Chapter 1
Instructional Model Oriented Towards Improving Teaching Ability of Preservice Teachers

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Abstract This study is aimed at solving the long-standing problem of the teacher-centered teaching model in Chinese universities. To change the situation from dull, inefficient theory learning, to promoting students' knowledge building, fostering ways of thinking in teaching career with a creative new teaching model, and improving preservice teachers' teaching ability. Transformative learning theory is the theoretical basis of this study. The teaching model includes interactive lecturing, educational narratives, instructional simulation, reading reports, video presentation, self-reflection project "200", net-based learning resources, and assessments.

Keywords Preservice teachers · Teaching ability · Instructional model · Teaching problem

1.1 Introduction

How can we foster teaching ability of preservice teachers effectively? This is one of the most important issues for higher teacher education. However, as far back as known, pedagogy in higher education has been neglected. Thus, the classroom instruction of higher teacher education is not satisfactory. "Chalk and talk", "television show",[1] and "sage on the stage" abound, and there seem to be an

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A study of the course, "Fundamental Theories of Learning and Teaching" in Beijing Normal University.

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[1] Television show refers to the teaching style of some teachers lacking interaction with the students, which is like watching television.

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invisible screen between the teacher and the students, obstructing communication; many teachers teach always showing their back, with students following them step by step, without cultivating creativity in students; some teachers go to the other extreme, naming their teaching student-centered, "shepherding"[2] in effect. Such problems lead to students' disappointment in the classroom, leaving their creativity, judgment, expressiveness, reasoning, and problem-solving ability undeveloped.

According to modern learning theory, it is important learning goal for each college student to find problems, learn, cogitate, make judgments, and take action. They also need to learn self-discipline, cooperation with others, consideration, and affection. There should be a turn from knowledge and skill-centered quantitative learning ability or quantitative knowledge learning theory to a learning ability theory emphasizing an ability to reason, make judgments, take action, and solve problems. These are not easily quantified and should change from emphasizing knowledge of known outcomes to a teaching style centered on self-improvement and management of learning methods.

Higher teacher education has been constantly strengthening rote learning, which equips students with information and skills. Taking this learning style, students are able to repeat the formed way of thinking, retain certain information, yet they would feel helpless faced with complicated and changeable teaching problems. Qualified future teachers should be flexible in thinking and taking action, combining linear ways of thinking and divergent thinking. A major goal of higher teacher education is to foster self-reflection in students, promote transformation in their inner world to cope with changes in their outer world, to generate new forms of behavior, improve the self-renewal process, and help to bring about the state of "blooming" in the students.

In our teaching practice, we see promotion of the development of students' teaching ability as our primary goal, and designed an instructional model including theory lecturing, educational narratives, instructional simulation, reading report, video presentation, and self-reflection project "200".

1.2 Rational

1.2.1 Mezirow's Transformative Learning Theory

Since the concept of transformative learning was first proposed by Mezirow (1978), it has been increasingly popular in educational research in North America and Europe.

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[2] The style of herding sheep, refers to the teaching style of leaving students alone, without supervising or facilitating.

Transformative learning theory emphasizes the important role of critical reflection and critical discourse (Mezirow 2006) in learning process, and suggests three types of learning: instrumental, dialogic, and self-reflective (Mezirow 1985). In instrumental learning, learners learn how to control and influence the outer world and other people, stressing technical knowledge; while in dialogical learning they learn to understand social environments, stressing practical knowledge; and in self-reflective learning, they gain knowledge about themselves, and develop rational, empirical, and social knowledge. Transformation takes place when the learner encounters events or settings contrary to their former beliefs. Transformation of opinions can appear gradually or take place abruptly, while learners experience several stages during the process of cognitive reconstruction and feeling adaptation, including cognitive conflict, introspection, critical assessment, and exploring new ways of behaving.

It follows that teachers should create for the students learning environments facilitating participation, experience, dialog, reflection, and to accomplish transformation in the end. The teaching model, oriented toward improving teaching ability in preservice teachers, is developed for creating such an environment.

1.2.2 Seven Principles for Good Practice in Undergraduate Education

The American Association of Higher Education (AAHE) proposed seven principles for good practice in undergraduate education, based on research on good learning and teaching in colleges and universities (Chickering and Gamson 1987). Abiding by these principles, educators in undergraduate education in the USA and Canada set explicit goals for good educational practice, which is closely related to active learning.

First of all, good practice encourages contact between students and faculty. Both inside and outside the classroom, frequent communication between faculty and students is one of the most important factors in promoting students' motivation to learn and improving the learning effect. The faculty may supervise and urge students to take an active part in learning, and remind them of their personal worth and future goals. Students' sense of belonging and responsibility can be increased while communicating with the faculty, so it is important to provide the students with more opportunities to contact the faculty.

Second, good practice encourages reciprocity and cooperation among students. Working together with peers can enhance the learning effect. In a learning community, students' opinions conflict, and they get to know different learning styles and ways of thinking, which is beneficial for their mutual understanding. Students communicate with each other, and build a close relationship, so it is easier for them to integrate into teaching and learning activities.

Third, good practice encourages active learning. Students' learning is not like watching sports, sitting in the classroom, and listening to the teacher. They should turn what they have learnt into their own knowledge and competence. Passive learning does not result in high efficiency. It is of great importance for college students to engage in active learning. Teachers should not only constantly enrich the teaching content, but also think about how to help students learn on their own initiative.

Fourth, good practice gives students prompt feedback. Learning would be more effective if students knew explicitly what they understand and what they do not. To achieve the learning goal through teaching, it is necessary to give students proper feedback about the learning outcome. It is important for students' future learning to make clear how far they are from their goals, which is also a good way of assessing the teacher's teaching.

Fifth, good practice emphasizes time spent on tasks. Learning activities require students to make effort and persevere, and they need to spend great amount of time and energy. Time passes quickly; therefore, students should be able to make good use of their time. The teacher may help students with their time management; help them learn how to use their time effectively. It is no exaggeration to say that effective time management leads to achieving learning outcomes. Every student knows the importance of learning outside the classroom, but many of them do not know how to make efficient use of their time.

Sixth, good practice communicates high expectations for students. High expectation leads to high achievements. High expectations are important to both low level, reluctant learners and smart, active ones. If the teacher expects high performance from the students and keeps such expectations, students would constantly make efforts toward the goal, and turn it into reality. Students are sensitive to the teacher's expectation. If they feel neglected, they would become less motivated and less effective learners.

Seventh, good practice respects diverse talents and ways of learning. Students come to universities with diverse abilities and ways of learning. Even excellent students may not perform satisfactorily in experimental skills or arts; highly experienced students may be poor in theory learning. It is necessary to design and provide a range of opportunities for all types of students to actively exhibit various talents and learning methods. Thus, students can take up the challenge of new learning methods. Universities are designed to accept students with diverse skills, abilities, and learning styles.

In Chinese universities, there has long been a teaching culture of "teachers talk and students listen". Teachers tend to impart knowledge and the ways of its usage to students, who simply expect knowledge from teachers' utterances. Knowledge transmission is the main activity between students and teachers. Yet the course of "Fundamental Theories of Learning and Teaching" emphasizes students' finding and solving problems by themselves, dynamic and active learning, ability to think critically and autonomously, and the accomplishment of higher order goals.

1.3 Features of the Teaching Model

"Fundamental Theories of Learning and Teaching" is a course offered to the preservice teachers in the Faculty of Education, Beijing Normal University. It is for the undergraduates who have just begun their studies in theories of learning and teaching, and who are dedicated to the teaching career. This course is to reveal the basic rules of the interaction between learning and teaching, thus enabling the learners' keen perception of "how to teach" and "how to learn". The course aims at improving students' abilities in teaching and mastering the core concepts of learning, teaching and technology, emphasis on teaching methods, experiencing basic skills in teaching practice, mastering them, and finally achieving good learning outcomes. In the process of teaching, the writer would like to (1) invoke students' interest in this course, (2) enable students' keen perception of the principles of teaching and learning, (3) improve students' ability in teaching, and (4) help students love the teaching career.

In terms of learning motivation, most of the students taking this course orient themselves to be teachers in the future and are very enthusiastic. The key factor to improve teaching in higher education is to enhance students' motivation. In teaching and learning, it is better for the students to understand the value of the learning, to experience the joy of learning, to perceive their growth, and to set their next goal. But enthusiasm does not necessarily guarantee effective learning. Some teachers hope to teach students what they know by "teaching and listening", and they call "passing students what they know" a teaching strategy. Such a strategy might not be effective teaching. In this process, the students do not take any notes; and worse than that, they do not use their mind, resulting in their not understanding the valuable teaching. Some students are reluctant to accept these "wise sayings". Thus, it is a waste of time for both the teachers and the students. Therefore, "what the teachers say" should not be the criterion of the value of teaching. In teaching, it is not only the logic of teaching, but the consideration of the psychology of learning, and the reconciliation between the two.

