

An Inquiry Into the Cultivation of Teachers' Critical Thinking in Teacher Education and Teacher Professional Development Projects

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Abstract

Teacher education and teacher professional development programs often focus on the reinforcement of explicit knowledge, ignoring the improvement of implicit ability, such as critical thinking ability. There should not only be a course titled 'How to develop critical thinking', but critical thinking education should be integrated throughout teacher education or development programs. This paper tries to define a teacher's critical thinking in pedagogical behaviors from the perspective of the role of being a teacher and clarify the connotation of a teacher's critical thinking ability in his/her pedagogical work, which encompasses a multitude of essential elements, including thinking carefully, determining wisely and reflecting rationally. Corresponding initiatives are incorporated by means of cultivation of the awareness of critical thinking ability, development of critical thinking skills that permeate all aspects of the curriculum and revision of the syllabus and implementation process of training courses through evaluation and feedback.

Key words: Teachers' critical thinking; Teacher education or professional development programs; Connotation of a teacher's critical thinking ability

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1. INTRODUCTION

The key of educational reform lies in teachers, and an important way to promote teacher professional development is through teacher education and teacher professional development projects. Teacher education in this paper specifically refers to the professional training of pre-service teachers, and teacher professional development refers to the development projects aimed at improving the professional knowledge and practical skills of in-service teachers. After teachers are employed into their pedagogical career, their initiative and self-professional judgment play a key role in whether they can carry out pedagogical initiatives in the real sense to accomplish pedagogical objectives. In this respect, how to train teachers with initiative and self-professional judgment is a problem that needs to be discussed. It is a truism to say that teachers' critical thinking ability plays an overarching role in teachers' initiative and self-professional judgment.

In this paper I argue that in the training of teachers' initiative and self-professional judgment, the cultivation of teachers' critical thinking ability should be emphasized. I begin my argument by noting that in teacher education or teacher professional development programs, there should not only be a course titled 'How to develop critical thinking', but critical thinking education should be integrated throughout teacher education or development programs. In a similar vein, the training of critical thinking is not a stand-alone course requiring participants to pass but a movement encouraging widespread instruction across the curriculum. Put more formally, participants in teacher education or teacher professional development programs should be able to develop their critical thinking skills to a sufficiently high level of expertise to become better critical thinkers as well as better teachers.

2. DEFINITION OF CRITICAL THINKING AND TEACHERS' CRITICAL THINKING

There are, of course, various definitions or explanations about what critical thinking is. Paul Green's account connects it with the capacity to make good decisions based on relevant evidence (Martin & Ronald, 2015). He listed the following definitions (all cited in Hatcher 2000) in his essay: "reasonable, reflective thinking about what to do and believe" (Ennis, 1962), "being appropriately moved by reasons" (Siegel, 1988), "skillful, responsible thinking that facilitates good judgment because it 1) relies on criteria, 2) is self-correcting and 3) is sensitive to context" (Lipman, 1988), and 4) "thinking that attempts to arrive at a judgment only after honestly evaluating alternatives with respect to available evidence and arguments" (Hatcher and Spencer, 2000).

To be specific, teachers' critical thinking is broadly embodied in pedagogical behaviors. This paper tries to define a teacher's critical thinking in pedagogical behaviors from the perspective of the role of being a teacher. A teacher plays a significant role in education, which is embodied in such aspects as being a disseminator of knowledge, a model to shape students values and outlook on life and influence formation of students' initial professional ethic and aspiration, as well as an engineer of reshaping human souls. The quality of teachers' pedagogical work relates to the level of intelligent, scholastic, physical and mental development of a younger generation and the degree of improvement of the whole national quality. Given the aforementioned elaboration, the role of a teacher is not only to impart knowledge to students, but to promote the growth of students by adopting specific teaching methods in specific environment and through specific ways, according to the extensive development of students and educational objectives and requirements.

