teaching Division of Fractions in a Unified Perspective". Unlike the traditional teaching mode of teaching three types of fraction division in two lessons, the team chose to integrate two lessons with similar content and structure into one lesson by means of students' independent investigation of arithmetic and induction of algorithms, and made the practical application of the three types of fraction division in life the content of the second lesson. In this type of teaching and research activity, novice teachers are able to quickly break free from the constraints of traditional teaching thinking and, under the leadership of a master teacher, take the initiative to explore the possibilities of curriculum content integration and different teaching methods. This is not a one-way process in which the master teachers export, but rather a win-win situation in which they interact with each other and make progress together. The master teacher is able to draw on his or her extensive experience to provide valuable research directions, while the novice teacher is able to make full use of the advanced theories he or she has learned and the ample opportunities for practice to extend the theories and validate them in practice.

4.2. Endogenous strategies for novice teachers to participate effectively in teaching and research activities

4.2.1. Diligently reflect on self-reflection and establish professional ideals

In short, a teacher's professional aspiration is the impact he or she wishes to have on students and the field of education as a whole as a mature educator, an endogenous drive for continuous improvement. In the Warring States period, Xunzi combined 'self-reflection' and 'learning' to form a virtuous cycle of 'knowledge and action', and Posner also placed great importance on teacher reflection, proposing 'experience + learning'. Posner also placed great importance on teacher reflection, proposing a formula for teacher growth of 'experience + reflection = growth'.[7] However, the professional aspirations of teachers are not always the same. However, teachers' professional ideals cannot be formed overnight, and cannot be achieved without the accumulation of reflection and introspection based on their educational practice.

Therefore, in collaborative teaching and research activities, novice teachers need to be diligent in their thinking while actively participating in practice, expressing their views in a timely manner, communicating actively with the rest of the teachers and colliding with their thinking. These practical and communicative experiences can provide ample material for the subsequent reflection sessions. Novice teachers can use self-reflection as an opportunity to analyse themselves comprehensively, to think deeply about the theories and assumptions behind their teaching activities, and to be able to articulate existing problems. This process not only helps novice teachers to sort out their own ideas for professional development, but also helps them to better apply their own personalised educational philosophy to their teaching practice.

4.2.2. adept at lifelong learning and developing a professional self

It should be clear that a good teacher is first and foremost a person with a unique personality who knows how to use the 'self' as an effective tool for teaching. In today's digital world, one of the most important characteristics that distinguishes physical teachers from digital teachers is their strong sense of autonomy and motivation, and their ability to have full control over the content of their teaching and the teaching and research activities in which they are involved.

In this context, it is not enough for novice teachers to be satisfied with simply delivering a regular lesson, as the mechanised mode of delivery is likely to be merged and replaced by areas such as artificial intelligence in the future. Novice teachers therefore need to develop a sense of lifelong learning, combining self-directed professional development programmes with collaborative teaching and research activities. In this way, teachers will be able to grow autonomously as well as reach breakthroughs and leaps in collaboration, always keeping themselves alive and competitive in the field of education.

5. Conclusion

For novice teachers, collaborative teaching and research activities can help them adapt quickly to teaching and significantly improve their teacher training skills in a short period of time. However, as things stand, collaborative teaching and research activities in China generally suffer from a lack of formality and an over-emphasis on teaching and research outcomes, which stifle the creativity of new teachers. In response to the above phenomenon, the author divides the strategies for novice teachers to participate in collaborative teaching and research activities into two models: endogenous and extrapolative, which, on the one hand, enable teachers to better define their own teacher ideals and teaching orientations in self-reflection, and on the other hand, enable them to give full play to the advantages of multi-directional interaction during collaboration, and to make continuous progress in such benign communication and mutual assistance.

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