University teachers should be well equipped with well rounded and in-depth knowledge of educational psychology, to better understand students, their learning and teaching, and to ensure their effective teaching activities. For instance, many teachers consider teaching to be their job, classroom their sales field, and students shoppers. Those who do not shop, that is, students who do not do well in their learning are considered to be poor students. If students make some progress, it is a reflection of the teaching; if not, it is their own fault. Teachers have authority in the classroom. However, teaching is not only one-sided giving from the teachers, but also students should be the center of teaching and learning activities. Teachers should always care about the level of students' understanding. Students may not be the only cause of inefficiency in teaching; sometimes there might be a fault with the teaching strategy. Teachers are only helpers to the changes of the students, and they help through their teaching. The significance of teaching lies in the changes of the students. To make the learning meaningful, it is necessary that teachers carry

out in-depth study into teaching methods. In supporting teacher development, universities did no better than primary and middle schools. At present, most of the university teachers are specialists with a doctoral degree, but they have not received any formal training in teaching. Once they become teachers, they must consciously improve their teaching ability.

Behavioral change is the premise of conceptual change, but not the reverse. To become an ideal teacher, the first thing to do is change the behavior of the teachers and the students. Every teacher must work persistently and hard to build up a personalized and practical teaching model. This model must be deduced from the reflection on his own and the others' practice.

The present instructional model is based on more than 20 years of teaching experience in the course, "Theories of Learning and Teaching". Its basic concept is not only concerned with what students have currently acquired, but also what they can do in the future. "What they can do" is referred to as their ability. The features of this model can be summed up in the following four aspects:

First, it is ability-oriented. This model aims at not only the students' mastering of objective knowledge, but also the development of their key abilities, including character development, critical thinking, making judgments, expressing themselves, organizing teaching materials, designing, problem-solving, and most importantly transforming theory into practice.

Second, it is student-oriented. There has been a shift in working focus from teaching to learning, paying close attention to students' learning strategies. It is not teaching where there is no learning. This statement expresses the nature of the relationship between learning and teaching. In his speech, John Dewey once said that just like selling starts as buying begins, teaching starts when learning begins (Dewey 1991). Understanding the relationship between learning and teaching with the help of that between buying and selling, the teacher is not in any way in an advantageous position. On the contrary, the teacher must win the learner's approval to reach his teaching goal. In this sense, the teacher is subjected to the learner, in a disadvantageous position. This shows that teaching can only come into effect by way of students' learning.

With regard to the learning method, this model takes in basic elements of active learning, self-regulated learning, self-directed learning, student-centered learning, project-based learning, and cooperative learning, which contribute to students' transformation. These learning methods can be divided into three types according to the different importance they attach to three elements of learning strategies. One emphasizes students' responsibility in their own learning, that is, to choose, adjust and regulate learning objective, content, and method for themselves. Another one designates subjects in form of project and practical problems, to achieve a deeper understanding of the target field, establishing the relationship between the students and the target world. The third lays more emphasis on the harmonious relationship between the students and others in the process of learning, to accomplish the learning tasks through cooperation. With the combination of these three methods of learning and teaching, this model stresses active, cooperative, and introspective learning, in order to achieve deeper understanding.

This instructional model emphasizes a change in students' learning style, from obligatory learning to initiative learning, from disintegrated, fragmented learning to integrated, correlative learning, from desk learning to practical, executive and experimental learning, from rote learning to discussion-centered learning, from accepted system learning to practical theme learning, enabling students' learning development.

The third, the model is participation-oriented. Students' interest in learning is a key factor in achieving effective teaching. How can we enhance students' interest and initiative in learning?

Indeed, it is very difficult to listen to others' talking passively, though if the content is valuable, a person can persevere. However, small changes in talking style can turn people into active listeners. So it is with teaching. The students will feel bored if they are forced to passively receive, even if what is being taught is of great importance. A good way to solve the problem is to get students to participate in the learning activities, with the concept "learning is my own business" in their minds.

Participation in learning is a complex concept; students should be involved in every aspects of learning. In this model, students are participating actively and effectively in the following three aspects:

One is to participate physically. Most students are fond of physical courses. They like experiments; they like going out of classrooms to carry out social investigation; they like challenging learning tasks. Based on the requirements of the teaching objective, the writer designed all kinds of tasks for the students, and their initiative in learning has been greatly enhanced. It must be pointed out here that physical participation is not the end but the means, which is to enhance students' mental participation.

Second is mental participation. The basic teaching objective in a university is to foster students' ability in abstract thinking, to form an effective way of thinking, to enhance students' intelligence. To achieve these objectives, teachers should begin with fostering students' thinking. Thinking can be seen as having five parts: profundity, flexibility, originality, criticalness, and agility. In the process of teaching, only active intellectual engagement can raise the level of thinking. To be exact, students come into the classroom to use their minds. Teachers must try every means to help them think critically and in a self-disciplined way. For example, teachers can offer students problem-triggering, interesting, and comprehensible materials.

The third is interactive participation. Cooperation between students, interaction between teachers, and students has great effect on learning. The course emphasizes the educating and teaching significance of group teaching. Interaction between students promotes creativity. Various groupings can have positive effects on teaching and learning. Many scholars researching students' cooperation will deliberately group students according to certain principles, for example, homogenous grouping according to students' learning ability and level. The course favors free grouping and adopting relation grouping. It is unnecessary for teachers to interfere too much in grouping. Those getting along well or sharing the same dorm can form a group. In this way, the members are intimate with each other, having strong interpersonal cohesion and harmony. They enjoy seeing each other.

Such a way of grouping may sometimes lead to negative effects from a traditional point of view. Yet, any problem in teaching is a chance for both the teachers and the students. One problem is that some students might be unpopular, and cannot find a group. If such students choose to learn all by themselves, the teacher would tailor the tasks for their individual activities; if they want to be in one of the groups, the teacher would help them reflect on their behavior, and think of ways to take on a new image. Another problem arises that sometimes a less able student may be made group leader. There are two possible reasons: one is that he wants to make an attempt at it despite his lack of leadership ability; the other one is no one else is interested in the position. Afterward, this group leader has great difficulty in his work, complaining to the teacher about the members in his group not cooperating, unable to make unified learning plan, having no clear division of work, too much absence, etc. resulting in a state of paralysis of the group activities. According to Confucius, teachers should not enlighten students until they have tried hard but failed; and should not instruct students until they have something to say and are able to make themselves understood. It is only then that the teacher should appear. There are two things for the teacher to do. One is to encourage the group leader, and the other is to work with the other members, instructing them to support the leader and cooperate in group activities. In this process, the group leader has a good experience and practice, and the other members learn to cooperate, care and help, as well as how to fulfill their role.

It must be stressed here that in the process of group work, teachers must monitor students' discussion and offer real-time guidance. The defect of "putting sheep out to pasture" type of group learning should be avoided, in which the teacher just lays emphasis on the learning results, caring nothing about the learning process, listening to reports only, not participating in any discussion. The writer adopts an interactive mode of unbridled discussion. Apart from the required classroom discussion, students can make an appointment with the teacher for a face-to-face discussion when they want the teacher's participation or when they need their teacher's guidance and instruction in their discussion. On average, the teacher's participation in each group occurs more than three times, and up to six or seven times. It is very obvious that this interaction greatly meets students' satisfaction in learning and improves the effect and quality of student group learning.

Fourth, the model is result-oriented. The most important factor to ensure the learning outcome is what task to complete. The tasks should be real, interesting, challenging, creative, suitable for group work, and outcome-predictable. From the perspective of fostering students' ability, making them hear is far from enough. Students must learn to achieve the objective. Chinese philosopher Wang Yangming in Ming Dynasty pointed out in his *Chuanxilu* (Instructions for Practical Living) that wise men put their heart and soul into learning, with the key lying in practice. Never deem as pure knowledge, learning that is passed from mouth to ears. He put forward the "unity of knowing and doing" discipline for his pupils (Wang 2007:127). Socrates in Europe also pointed out that so-called wisdom is not only the knowing of but also the practice of truth. If not, it is not the real knowing of truth. Wisdom is comprised of theory and practice and they are not two things, but a unity

(Chen 1997:37). In terms of teaching evaluation, students' learning outcomes is very important information for teachers' knowing about and analyzing student's learning. Through the analysis of students' learning outcomes, teachers can have a clear understanding of the degree and level of guidance in teaching, can diagnose student's problems in learning and finally make a survey of the changes in students. It is also important information for students to experience their own progress and their sense of achievement.

1.4 Procedure of the Instructional Model

As shown in Fig. 1.1, on the left side is the teaching procedure, in the middle is the time arrangement of various activities, on the right side is the cognitive transformation process of the learners. This model shows the writer's different organized measures to help preservice teachers improve teaching skills, optimize teaching content, and develop teaching ability in turn. Following this model, the teacher plays the role of "sage on the stage" and "guide on the side" at the same time (King 1993). Students learn theories in various ways. By making inquiries, students and teacher communicate via face-to-face contact and web platforms, and reconstruct their perspective of learning and teaching and behavior through critical reflection on learning and teaching experiences. From the practical point of view, the instructional model developing teaching ability was summed up as follows:

1.4.1 Interactive Lecturing

How can you make your teaching attractive to students? One simple strategy is to explain and illustrate. Some teachers do this effectively, while others fail to do so. Interactive lecturing sessions make full use of classroom instruction and cherish every second of the meeting time of the teacher and students. The teacher discusses knowledge, opinions, idea and ways of thinking, and focuses on fostering ability of thinking and making judgment in students. Effective lectures, though appearing to be long monologs on the stage, actually involve deep yet unobtrusive exchanges. The teacher's connection with the students enables them to transform together. An effective lecture must be interactive between the teacher and students, learning through dynamic (mainly verbal) interaction.