For all aspects of a teacher's role in pedagogical work, the development of a teacher's critical thinking can be described as a dynamic and cognitive process, whereby educators actively engage in the thoughtful examination, integration, and assessment of information acquired through keen observation and extensive experience within the realm of pedagogical practice. This multifaceted approach empowers teachers to delve into the depths of their knowledge reservoirs, skillfully analyzing various perspectives, synthesizing diverse ideas, and meticulously evaluating data with utmost rationality. By employing this intellectual prowess, educators are able to navigate through complex educational landscapes with precision and finesse while making informed decisions that positively impact student learning outcomes. In daily pedagogical work, teachers should neither over-rely on the authority of experts, nor blindly copy the existing theories, but should, explore, discriminate and judge, starting from the reality. A teacher's critical thinking,

from this perspective, is independent thinking with which one dares to question and is good at analysis and verbal judgment within the scope of his/her pedagogical career.

3. DESCRIPTION AND ANALYSIS OF THE ISSUE

Chen Xiangming (2003) differentiated a teacher's knowledge into two categories, theoretical knowledge and practical knowledge, according to the different ways of their actual existence. The former is usually in an explicit state, which can be shared by teachers and professional theorists. It is the part of the iceberg of a teacher's knowledge that emerges from the surface, and it is expressible and easy to grasp. The latter is usually in an implicit state, based on a teacher's personal experience and personality characteristics, embedded in a teacher's daily teaching situations and actions, deep in the lower part of the knowledge iceberg. Practical knowledge, which incorporates one's educational belief, self-knowledge, interpersonal knowledge, situational knowledge, strategic knowledge and critical reflection knowledge, is often difficult to grasp because of its hidden, non-systematic, silent features. However, teacher education and teacher professional development programs often focus on the reinforcement of explicit knowledge, ignoring the improvement of implicit ability, such as critical thinking ability. Even if it existed, it would only be a stand-alone course rather than a long-lasting movement throughout the education or the program.

3.1 Description

Some related studies have stated that there is a significant correlation between critical thinking disposition and the effectiveness of classroom teaching. To be specific, it can be indicated that the critical thinking dispositions of college EFL teachers is a significant predictor of effective classroom teaching and that it is crucial to develop college EFL teachers' critical thinking disposition (Fu & Cai, 2021). Given the significant correlation between critical thinking ability and classroom effectiveness and education effectiveness in teacher education and teaching, the quality of critical thinking of participating teachers in teacher education and teacher professional development projects is an important indicator to improve the effectiveness of classroom teaching.

In view of the significant correlation between critical thinking ability and classroom effectiveness and pedagogical effectiveness in teacher education and teaching, it can be seen that the quality of critical thinking of teachers participating in teacher education and teacher professional development projects, to a great extent, depends on people's understanding and cultivation of participating teachers' critical thinking. Therefore, there should not only be a stand-alone course but a long-lasting implementation of cultivation of critical thinking for

participating teachers throughout the whole educational program for teachers.

3.2 Analysis of the issue

In the analysis of the specific issue, the key elements incorporated in the issue should be thoroughly elaborated. In order to implement the cultivation of participating teachers in a professional project gradually and consistently, we should clarify the connotation of a teacher's critical thinking ability in his/her pedagogical work. On this basis, the critical thinking of teachers in teacher education and teacher professional development projects encompasses a multitude of essential elements, including thinking carefully, determining wisely and reflecting rationally.

3.2.1 Thinking carefully

When confronted with the intricate realm of educational and pedagogical theories, it is imperative for educators to delve deeply into their understanding of them. They always try their best to grasp the core principles through practical application rather than resorting to mere replication or total imitation. Instead, they will embrace a critical mindset that allows them to discern and accept ideas based on thoughtful analysis.

3.2.2 Determining wisely

Within the context of educational practice, teachers should exercise astute judgment when making decisions pertaining to instruction based on the actual needs of their pedagogical work. It is crucial for them to distinguish between various approaches wisely and evaluate their effectiveness accordingly. By doing so, they can intelligently reform and enhance their teaching methods in alignment with the ever-evolving needs of students.

3.2.3 Reflecting rationally

Critical-thinking educators are always trying to engage in ongoing professional development opportunities that enable them to stay abreast with emerging research findings and innovative pedagogical practices after recognizing the significance of continuous self-reflection and improvement throughout their careers. By constantly refining their skills through reflective practice, teachers ensure that they remain effective facilitators who adapt seamlessly to evolving educational landscapes. They reflect on educational and pedagogical behaviors, form awareness and action conducive to the virtuous circle of education and teaching, and achieve the unity of knowledge and practice.