1.4.1.1 Students as Active Listener

During interactive lecturing, it is important for students to listen effectively and think actively. The teacher must help students enter the state of actively lending an attentive ear to the teacher. While listening to a lecture, students should give their
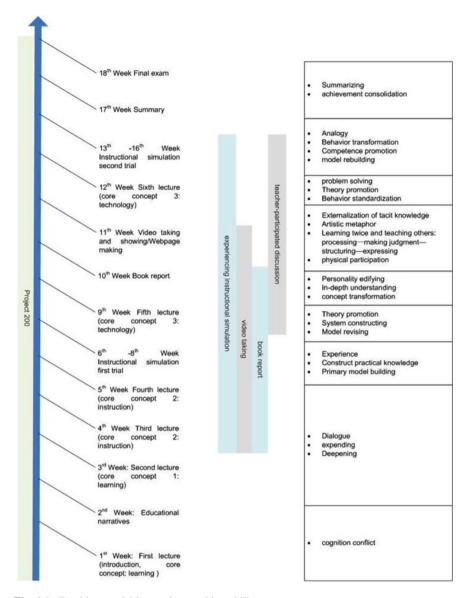
Fig. 1.1 Teaching model improving teaching ability

whole attention to it; listen earnestly and respectfully, without any drop in concentration. Students think actively while listening, rearranging their cognition. It requires great effort to listen to lectures, overcome various distractions, and deploy all their energy. Once they are involved, students would forget tiredness and the effort required to concentrate. Not only do they feel tireless, but also they would have a sense of enjoyment as well. Therefore, it is of great importance for students

to listen attentively, take careful notes, follow the lecturer's thoughts, and raise questions. This highly attentive state of learning in students sometimes does not appear spontaneously, the teacher must help them attain it.

1.4.1.2 Teacher as Excellent Lecturer

It is necessary to be an excellent lecturer as a teacher. In order to guarantee the effectiveness of receptive learning, the teacher must be good at lecturing, for the way the teacher speaks exerts tremendous influence on students' learning. In effect, not all people are good at speaking, which is not a simple thing, and each person's speaking competence varies greatly. The teacher should pay close attention to the effectiveness of speaking, communicate efficiently with students, and help them learn. The teacher should summarize and refine the rules of lecturing based on his or her own teaching practice. How then should the teacher lecture?

First, the teacher must know the fundamental structure of classroom instruction.

Classroom instruction is composed of an introduction, a main lesson, and a summary.

In the introduction session, the main activity is to lead students into the context or atmosphere of learning. The teacher may start with an example, some strange plot, an astonishing event, a famous quote, or interact with students, or make use of realia.

In the main session, the teacher should first choose the teaching content carefully, and arrange the materials properly, examine various learning methods, and investigate their effectiveness. A good cook can turn nutritious but not tasty food materials into delicious dishes, while an excellent teacher can turn the originally dull learning materials into both meaningful and interesting contents. Thus, teachers are "cooks of spiritual food". The teaching content must be meaningful, as well as interesting. "Meaning" and "interest" should be distinguished. Knowing the difference between them, and making use of instructional materials with both features, may help students learn more effectively. In addition, effective teaching should eventually accomplish generalization of the big idea of the learning content. The teacher in this study does not teach literally from the textbook, i.e., to show the teaching content directly to the students. He uses the content instead and personalizes it. Materials used in teaching, representing instructional content, are accumulated during long periods of teaching experience, including texts, videos, and images. They are vivid, clear and have a strong instructive impact.

In the summary session, the teacher helps students consolidate instructional content, evaluate the teaching outcomes, give students a sense of achievement, and make clear the relationship between the present content and future ones. Generally speaking, there are three types of instructional summaries. The first is called ending without summarizing, i.e., when time is up, the teacher stops wherever he is, and declares class over. The second type is that the teacher summarizes what

has been learnt that day, and gives a simple review of the points covered. For example, "we have learnt three issues today, first the definition of instruction, second the types of instruction, and third, the functions of instruction". This type is no doubt more positive than the first one. Yet it is still not enough to just summarize the content. The third type is a summary starting from the essence, which can extract the most central content, point out the soul of the instructional content. Such core contents are easier for students to understand, remember, and transfer to other settings.

Second, the teacher must know specific ways of lecturing.

Many teachers say that, after entering the classroom, they do not know how to communicate with the students effectively, or how to make themselves understood. There are a lot of rules in teaching practice which requires teachers study and summarize constantly.

Appearing simple, the lecturing method is complicated in effect. So it is not proper to lecture without preparation. It is necessary to design and prepare carefully the key points, to consider various factors affecting the result, and to anticipate all that would happen. The general skills for lecturing includes the following eight aspects: making early plans, rehearsing beforehand, appropriate anxiety, standing pose, moving and body language, voice adjustment, eye contact and facial expressions, applying visual media, and dealing with problems and emergencies. According to Albert Mehrabian from the University of California, Los Angeles, who analyzed basic elements in effective transmission of instructional information, verbal elements account for only 7 % of the total effectiveness of the transmission. Therefore, it is clear that speak clearly is not enough. Teachers' tone and intonation, account for 38 % of the effectiveness, which implies they should vary their speaking considerably. Teachers' body language account for 55 % of the whole, because people receive more information through seeing than listening, and they have 22 times more visual nerves than auditory ones (Tracy 2008:9). While explaining, teachers should substantiate the teaching content consciously, avoiding empty talk. It is proper to confine the teaching within certain limits. Do not expect to cover endless domain in a certain period of time. Illustration is also useful when teachers turn the teaching content into stories, giving abundant examples. A teacher's story can be magic. The vividness of teachers' language, deploying colloquial words, avoiding complexity, making proper use of illustrations, emphasizing and repeating the key points, raising more questions, writing more on the board are all basic elements of lecturing, which can increase attractiveness and appeal of the teaching.

Throughout the course, it is emphasized that a good teacher enables clear and unclear thinking. Here, unclear refers to the cognitive conflict of higher level thinking in students when they encounter certain stimulation in learning, which makes them think more. A good teacher does not deliver knowledge. Teachers should be cautious not to explain too long, too fast or too much. It is not that the longer the learning takes the better, the faster the teacher explains the better, or the more the teacher explains the better. Learners should be able to cease learning before they get tired of it, thus they would go on learning with more energy.

College teachers should be equipped with the most advantageous knowledge, the ability to think deeply, and the ability to make themselves understood. There are cases in which a lecturer spends a day to make things clear; an associate professor needs an hour of humor; and a professor needs only a few words.

1.4.1.3 What Kind of Lecturers Do Students Like?

First, an experienced person: Learners no doubt like listening to lectures given by learned persons. Once a person very widely read and wealthy in knowledge appears on the platform, some distinctive charm is spread to the audience. Such instructional content as thought, knowledge, and cognition flow smoothly and easily. Well documented, able to achieve success one way or another, well versed in the learning of both ancient and modern times, his or her teaching would bring boundless learning encouragement to the learners.

Second, a thoughtful person: It is far from enough to have an encyclopedic mind. A really good lecturer should be able to explain his or her own distinctive thoughts, understanding and point of view, why they think it, and be able to reference other sources. The teacher's opinions may inspire students' deep thinking, and they are also conditions leading to students' original learning outcomes. A thoughtful teacher is a good example for students to follow; they gradually learn to consistently develop their own thinking, use their own mind, and make their own judgments.

Third, a person with sensibility: The expression of feelings is one of the most impressive and engaging elements in lecturing, it can resonate in learners, and be persuasive to them. Affective interaction can take place only after the emergence of emotional experience, which may further develop into an exchange of ideas. While lecturing, the teacher should disclose to a proper degree his or her own emotions, show his or her attitude, and try to influence students with his or her true feelings, allowing students to show their pleasure, anger, sorrow, and joy in the class. A good class should be one with laughter. Students like teachers to be clear about what they love or hate.

Fourth, a skillful person: Teachers should be outstanding instructional designers, and also able to teach with various strategies. A teacher good at lecturing can bring students pleasure in learning, make them interested, make learning less painful, make it easier for students to understand the content, master learning methods, and accomplish real development.

Fifth, a distinctive person: Instructional activities involve a process of communication between people, in which special persons are more likely to be recognized and remembered. It is also true for the information from the special person. Because the information may take the features of the special person, the features integrate with learning content, which in turn makes it easier for students to understand and remember what they have learned, and maintain the enthusiasm to continue learning.

Sixth, an attractive person: If the teacher has knowledge, wisdom, a good temperament, appearance, and feelings, he or she is quite likely to be appreciated and respected. The teacher does not just bring students knowledge and opinions, he or she enables them to enjoy the learning process as well, which leads to students' admiration of him or her. As a result, the teaching is very effective. Each face-to-face class becomes a time students look forward to, they appreciate meeting with the teacher. They like and respect the teacher.

During the first interactive lecture, the teacher helps bring about cognitive conflicts in students by providing events or settings contrasting with their previous point of view. The teacher can stimulate deeper thinking in students related to instructional activities, put the study of instructional activities at the center of research, and promote interest and curiosity in educational research in students. From the second to the fourth lectures, the teacher promotes students' cognitive conflict, extends and deepens learning behavior, enhances effectiveness of the learning, and brings genuine learning experiences to the students.

1.4.2 Educational Narrative

Undergraduates are faced with many difficulties while studying to become teachers. For example, lacking teaching experience, they see education from the students' point of view, which is completely different from seeing the issues from the teachers' viewpoint. In most of the present courses for future teachers, instead of learning how to teach from a teacher's perspective, students simply read or recite general principles. Even if they remember all of them, they learn only armchair strategies which cannot be used in practice. They do not gain skills they need, or understanding of themselves, and cannot develop reasonable, experiential, and social knowledge.

The teaching model for improving teaching ability takes educational narrative as the activity of considering and expressing educational issues. Narrative is an organizational structure of knowledge, and also a carrier of instructional principles and processes. Educational narrative, based on the structure of educational stories, is able to carry the content of education. According to Jerome Bruner (2002), when people organize their experiences and knowledge, it is quite likely for them to choose narrative as the easiest and most natural way. Beginning from an intuitive explanation, they go on to a more formalized and structured one. The learning and teaching process should correspond to the learners' psychology of learning, and be suitable for their logical starting point of learning, the choice of which is of crucial importance to learning effectiveness.

The teacher provides opportunities of narrative study for the student's right after the first interactive lecture. The narrative involves a series of meaningful events. Bringing with them their original perspective, students recall, tell, and analyze an educational event they experienced during the K-12 period. They are required to turn the event into a story, and find out the educational rule it implies.

By recalling and analyzing the highlight or defects of their former teacher's behavior, students establish the contact between fundamental theories of learning and teaching and educational practice in reality. This activity is aimed at helping students change their viewpoint, stimulating their knowledge, and feelings as a student. It is somewhat like one of Gagné's nine steps of instruction (Gagne 1965). To "gain attention" by presenting stimulus to ensure reception of instruction, this acts as the scaffold of the present learning activity, helping students accomplish the transformation from the position of a receiver of education to that of an educator, and providing catalyst for their critical self-reflection.

In this session, students tell their stories clearly in accordance with the teacher's requirement, and each person in the classroom is given equal opportunities for dialog. The teacher acts as a facilitator here. Many students think it is a meaningful way of communication. "I thought a lot after listening to my classmates narratives. They discuss about learning and teaching from various aspects. I think such a class is good. Having never experienced such a class before, I expect more of these classes in the future". Students learn the basic features of effective teaching by sharing and communicating with classmates. The teacher gives feedback to each of the students' narratives and self-reflection assignment after class, pointing out the underlying rules, principles, and beliefs. From the feedback, the teacher helps students achieve transformation of viewpoint, and promotes their critical thinking.

1.4.3 Instructional Simulation

The purpose of instructional simulation is to help students experience teaching activities. Experiential learning is the learning mode in which learners participate in practical activities to gain new knowledge, skills, and attitude through cognition. Experiential learning emphasizes the role played by experience. It does not simply advocate learning by doing, but pays close attention to summarizing and reflection on experiences; it stresses that in the process of gaining knowledge and skills, learners should not only be able to understand and act, but also be able to increase experience through self-reflection. Therefore, it is proper to consider experiential learning as the combination of "learning by doing" and "learning by thinking", which helps students think while practicing.

Experience here can lead to more detailed knowledge than theory alone—practical knowledge, i.e., knowledge in practice. In the process of psychological development, knowledge in practice develops first, then gradually the substitute knowledge model emerges, and finally symbolic knowledge. Throughout history, praxis always precedes its name. It is also true in human development (Bruner 1996:233) Thus, the teacher should consciously promote self-experience of the students, and establish a primary model for learning and teaching.

Concerning methods of learning how to teaching, researcher in teacher education, Shulman, thinks that there are three types of knowledge: pedagogical knowledge (PK), content knowledge (CK), and pedagogical content knowledge

(PCK) (Shulman 1987). The acquisition of the third type, PCK, should take place in practice.

Instructional simulation activity is composed of "Simulation, first taste" and "Simulation, second trial". In "Simulation, first taste", each student chooses teaching content from a textbook from primary or secondary school, designs a lesson plan and course material. The teacher arranges each of them to do the simulation teaching, explain the lesson plan, and the teacher and other students would discuss and evaluate the simulation. Making good use of the students' long experience of being educated, this activity establishes cognitive and behavioral model about teaching practice, which exists in form of "tacit knowledge" as Schön calls it (Schön 1983). The first imitation activity can make the tacit knowledge explicit. Students are enabled to make clear self-inspection, and thus cognitive conflicts would result. On this basis, students' experience of teaching practice and communication among group members as well as the whole class are helpful for students to establish new beliefs and behaviors.

In "Simulation, second trial" taking place around the end of the semester, based on their experience from the first simulation and theories subsequently learnt, students work in groups, prepare a lecture of 40 min, and give a presentation to the whole class. Such an activity can push students to compare the second simulation with the first, their own work with others, so that they accomplish transformation of teaching behaviors and rebuilding of their teaching model. In the reflection session, students report the difference between the two simulations in addition to explaining the teaching plan. They report on what problems appeared in the first simulation and were solved, and in what way. What should be noted is how the learning theories are applied in the second simulation, and what improvement should be made.

Evidence shows that the arrangement of two simulation activities greatly improved students' ability of teaching practice and self-reflection. Students make reflection videos on their feelings about the simulation, and they upload the videos to the course website as an assignment.

1.4.4 Reading Reports

There is a wide spread occurrence in Chinese universities nowadays that students read little during their university life. Some students cannot even finish reading one academic book in a semester. There are various reasons for such occurrences. Fickleness in society as a whole, a distorted value system within universities and the influence of technology on learning styles are among them. University teachers should help students learn what and how to read, and foster the habit of reading, from which students would benefit their whole life. The design of this activity is based on the writer's beliefs about education. In a time of technology abuse,

students must learn to escape from the control of modern technology. The activity of reading a paper book is like turning pages of memory. Holding books of various size, thickness and layouts, listening to the rustling sounds while turning pages, smelling the fragrance of printing ink, underlining and taking notes, are where the enchantment of reading a paper book lies. This traditional learning model is the most reliable, effective, and secure way of learning. It will be the most important and indispensable learning model in the foreseeable future.

It is good fortune for undergraduates to have an acquaintance with some renowned figures in the field he/she studies. Yet for most of them, the chances are very rare. Generally speaking, only through reading can they enter the academic figure's circle of influence, and communicate with him or her. Through books recommended by the teacher, students can not only get to know the academician's learning experience, strategies, and thoughts, but also be influenced by the academician's personality and ideas, which in turn would benefit the building of their personality, the promotion of their critical thinking and establishment of their view on doing research.

There are different ways undergraduates can read. Depending on reading materials, they can for example, read intensively or extensively. In this course, reading is carried out in the form of group cooperation and in-class sharing and communicating. Students and the teacher discuss and decide which book to read. Students read individually first, then work in groups and read intensively. The group members discuss and each of them writes a book report. These reports are summed up in a group presentation. During the writing process, students enhance their awareness and competence of critical reflection. Communication and conflicts in group cooperation allows students to learn to see things from different perspectives. Their ability to understand and make judgment increases. It is true that, wisdom lies not only in the individual mind, but also in other people's minds, in learning materials and in the whole learning environment. It is important to combine individual learning with group learning and integrate various understandings, so that collective creation can take place. Students take part in the learning activity both mentally and physically, which is helpful for the transformation of concepts and behavior.

This activity lasts for a month, which begins with the assignment given in the fourth week, and ends with the class presentation in the tenth, in which students share what they have learned with the class. Students benefit a lot from the sharing. Some students leave such comments on the question and answer platform as, "in book report class, I think a lot after listening to other's reports. It is really pleasurable reading together with others. I can learn something, and become more interested. I like this way of reading". Classroom presentation and communication provide students with opportunities to show their learning outcomes to a larger audience, while the sharing of book reports in each group further enlarges and deepens the range and depth of critical reflection and dialogue.

1.4.5 Video Presentation (or Instructional Website Making)

The study of the National Training Laboratories for Applied Behavioral Science showed that information gained through different learning methods gets different retention rates. Among them, lecturing has the lowest retention rate (5 %), while teaching others or immediate use has got the highest rate (90 %) (Wood 2004). This study provided theoretical support for our teaching practice.

Learning by teaching others is a very effective method. To help others understand, one has to know it well first. Learning by teaching helps students effectively combine knowledge and competence, so they can gain knowledge and do things as well. While preparing for teaching, the teacher must learn fully about it first, and study how to teach. Only in this way can they complete the teaching task. The more in-depth and comprehensively the learners deal with the teaching content, the more likely it is for them to promote the learning quality. Students are required to create videos as teaching media, to work in groups, and to put the learning and teaching theories learned in this course into practice. After making the video, each group gives a presentation to the whole class, followed by discussion between the teacher and students about the form and content of the presentation. In addition, group members also create video recordings for the working process, showing their working experience and what they have learned. The purpose of the teaching plan is to help allay the fear of theory learning in students, to put to an end to the age in which pure theory learning is dull, and to make it more effective and efficient. The group members work actively to get a deep and comprehensive understanding of the content, while the students in other groups can also learn the content from video watching and discussion. At the same time, through exchanging work experience, students learn strategies from each other, and promote metacognitive competence.