In conclusion, cultivating critical thinking among teachers is of great significance in both teacher education programs and professional development initiatives alike. Through deep understanding rather than superficial imitation, wise decision-making grounded in sound judgment, nurturing independent thought among participants in teacher education while promoting intellectual growth alongside personal reflection are all

vital components that contribute towards enriching the field of education as a whole.

4. A PRACTICAL INQUIRY INTO THE CULTIVATION OF CRITICAL THINKING ABILITY IN TEACHER EDUCATION AND TEACHER PROFESSIONAL DEVELOPMENT PROJECTS

Based on the various components of this issue mentioned above, in teacher education and teacher professional development projects that provide training to help teachers improve their pedagogical methods, corresponding training programs should be formulated with the goal of promoting the development of the above elements, whether it is for pre-service teachers or in-service teachers. First of all, in teacher education and teacher professional development projects, the goal of critical thinking training throughout the course is set for participating teachers, specific training implementation plans are formulated, and detailed evaluation and feedback systems are set up and timely revised.

4.1 Cultivation of the awareness of critical thinking ability

The key point in promoting teachers' pedagogical capacity lies in the cultivation of teachers' critical thinking ability. To cultivate learners' critical thinking, the prerequisite is that teachers should have a certain critical spirit and understand well the connotation, characteristics, significance and general training methods of critical thinking. If a teacher is accustomed to conventionally reading from the book lacking originality or individuality, never forms his/her own opinions and thoughts, has no in-depth thinking about the text, has no vigilance and questioning of stereotypes, and lacks the attitude and ability of concrete analysis of things, it is impossible to talk about the cultivation of his/her own students' critical thinking. Therefore, first of all, it is imperative for educators to raise their own awareness of critical thinking ability by engaging in extensive and profound reading of various literature materials and books that pertain to critical thinking. By immersing themselves in these resources, teachers can broaden their knowledge base and gain a deeper understanding of the subject matter.

4.1.1 Introspection

Participants teachers should actively contemplate their own teaching practices on the basis of the theoretical concepts concerning critical thinking. This introspective process allows them to critically evaluate their pedagogical methods, identify potential areas for improvement, and develop innovative strategies that foster critical thinking skills among their students.

4.1.2 Internalization

It is not enough for teachers to simply acquire theoretical knowledge. Furthermore, they must internalize the essence of critical thinking within their own perception and cognition. This means embracing its principles wholeheartedly and allowing them to permeate every aspect of their being. To truly embody the spirit of critical thinking, educators need to integrate it into their very core – as if it were flowing through their veins. By doing so, they will be able to authentically model this mindset for their own students and inspire them towards independent thought and analysis.

4.1.3 Implementation

Every attempt in implementation or practice is integral to the application of a theory or concept into practice. In such attempts, teachers must always maintain their awareness and aspiration of keeping actively implementing what they have learned about critical thinking in the classroom setting regardless of the possible or hidden obstacles or setbacks in a pedagogical process. In the process of cultivation of the awareness of critical thinking ability of the participant teachers, they should encourage the awareness of setting open dialogues, asking thought-provoking questions, providing opportunities for problem-solving activities, and promoting analytical reasoning.

In conclusion, by engaging in extensive reading on critical thinking topics and introspecting while reflecting on personal teaching practices with an aim to internalize its principles fully before implementing them in classrooms - educators can create a rich learning environment that nurtures independent thinkers who are capable of applying critical analysis skills effectively throughout life's challenges.

4.2 Development of critical thinking skills that permeate all aspects of the curriculum

Having got a correct and elaborate understanding of cultivation of critical thinking, if one can not persevere in practice, the implementation of critical thinking will be difficult, or the effect will be extremely limited. Of course, it is a truism to say that critical thinking training needs a specially set course, which is specially designed and developed for cultivating critical thinking. Such understanding and concepts help deepen teacher participants' understanding and knowledge of critical thinking, but at the same time narrow its coming into being. The reason is that the cultivation of critical thinking is not only explicitly manifested in specially set courses, but also implicitly hidden in every link of daily teaching activities.