This activity enables active inner transformation in students, the turning of tacit knowledge into explicit, and sharing among group or class members. A large part of knowledge is not explicit but tacit, which is a symbol of practical competence (Polanyi 1958). Generally speaking, tacit knowledge cannot be logically expressed in spoken or written words, or any other symbols, nor can it be passed in normal forms (Guo 2003:326). Yet the American psychologist Sternberg claims that tacit knowledge can be acquired through training (Sternberg 2003). Tacit knowledge and explicit knowledge are not two extremes on a continuum. The differences between them are relative, and can be transformed mutually. The Japanese scholar Nonaka and Takeuchi suggest ways of transforming tacit knowledge into explicit (Nonaka and Takeuchi 1995). The first is through socialization, which is the process of individuals communicating and sharing tacit knowledge, emphasizing communication through activities among community members. The second is externalization, in which the individual manages, to some degree, to turn tacit knowledge into explicit and pass it on to others. In fact, the creation of knowledge is the process of constant externalization of tacit knowledge, which usually requires the application of certain technologies to enable individuals to turn their

ideas into words, conceptions, rhetorical language (e.g., simile, metaphor, and description), or images.

Completing the video assignment helps students learn in a metaphorical way, accomplish artistic metaphorical presentation of learning and teaching theories, and metaphorical study of the rules. The essence of metaphors is to know, understand, and express one thing using another (Gao and Xu 2010). Instructional metaphors not in form of language, in particular, are helpful for students to get in-depth understanding of the learning and teaching theories.

Learning by making videos can help the makers accomplish externalization of tacit knowledge, thereby grasping the knowledge hard to express in words, and promoting teaching competence. It can also help viewers investigate others tacit knowledge from the videos.

This activity enables the participation of the body into learning and teaching process. Authentic tasks for the students can maneuver their mind and body to the full, and make the process of learning more interesting and full of change. The movement of the body can effectively stimulate or enhance the thinking activity of the brain, thereby greatly improving learning outcome.

Such activities provide conditions for students' creative learning, which give students a maximum of freedom, set free their imagination, divergent thinking, and convergent thinking, and enhance their ability to concentrate. Students' learning initiative gets fully released, and they get the experience of originality brought by learning activities without model answer. Most students experience staying up late, losing appetite and thinking hard while working on this assignment. Such experience of extreme devotion to learning is so impressive that it will benefit the students for their whole life long.

To make the activity more flexible, the video making and presenting assignment can be substituted by webpage making, which is also an authentic task, providing effective learning, and presenting tools for the students.

1.4.6 Self-Reflection Project 200

Writing short essays on one's own is an effective way to promote reflection. The so-called Project 200 is the requirement that each student writes a reflection log of 200 words every two weeks and submits it to the communication section on the course website.

Generally speaking, learning reflection is an indispensable component in the learning and teaching process, and students' reflections are an important condition for their learning transformation. Through reflection, students become clearer about their learning achievements and problems. They evaluate their learning strategies and set goals for the next step. To complete the reflection log of 200 words, students summarize what they learned with brief and simple language, which helps students establish superordinate big ideas, remember, understand and transfer the content, and raise their competence in generalization. Project 200

fosters in-depth learning in students as well. In-depth learning primarily involves critical thinking and self-regulated thinking. Critical thinking refers to being able to find out the shortcomings, conflicts, and imperfections of the object studied. Self-regulated thinking is the form of creative thinking which does not strictly follow the established rules, is not confined to a set way of thinking, is able to reflect on one's concept and thinking mode, and is able to find out the essence of the object being studied (Toshio 1998). Obviously, critical thinking and self-regulated thinking are high level forms of thinking to which teachers in higher education should pay special attention. Through the web-based platform of the course, students read about others' experiences, communicate with each other, and accomplish interactive learning. The length requirement of 200 words of the essays lessens the difficulty in writing, enabling the students to take an active role, establishing the habit of writing reflection logs. In fact, almost every student submits logs much longer than 200 words, which the teacher is expecting to see. The assignment was originally for the students to write a reflection log of 200 words every week; however, this led to too much reading and response work for the teacher.

To be noted here, do not take it for granted that students can write a 200-word reflection without guidance. The teacher should give guidance in the structure and writing logic of the essays, e.g., chronological order of events; contrasting opinions, i.e., one opinion first, followed by a conflicting opinion, with the writer's own opinion coming the last. A brief introduction and conclusion should be added, after which we get a full structured essay.

The carrying out of Project 200 increases the attraction of this course, in which students experience a sense of fulfillment and achievement, and learn to investigate instructional issues from the teaching professional's perspective.

1.4.7 Learning Resources Building

In higher education, it is helpful to provide encouragement for students' autonomous and cooperative learning rather than pushing them to do so. In fact, most students do not know how to learn autonomously even though the teacher asks them to do so. Neither can they balance in-class and outside of class learning. Therefore, it is necessary for the teacher to provide guidance and support. From the teacher's perspective, the accumulation of teaching resources is beneficial to the building of the curriculum. The carrying out of in-depth instructional research is of vital importance to the improvement of teaching.

It is a new tendency in higher education across the world for teachers to take advantage of modern technologies and provide students with remote teaching services. Yet in China, teachers in higher education have not attached enough importance to it, which is a problem that should no longer be neglected. In regular

higher education, making proper use of networking techniques in establishing web-based instructional platforms, to aid teachers' regular teaching work, is the benefit technology brings to higher education.

Instructional activities are one of the natural communicative activities of humans. Yet there is a common occurrence of "lack in communication" in instructional activities in higher education. Usually one teacher teaches each course, and students and teacher meet once a week, it is unavoidable then that some students would lag behind or become unmotivated for they cannot communicate with the teacher and receive feedback regularly. The students cannot receive necessary, powerful, and effective learning support; the communication between the teacher and students is limited. With network technology, the teacher can make good use of the time out of class to provide the students with learning support. Through web-based platforms, or e-mail, the teacher can answer students' questions and communicate with them at any time, any place, which embodies the concept of mobile learning, ubiquitous learning, distributed learning, and extended learning. The platform can play many other positive roles at the same time, including the delivery of teaching resources, improving instructional modes, explicating the teacher's personal opinions, exhibiting students learning outcomes, and stimulating the students' learning motivation.

The design principle of the e-platform of the course, Fundamental Theories of Learning and Teaching, is "simple and practical, enriched and effective". No "new technology" is employed in building the e-platform. Teaching resources in it mainly include video records of the course lectures, video "pop-talk", assignments and exercises, exhibition of assignments of previous students, recommended academic articles, books and websites, experts' lectures, and the online question answering zone. The resources are generated during the interaction in the teaching and learning process, and it is constantly updated and enlarged, to become the database of the teacher's teaching and support platform of teaching research, aiding in-class activities as well as students out of class autonomous learning and thinking. Here, video "pop-talk" and students' practice modules will be discussed in detail.

In the extended resources module, a section is named "video pop-talk". First, this section is a series of videos the writer began making in 2008, and are a record of his thinking about academic research, accumulation of teaching experiences and various opinions on educational issues, presented in the form of short videos. Many ideas are fleeting, thus video is a good way to preserve them. Second, the information in the form of video and audio, compared with reading, will stimulate their audio-visual senses and enhance their communication and acceptance of the ideas put forward. Researchers found that some people prefer listening to reading when receiving information. Changing to a different format of transmission sometimes makes the information easier to receive. Third, these videos are designed based on the idea of "segments", and are very short in length. Each segment has a theme, an opinion, an idea, and an understanding, which is clear-cut and conforms to the learners' rules of cognition, leading to good teaching effectiveness. After making video pop-talks, the writer found an international

instructional website, TED, in which each speech lasts less than 18 min. The massive open online courses, MOOC, have grown more well known in recent years. A succession of universities formed network-based platforms, providing free courses of small units. Fourth, without the limits of time and space, the writer has more freedom to express himself creatively. He can discuss and record whatever comes to mind wherever he is. Fifth, changing the backgrounds of the videos would also have a positive effect on the learning. The learner's curiosity and the feeling of freshness are positive experiences that may transform into an effective state of learning, stimulating students' motives to learn. Sixth, all these efforts are for assisting classroom lectures. The teacher's own personality and understanding of various issues may act as supplementary materials for the lectures, having a positive influence on students.

The "video pop-talk" is an ideal way of showing the teacher's personality, and establishing good communication and rapport with students. Its function is far beyond learning and discussing field knowledge. It is a much wider area, discussing more extensive topics. The teacher may talk about knowledge, conducting ones behavior, society, or about life. It allows for instantaneous expression, and can be kept for a long time.

Using this method of teaching sets, a high standard for the teacher's teaching competence, especially their capacity in information technology and expressing oneself. It requires the teacher to be able to use video and audio tools to edit digital materials and to use the internet skillfully. The teacher needs to practice presentation skills in front of the lens, in order to increase the attractiveness of language use, and to express himself with calm and ease, vividly yet naturally. While appearing to be a monolog of the teacher alone in front of the lens, it is interacting spiritually with the learners. This way of teaching is in accordance with what Knowles refers to as the principle of friendly and informal learning atmosphere (Smith 2002).

In the students' practice module, the previous students' assignments are preserved, including text, webpage, simulation teaching videos, and students' video pop-talks. To put students at the center of the learning activity, it is necessary to change their way of learning, where a little change may lead to great difference in learning effects, as analyzed by the Butterfly Effect theory, the result will be unpredictable. Learning is most effective when the learner is in need, which is highly motivating as well. Research outcomes of each group are required to be presented in the form of videos, therefore, students need to come up with complete, logical, and systematic reports, which help students reorganize, generalize, and internalize the learning outcomes. Students make instructional reflections using video tools. Each of them is required to tell about his or her reflection in front of the lens, express the learning outcomes in his or her own language, structure the system of the learning content and summarize the core concept of it.

This course puts more emphasis upon fostering students key capacity, not on the amount of knowledge learnt, providing students with the opportunities to use tools for learning, to learn how to communicate with others, to emphasize self-regulation, and help students gain practical working competence. To be noted here,

the instructional reform is not aimed at merely increasing students' interest in learning, which is a low-level function of the reform, but promoting students' thinking ability which is a high-level function. Increasing students' interest in learning is not the aim but a measure. It is not right to choose the method of teaching just for interest's sake; the choice should be made according to central goals.

From the perspective of learning resources, the platform provides the students with individualized learning support and basic learning materials for cooperative learning. The up-to-date materials enrich the learning content. The teacher presents opinions on social problems, which helps reduce psychological distance between the teacher and students, promotes in-depth communication between them, as well as allowing the teacher to reflect on his own teaching.

These resources accumulate into a rich and original database. Such precious teaching resources are important materials for the teacher's later teaching and research. Students may learn from each other, while the teacher may summarize his teaching process. When the number of videos in the "pop-talk" increases to 100, an educational monograph may come from them.

1.4.8 Instructional Assessment

In higher education, the assessment work after teaching is the most difficult of all the teaching sessions. The writer disagrees with the detailed, precise grading used in universities, and assessing students according to how much they have remembered. The purpose of distinguishing students should be weakened. What really counts is "assessment for learning"(Mckeachie 2002). As long as the assessment is not for grading students only, it also serves as effective stimulation in promoting students' learning. The writer proposes "ambiguous" assessment, in which general grading is given, concentrating on basic features of an effective student instead of details they have learned. Teaching work must aim at promoting students' high level competence, yet for students' such competence has a variety of ways to present, some of which are hard to discover and measure. When assessing students' level of development or capacity for creative thinking, it is not effective to use simple tests or time-connected work as criteria. Many learning outcomes do not show immediately. They may be stimulated after several years during an activity, so they should not be assessed immediately after learning.

The scores given to students in exams cannot always reflect students' true value. Learning activities themselves are more important than scores. The scores are of great importance to students, yet they do not mean much. Valuable learning is that which enables meaningful change in the learners, this can be on a behavioral level, or on mental level. In whatever way, the teacher's teaching behavior should help students see a meaningful change in their learning. Here an instructional difficulty appears, i.e., only students themselves know whether meaningful learning has taken place. Then, it is impossible for the teacher to evaluate the real

meaning of students' learning. If he or she can properly measure how meaningful the students' learning is to them, the teacher can assess the students according to the result of the measurement. Yet, this is not possible, even though the teacher has the duty to assess students.

In assessing students' achievements, the teacher must be fair. For example, if one student is always punctual while another is often absent, cramming just before exams with borrowed notes, achieves the same score, it is not fair. Generally speaking, the so-called fair grading enables high scores to those who actively participate in the organized activities, complete assignments carefully, and understand the teaching content properly, while those cannot effectively accomplish these learning activities receive low scores. However, grading in the form of scores cannot reflect the true outcome of students' learning. In teaching practice, there are many aspects of uncertainty. Even though some students come to the class, are attentive, and get high scores in exams, they may not experience any important change. On the other hand, the absent students may find an occasional class and lecture an important learning experience. Therefore, we cannot judge students' value and mentality merely based on their grading. It is not necessary that students with low grade bear with low value and competence; nor can we affirm that the students are of great value just because some students get high scores. What should be noted here is that, generally speaking, the teacher should not make relative evaluation of the students and absolute evaluation should be made instead. The teacher should focus on creating opportunities in teaching activities, enabling students' meaningful learning.

The assessment of students' learning effectiveness should be made in a comprehensive way, and various methods of assessment should be taken to get students' learning data. Counting students' achievement comprehensively can improve learning effectiveness. It is not accurate to judge students' learning performance through just a final exam at the end of a semester. There is only one final exam in a semester which is not enough to consistently and effectively show the students learning ability, and for the teacher to make teaching decisions upon. Yet the teacher and students need to know how well the students can do. If there is only one exam, it is difficult to organize and test the teaching content in the whole semester. In other words, aiming at the exam, students usually study just before it, in which their gains are limited. If the items in the exam require careful learning for a whole semester, students cannot achieve a good grade.

If they cannot receive information about their learning outcomes throughout the course, the students would be less motivated. Assessment is not merely for grading, but for promoting learning. Fair methods of assessing the students should be employed. In order to promote students' motivation for learning, the teaching should be able to interest students, guarantee students self-regulation. The efforts students put into learning activities are more important than scores in the exam.

Generally speaking, learning content remembered in a short time just to pass closed book exams is soon forgotten after the exam. The aim of higher education is not for students to remember information for exams, but to think about how to make creative use of the information learned, and how to solve problems.

Table 1.1 Assessment format

Regular grade (60 %)	Individual tasks (30 %)	Microteaching (18 %)
		Self-reflection project 200 (6 %)
		Reading report (6 %)
	Group tasks (30 %)	Reading presentation (10 %)
		Educational video (20 %)
Final grade (40 %)	Final exam (40 %)	Definitions (10 %)
		Question answering (20 %)
		Discussion (10 %)

Note Percentages represent the proportion of the item in the total score

The observation points for students' assessment in this course are divided into two parts: basic knowledge and basic competence. Basic knowledge mainly examines students' mastery of declarative knowledge and procedural knowledge; examination of basic competence refers to the ability to apply what has been learned, including students' essays, videos, simulation class, in-class presentation, group learning, participation, and contribution to activities in class.

Different from the former way of assessment in which the teacher acts as the subject of assessment, with students passively receive the teacher's assessment, and making judgment merely according to scores in exam. This course carries out multiple assessments and combines these assessments made by the students themselves, the group, the class, and the teacher as the assessing method. We are not only concerned with students' performance in the final exam, but also with assessing students according to requirements at different stages, and focusing on students' learning process.

Here we take the first semester in the academic year 2012–2013 as an example, illustrating the assessment format of the course, Fundamental Theories of Learning and Teaching (see Table 1.1). In the assessment format, regular grades account for 60 % of the total score, while the final grade accounts for 40 %. In a regular grade, individual tasks and group tasks account for 30 % of the total, respectively. Individual tasks include microteaching, Self-reflection Project 200, and reading report; group tasks include reading presentation, educational video, and report.

Microteaching requires each student choose certain content from a primary or secondary education textbook, design a teaching plan and make course materials as well. Each student gives a micro-simulation teaching, and explains his or her teaching design; feedback is given from peers and the teacher. The other students play the role of pupils while one of them is teaching (peer teaching). Students and the teacher fill in a form of observation and records, and they evaluate the teaching from the perspectives of content, goal, method, process, and skills. Scores were given by the students, and the teacher accounts for 50 % of the total score.

Self-reflection Project 200 is assessed by the teacher. The teacher marks journals at regular intervals. The criteria include whether the journal has a distinct theme, original point of view, in-depth thinking, and genuine feelings. At the end

of the semester, the teacher counts the number of qualified journals, gives a full mark (100) for 5 or more such journals, and 80 for 4, 60 for 3, respectively.

Reading reports last for a month and a half, beginning from the third week. Each group member writes a book report after reading a book. The teacher is to assess this task. Grading is given according to the quality of the report, judging from the aspects of summary of the book, the author's opinion, form of argument and writing norms.

Reading presentation is first a reading task for each group. After each member has written a report, the group members discuss and summarize the most valuable content, and give a presentation in class. The grading of the presentations is given by the teacher and students in other groups (50 % from the teacher and 50 % from the students). In addition, within the groups, students evaluate their participation and contribution to the activity, each member makes a self-evaluation and comes up with the weighted value. The grading of the group with the weighted value for each member is the grading for each student.

Educational videos are shot, edited, and presented by each group. The teacher and members of other groups fill in an evaluation form for the task. Criteria include theme presentation, script creation, depth of reflection, shooting techniques, and effectiveness. Grading of each presentation is determined by the teacher's assessment and assessment from other groups (accounting for 50 %, respectively). Furthermore, within each group, students evaluate their participation and contribution to the activity, each member makes a self-evaluation, and comes up with the weighted value. The grading of the group with the weighted value for each member is the grading for each student.

Final examination was aimed at investigating students' mastery level of big ideas in the course, which includes students' understanding of the concept of learning, teaching, and technology. Case study methodology is used to check students' ability to apply theories to practice, and eventually help promote their competence in applying what they have learned.