4.2.1 Penetration based on subject teaching or thematic learning

The cultivation of critical thinking in participating teachers can be penetrated in the process of subject teaching or thematic learning, where the main forms of learning are

reading and writing, and the cultivation of critical thinking is from time to time realized in the form of speculative reading and writing. Speculative thinking in reading and writing is not a special way of learning, but it is in reading and writing that speculation actually can happen. Instead of merely believing ready-made statements, one learns to construct their own knowledge. At the same time, learners with critical thinking are not satisfied with the information and knowledge obtained, but learn to discriminate, judge and evaluate them themselves.

4.2.2 Impartation based on the professional knowledge and skills of experts, scholars and experienced teachers

To achieve this objective, participating teachers might as well receive specific guidance and support from experienced educators who can provide them with practical experience and strategies to enhance their critical thinking abilities. This includes developing an understanding of how to analyze complex problems, evaluate evidence-based arguments, and make informed decisions based on sound reasoning. Through the inheritance of inter-generation experience and effective strategies, teachers' critical thinking ability has been carried forward and the effectiveness has been maximized. The participating teachers gain the knowledge that they can not learn from textbooks and will surely benefit a lot.

4.2.3 Self-reflection and analysis of teaching behaviors based on perception

Self-reflection and analysis of teaching behaviors based on perception of relevant theories and concepts play a significant role in cultivation of participating teachers in teachers' professional development projects. Therefore, teacher education programs should also focus on cultivating creativity and innovation among aspiring educators by asking them to refer to self reflection on self-related pedagogical issues. By encouraging new ideas and approaches to teaching practices, we can create a more dynamic learning environment that fosters learners' engagement and success.

In conclusion, by conducting the aforementioned approaches, teacher education and professional development projects play a crucial role in shaping the future of our educational system. By prioritizing critical thinking skills alongside other essential elements like creativity and innovation, we can empower teachers with the knowledge they need to inspire students towards academic excellence while preparing them for success in their life-long careers.

4.3 Revision of the syllabus and implementation process of training courses through evaluation and feedback

The process of revising a syllabus and implementing a training course can be complex, but it is essential for ensuring that learners receive the best possible training on critical thinking. Through careful evaluation and feedback,

educators of teachers' professional development can identify areas where improvements are needed and make adjustments accordingly to enhance the effectiveness of relevant training.

4.3.1 Evaluation of the needs of the participating teachers

One key aspect of this process is understanding the needs of learners. By taking into account their backgrounds, interests, and learning styles, instructors can tailor their approaches to better meet individual needs. This may involve incorporating new materials or activities aimed at improving the participants' critical thinking ability into the curriculum or adjusting teaching methods to better engage participants.

4.3.2 Creation of cooperative and interactive learning platforms

Another important consideration is staying up-to-date with current trends in education and technology in terms of cultivation of the participants' critical thinking. As new tools become available, such as online learning platforms or interactive software programs, educators must adapt their strategies to take advantage of these resources. By applying cutting-edge technological methods, we aim to establish a revolutionary model of teacher education cooperation that will conduce to an attainment of a win-win effect. Our vision is to create a platform where educators can collaborate and exchange ideas, enabling them to stay up-to-date with the latest pedagogical techniques and best practices.

4.3.3 Communication aimed at promoting the effectiveness of the training

Ultimately, the success of any training program depends on effective communication between instructors and learners. By soliciting feedback from participating teachers throughout the course and using this information to guide revisions to the syllabus or teaching methods as needed, educators can create an environment that fosters growth and development for all involved.

In conclusion, on the basis of the aforementioned

points, participants in teacher education or teacher professional development programs are expected to be able to develop their critical thinking skills to a sufficiently high level of expertise to become better critical thinkers as well as better teachers.

5. CONCLUSION

This paper proposes an inquiry into the cultivation of teachers' critical thinking in teacher education and teacher professional development projects by firstly defining a teacher's critical thinking in pedagogical behaviors from the perspective of the role of being a teacher. Furthermore, this paper states that critical thinking education should be integrated throughout teacher education or development programs by providing possible strategies pertaining to this topic.

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