1.5 Effectiveness of the Model

This instructional model changes teachers' teaching behavior of one-way transmission of knowledge, helps students take an active role in instructional activities, and creates conditions for mutual communication among students. Students accomplish in-depth learning effectively, especially the learning goals set by the transformation theory. Most of them develop a sense of achievement. They gain not only knowledge, but also the experience of the essence and spirit of learning activities. Therefore, students are highly satisfied with this course. Their positive assessment on this course is spread widely among students of various grades. In 2009, Prof. Mang Li was elected "the most popular teacher among students" by undergraduates in the College of Educational Technology. And in the same year,

this course was chosen to be "Excellent Course of the Nation" by experts in the committee supervising the field of educational technology.

Students' feedback about the course in the previous years can be found from the teaching assessment forms filled by students developed by the Office of Educational Administration, Beijing Normal University. At the end of each semester, the university arranges students to assess each course and the teacher teaching it, which is carried out online anonymously. Students fill in the forms and answer several assessing questions. Data is presented here from the assessing forms for this course filled out by students over the past three years, as well as answers to subjective questions (see Appendix A, B, C and D).[3]

Judging from the results of students' assessment on the teacher in the past three years, the score of the course, and the teacher are both higher than the university average. Students as a whole respond positively to this course, and they point out many of its merits. When they mention the teacher, they explain their feelings and impressions.

Chosen from students' works in self-reflection Project 200, several reflection works show the effectiveness of this course from a certain aspect. One student wrote, "Prof. Li, I've made up my mind to immerse myself in teaching. It is great to be a good teacher! The teaching profession takes a lot of learning!" Another one writes, "With the new book, Fundamental theories of learning and teaching, in my hand, I was astonished at first, the theories, made me nervous, and I felt it would be dull. After listening to your lectures, I found it is totally different from what I imagined. This course is so interesting. I feel released. What's more, the teacher teaches with his really original thoughts. The 3 h class time is worthwhile. I believe that, with the teacher's help, I can build up my own thoughts". Still another writes, "Pleasant surprise is the first impression this course leaves me. To tell the truth, though it is somewhat evil, as a typical boy of science, before taking the class, I did not expect much from it. Yet Prof. Li Mang made me feel that I'm too naïve to think that way. I like this course, not only because of the good teaching methods and style of Prof. Li, but also the teaching content transformed my thinking. The concept Mr. Li teaches us takes the place of the former state of a mess in my mind. I feel very happy to be in this profession".

However, some prominent problems arise from the result of assessment from students, which requires attention. Some students evaluate "average" or "below average" as the general assessment, and there are assessments of "average" and "below average" for some other observation points, especially for textbooks and reference books for this course. Some students provide suggestions on how to improve the textbook. So the next step for the teacher should be to examine these problems carefully and make improvements.

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[3] All assessing forms are from the network of administrative management system of the Office of Educational Administration, Beijing Normal University, and with the permission from the office.

Moreover, the assessment form as the assessing tool here has some problems. For example, assessment items are too simple, no progressive questions are provided. The items are inadequate to show the reasons for the existing problems.

It is of great importance to regularly check students' feedback on the teaching, which enables the teacher to discover teaching problems, and make adjustments. Project 200 is an ideal window into students' state of learning, which provides valuable information for the teacher. To examine students' feedback together with other teachers can greatly improve the teacher's teaching. The teacher should also make further study based on the feedback information.

1.6 Conclusion

The instructional model oriented toward improving teaching ability in this course is the tool for carrying out teaching and learning activities developed and guided by the writer's teaching philosophy. Through designing and implementing this model, the writer tries to help release students from the bitterness of learning, to enable students' effective learning, and to realize the development of students' lives. The writer believes that the essence of human learning is painful, for students must put great effort into learning activities. Teachers are helpers. A teacher's duty is to help students experience happiness, learn effectively, and promote their teaching ability. Effective communication is one of the goals of this instructional model, and instructional activities are processes of communication.

This instructive model focuses on promoting students' learning ability, which shows explicitly the belief that a student's learning is as important as teachers' teaching in higher education. Universities are places not only for teachers' teaching, but also, more importantly, for students' effective and in-depth learning. The learning activity is a dynamic activity, in which students are not containers, and teachers cannot simply pour knowledge into them. Psychologists' research has proven this. People believed that memory is like a photo taken and preserved, and in this way, recall is like getting the photo out and taking a look. With the development of brain science and psychology, researchers came up with a new memory model. According to this model, memory is like drawing on paper with a pencil, and then the picture is lost. When recalling it, changes take place in the memory content, in which important parts will remain, and less important ones disappear. Here we see that, learning is a dynamic way of knowledge construction.

Appendix A: Students' Assessing Form for the Course "Fundamental Theories of Learning and Teaching" (Academic Year 2012–2013)

Students' major	Educational technology	Grade	2010
Type of course	Compulsory	Number of participants	42
Teacher's name	Mang Li	Teacher's title	Professor
Work unit	Faculty of Education, Beijing Normal University		

Assessment items	Detailed items	Percentage of each item					Final score	Average of the university
		Excellent	Good	Average	Below average	Poor		
General assessment	Your general assessment of the teacher's teaching	95.2	4.8	0.0	0.0	0.0	4.95	4.62
	Your general assessment of the course	85.7	11.9	2.4	0.0	0.0	4.83	4.57
Assessment of teacher's teaching quality	The teacher works earnestly and responsibly	85.7	11.9	2.4	0.0	0.0	4.83	4.65
	The teacher teaches clearly	90.5	7.1	2.4	0.0	0.0	4.88	4.54
	The teacher uses effective teaching methods	88.1	9.5	2.4	0.0	0.0	4.86	4.51
	The teacher teaches with key points and difficult points stand out	78.6	14.3	7.1	0.0	0.0	4.71	4.48
	The teacher attaches importance to teaching method	83.3	14.3	2.4	0.0	0.0	4.81	4.48
	The teacher attaches importance to communication with students	92.9	7.1	0.0	0.0	0.0	4.93	4.48
	The teacher teaches with his/her own style	88.1	11.9	0.0	0.0	0.0	4.88	4.58
	The teacher's character and morals have a positive influence on you	85.7	14.3	0.0	0.0	0.0	4.86	4.44

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Assessment items	Detailed items	Percentage of each item					Final score	Average of the university
		Excellent	Good	Average	Below average	Poor		
	The teacher can stimulate your learning motivation	76.2	23.8	0.0	0.0	0.0	4.76	4.37
	The teacher's teaching increased your interest in this course	78.6	19.0	2.4	0.0	0.0	4.76	4.35
	The teacher's teaching increased your ability	71.4	26.2	2.4	0.0	0.0	4.69	4.39
Assessment of the course	This course has enough class hours	61.9	28.6	9.5	0.0	0.0	4.52	4.40
	This course has appropriate content difficulty	71.4	21.4	7.1	0.0	0.0	4.64	4.38
	This course has appropriate content coverage	73.8	21.4	4.8	0.0	0.0	4.69	4.41
	This course has appropriate learning load for students	71.4	23.8	4.8	0.0	0.0	4.67	4.35
	This course is important to you	73.8	23.8	2.4	0.0	0.0	4.71	4.42
	This course has appropriate textbook or reference books	50.0	38.1	11.9	0.0	0.0	4.38	4.27
	This course has tightly connected teaching steps	64.3	33.3	2.4	0.0	0.0	4.62	4.39
	This course connects with formerly taken courses	52.4	38.1	9.5	0.0	0.0	4.43	4.26

Appendix B: Students' Assessing Form for the Course "Fundamental Theories of Learning and Teaching" (Academic Year 2011–2012)

Students' major	Educational technology					Grade			2009
Type of the course	Compulsory					Number of participants			54
Teacher's name	Mang Le					Teacher's title			Professor
Work unit	Faculty of Education, Beijing Normal University								

Assessment items	Detailed items	Percentage of each item					Final Score	Average of the university
		Excellent	Good	Average	Below average	Poor		
General assessment	Your general assessment of the teacher's teaching	85.2	13.0	0.0	1.9	0.0	4.81	4.57
	Your general assessment of the course	83.3	14.8	0.0	1.9	0.0	4.80	4.52
Assessment of teacher's teaching quality	The teacher works earnestly and responsibly	88.9	9.3	1.9	0.0	0.0	4.87	4.60
	The teacher teaches clearly	83.3	14.8	1.9	0.0	0.0	4.81	4.50
	The teacher uses effective teaching methods	79.6	18.5	1.9	0.0	0.0	4.78	4.47
	The teacher teaches with key points and difficult points stand out	70.4	22.2	7.4	0.0	0.0	4.63	4.43
	The teacher attaches importance to teaching method	74.1	22.2	3.7	0.0	0.0	4.70	4.43
	The teacher attaches importance to communication with students	83.6	12.7	3.6	0.0	0.0	4.80	4.42
	The teacher teaches with his/her own style	85.5	12.7	1.8	0.0	0.0	4.84	4.52
		74.5	16.4	9.1	0.0	0.0	4.65	4.39

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Assessment items	Detailed items	Percentage of each item					Final Score	Average of the university
		Excellent	Good	Average	Below average	Poor		
	The teacher's character and morals have a positive influence on you							
	The teacher can stimulate your learning motivation	65.5	27.3	5.5	1.8	0.0	4.56	4.32
	The teacher's teaching increased your interest in this course	69.1	20.0	9.1	1.8	0.0	4.56	4.30
	The teacher's teaching increased your ability	61.8	30.9	7.3	0.0	0.0	4.55	4.34
Assessment of the course	This course has enough class hours	54.5	40.0	3.6	1.8	0.0	4.47	4.34
	This course has appropriate content difficulty	61.8	36.4	1.8	0.0	0.0	4.60	4.33
	This course has appropriate content coverage	63.6	30.9	3.6	1.8	0.0	4.56	4.36
	This course has appropriate learning load for students	49.1	43.6	5.5	1.8	0.0	4.40	4.31
	This course is important to you	74.5	23.6	1.8	0.0	0.0	4.73	4.38
	This course has appropriate textbook or reference books	29.1	54.5	14.5	1.8	0.0	4.11	4.21
	This course has tightly connected teaching steps	63.6	36.4	0.0	0.0	0.0	4.64	4.33
	This course connects with formerly taken courses	41.8	56.4	1.8	0.0	0.0	4.40	4.22

Appendix C: Students' Assessing Form for the Course "Fundamental Theories of Learning and Teaching" (Academic Year 2010–2011)

Students' major	Educational technology	Grade	2008
Type of the course	Compulsory	Number of participants	44
Teacher's name	Mang Le	Teacher's title	Professor
Work unit	Faculty of Education, Beijing Normal University		

Assessment items	Detailed items	Percentage of each item					Final Score	Average of the university
		Excellent	Good	Average	Below average	Poor		
General assessment	Your general assessment of the teacher's teaching	86.4	11.4	2.3	0.0	0.0	4.84	4.56
Assessment of teacher's teaching quality	Your general assessment of the course	79.5	11.4	9.1	0.0	0.0	4.70	4.51
	The teacher works earnestly and responsibly	75.0	22.7	2.3	0.0	0.0	4.73	4.59
	The teacher teaches clearly	79.5	15.9	4.5	0.0	0.0	4.75	4.48
	The teacher uses effective teaching methods	79.5	13.6	6.8	0.0	0.0	4.73	4.45
	The teacher teaches with key points and difficult points stand out	70.5	25.0	4.5	0.0	0.0	4.66	4.42
	The teacher attaches importance to teaching method	79.5	13.6	6.8	0.0	0.0	4.73	4.41
	The teacher attaches importance to communication with students	79.5	15.9	4.5	0.0	0.0	4.75	4.40
	The teacher teaches with his/her own style	84.1	13.6	2.3	0.0	0.0	4.82	4.52
	The teacher's character and morals have a positive influence on you	79.5	20.5	0.0	0.0	0.0	4.80	4.37

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Assessment items	Detailed items	Percentage of each item					Final Score	Average of the university
		Excellent	Good	Average	Below average	Poor		
	The teacher can stimulate your learning motivation	75.0	25.0	0.0	0.0	0.0	4.75	4.30
	The teacher's teaching increased your interest in this course	63.6	34.1	2.3	0.0	0.0	4.61	4.29
	The teacher's teaching increased your ability	79.5	15.9	4.5	0.0	0.0	4.75	4.33
Assessment of the course	This course has enough class hours	65.9	27.3	6.8	0.0	0.0	4.59	4.33
	This course has appropriate content difficulty	59.1	27.3	13.6	0.0	0.0	4.45	4.31
	This course has appropriate content coverage	59.1	34.1	6.8	0.0	0.0	4.52	4.34
	This course has appropriate learning load for students	52.3	38.6	6.8	2.3	0.0	4.41	4.30
	This course is important to you	70.5	20.5	9.1	0.0	0.0	4.61	4.39
	This course has appropriate textbook or reference books	50.0	27.3	18.2	4.5	0.0	4.23	4.21
	This course has tightly connected teaching steps	63.6	29.5	6.8	0.0	0.0	4.57	4.33
	This course connects with formerly taken courses	52.3	34.1	13.6	0.0	0.0	4.39	4.23

Appendix D: Students' Detailed Comments on the Course Fundamental Theories of Learning and Teaching

Number	Item	Opinions and suggestions
1	What are the outstanding advantages of the teacher's teaching in your opinion?	Various forms, has his own focus
2		Communicates a lot with students, has his own original thought
3		Many advantages, learned, kind
4		The teacher gives genuine presentations, using vivid examples from daily life
5		Dignified, sincere, doesn't exaggerate, great ideas put in writing, humorous and thoughtful, good grounding
6		Genial, humorous, insightful, shares with student thoughts and world view
7		Gives students opportunity to realize their potentials, combines learning and teaching
8		Genial, thoughtful
9		Focus on learning and teaching
10		Natural and various forms
11		Practical and vivid
12		Humorous and approachable
13		Has original thoughts
14		Unifies knowing and doing, imparts knowledge and educates people. Learn to educate, behave to civilize
15		The teacher is responsible and humorous
16		Knowledgeable
17		Humorous and profound
18		Well documented in class, the teacher is genial. I like it
19		Genial, rigorous, having personality charm, always providing constructive suggestions
20		Clear and humorous language use
21		Responsible, teaches carefully, reasonable teaching arrangement
22		Knowledgeable, high academic literacy, clear in-class presentation, various activities, comments to the point
23		Wide range of knowledge, genial, clear lectures, air of a master, original thought

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Number	Item	Opinions and suggestions
24		Careful
25		Humorous and responsible
26		Careful, responsible, and kind
27		Careful, responsible, having original way of teaching, emphasizes communication with students, enriched teaching content, practical
28		Good lectures
29		Original thought
30		The teacher is humorous, has got original thought on many issues, and willing to share with students. Special way of teaching, very interesting
31		Interaction
32		Humorous lectures, understandable, concerning various aspects, guiding us in thinking. Makes good use of resources, much interaction, communication, and guidance
33		Interesting lectures, in-depth knowledge.
34		Pithy and original thought, good at inspiring students, various teaching methods
35		Vivid and detailed explanation, thoughtful
36		Humorous lectures, careful and responsible
37		Good at communicating with students, original way of teaching, good at inspiring students, concerned with fostering thinking abilities
38		Charming personality, clear lectures, excellent teaching
39		Careful teaching, responsible, genial. I like listening to this teacher
40		Good lectures.
41	What is your largest gain in this course?	Gain knowledge about learning and teaching, get to know about this field
42		Get to know basic qualities of teachers, and issues to consider as a teacher in the future
43		Attitude and opinion toward teachers changed
44		Learning and teaching, important issue, much to learn

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Number	Item	Opinions and suggestions
45		Learned personal charm from the teacher, and experienced the pleasure of learning by doing
46		Gained much knowledge about learning and teaching, learnt to think, learnt to find learning and teaching in daily life, became interested
47		Group cooperation
48		Gained own understanding on how to learn and teach, experienced being a teacher through micro-teaching activity
49		Learned learning and teaching theories, got new ideas about instruction, experienced teaching and video making process
50		Learned teaching skills
51		Competence increased, knowledge widened
52		Learned fundamental principles of teaching and learning, and how to learn and teach well
53		Learned dialectic relationship between learning and teaching
54		Got to know fundamental theories of learning and teaching, began to reflect on the importance of teaching and learning
55		Learned much about learning and teaching
56		Learning much about qualities of people and especially of teachers
57		Ability to cooperate with group members, details to pay attention to while teaching
58		Realized problems in teaching and learning.
59		Teaching method.
60		Learning strategies and teaching strategies
61		Learned the learning theory and teaching theory of the profession of educational technology
62		Increased my sense of responsibility as a group leader
63		Gained knowledge that I cannot learn from textbooks
64		Learned a lot, know more about teaching and learning
65		Learned a lot of theories on learning and teaching

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Number	Item	Opinions and suggestions
66		Learnt how to teach, and how to conduct myself
67		Learned relationship between learning and teaching
68		Improved thinking ability
69		(learned) the conflict between learning and teaching, and much about the profession
70		Knowledge such as instructional concepts
71		Learned what a good educator is like
72		Learning methods
73		Learn much which is not in the textbooks
74		Learn many theories of learning and teaching, set foundations for future research or teaching
75		Learn to reasonably view and reflect on various problems in teaching and learning
76		Gain happiness from working in groups
77		What qualities should an excellent teacher have
78		Get new understanding about teaching
79	In which aspects do you think the teacher's teaching needs improvement?	Now I feel all is good
80		Very good. Nothing for now
81		Nothing for now
82		No comment
83		No comment
84		Already very good
85	What do you suggest for the curriculum and teaching activities of this course?	More practical activities
86		Very good
87		Perfect
88		Change to 3 credits
89		Keep this classical subject, even bring it forward
90		The activities are all very good
91		Other aspects are good. Change the lecture time. Nighttime is not appropriate for a professional course

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Number	Item	Opinions and suggestions
92	What do you suggest for reform in this course?	Hope the textbook is more related to the world, instead of piling up theories
93		More practical activities
94		Very good. Nothing for now
95		Nothing more. I like the teacher
96		None
97		Very good

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