

A Study of Effective English Teaching--Interpretation of Jerome Bruner's *The Process of Education*

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Abstract: The four central ideas (the importance of structure, preparation for learning, intuitive thinking and analytical thinking, and motivation for learning) and one proposal (teaching aids) put forward by Jerome Seymour Bruner in *The Process of Education* are important guidelines and approaches for effective learning. This report analyzes the educational significance and scientific implementation methods of these four central ideas and one proposal, and combines the teaching philosophy with English teaching to explore the effectiveness and feasibility of applying “the importance of structure”, “preparation for learning”, “intuitive thinking and analytical thinking”, “motivation for learning”, and “teaching aids” to English teaching, thereby providing enlightenment for effective high-quality English teaching.

Keywords: Jerome Bruner's Educational Theory, *The Process of Education*, Effective Teaching, English Teaching.

1. Introduction

The Process of Education is a monograph written by Jerome Seymour Bruner and it was first published by Harvard University Press in 1960. Jerome Seymour Bruner, an American educational psychologist and cognitive psychologist, did plenty of research about the cognitive process. He is the forerunner of cognitive psychology and the representative of putting psychological theory into educational practice. In 1957, the successful launch of the Soviet artificial satellite shocked the American government and the public. In order to compete with the Soviet Union, the United States launched a comprehensive educational reform, aiming to train a large number of scientific and technological talents. In 1959, the American Academy of Sciences held a conference at Woods Hole to discuss how to reform mathematics and science education in primary and secondary schools. Jerome Seymour Bruner was the chairman of the conference and made a summary report. After the conference, Jerome Seymour Bruner wrote *The Process of Education* based on his structuralist thought, which challenged the traditional cognitivism educational thought, pointed out the direction of curriculum and teaching reform in the United States in the early 1960s and still has great guiding significance for today's educational reform.

2. A Summary of the Book

The Process of Education takes curriculum reform as the theme and embodies the five basic principles of effective teaching advocated by Jerome Seymour Bruner, namely four central ideas (the importance of structure, preparation for learning, intuitive thinking and analytical thinking, and motivation for learning) and one proposal (teaching aids).

2.1. Four Central Ideas

2.1.1. No matter what subject to learn, it is essential to enable students to grasp the basic structure of the subject.

Jerome Seymour Bruner inherited and developed the basic opinions of structuralism and proposed the idea of "structuralist education". Bruner (1982) emphasized that "no

matter what subject people choose to teach, it is essential to enable students to understand the basic structure of the subject."

The so-called "basic structure of the subject" refers to the basic concepts, principles, and interrelationships of the subject. Understanding the basic structure of the subject means understanding how things are related in the subject.

Bruner believed that there were many advantages for students in learning the structure of a subject. First, by using appropriate methods to present basic principles and concepts, students can comprehensively understand the subject. Second, based on learning knowledge, students can develop the correct method of learning the subject and improve their efficiency and firmness in grasping knowledge. Third, students will not feel confused by learning the subject structure in a gradual and orderly manner, starting with the broad aspects and then learning the specific content. In addition, Xu (2010) mentioned that if students grasp the basic structure of a subject, it will not only help them better understand the basic ideas of the subject, but also help them solve problems and events encountered outside the classroom and problems encountered in later classroom training.

To master subject knowledge and promote effective learning, students can do the following three things. First, consciously memorize the structural framework of the subject, and have a macro understanding of subject knowledge. After grasping the basic subject structure, during the free learning stage, students can integrate new knowledge into their existing knowledge framework in an orderly manner and conduct more in-depth learning, gradually building their own knowledge tree rather than a disorganized collection of scattered knowledge points. Second, deepen the conscious memorization of specific knowledge in related subjects, such as principles, concepts, and laws. Remembering basic principles can help us solve problems. Finally, consciously cultivate transferability in real life. Transferability refers to the ability to apply what has been learned to new situations and to solve new problems, which includes the ability to perceive and handle new situations, the ability to connect old knowledge with new situations, and the ability to cognize and solve new problems. Li (2003) held the view that only by fully understanding what has been learned can we achieve

knowledge transfer in new situations. Discovering relationships and similarities between previously unrecognized things can promote the improvement of cognitive abilities and enrich emotions.

2.1.2. Any subject can be used in intellectual education and effectively taught to any child at any stage of development.

Jerome Seymour Bruner (1982) pay attention to early childhood education proposed that any subject can be used in intellectual education and effectively taught to any child at any stage of development.

For children, it may be considered to start learning earlier, appropriately ahead of their cognitive development level, i.e. learning what they will learn in one or two years. Based on Bruner's theory, if high-level knowledge is presented in an appropriate form, children can understand and accept it. Starting learning earlier can bring certain benefits, such as improving students' intelligence of subjects and stimulating the interest in the subject and ensuring the continuity of the subject.

To support this hypothesis, he divided the development of childhood intelligence into three stages (5 years or less is the stage of representational imitation; 5-7 years is the stage of image-based representational imitation; 13-14 years is the stage of symbolic representational imitation). He believes that each stage has its own characteristics, with different ways of observing and interpreting the world. Therefore, teaching a subject requires "presenting the structure of that subject in the way that the child observes the world." If this can be achieved, then any advanced knowledge can be accepted by children.

Based on the laws of children's intellectual development and the patterns of their learning behavior, Bruner proposed a spiral curriculum. Spiral curriculum means placing the subject structure in the center of the curriculum in a form that is consistent with the child's way of thinking, and gradually broadening and deepening the basic structure of the subject as the grade level rises, so that it presents a spiral ascending trend in the curriculum. He mentioned that in order to master the basic subjects of natural science, mathematics, and literature and apply them effectively, one cannot achieve the goal by just one learning experience. Rather, it requires repeated learning and application in different contexts to deepen understanding. That is, we should let students start learning higher level scientific knowledge from the early grades, and then repeat the learning and application multiple times as the grade level rises to gradually deepen their understanding, so that they can truly master the scientific knowledge. The cognitive development of an individual does not achieve overnight, but in a continuous and similar way, knowledge rises from elementary level to advanced level. The choice of continuously rising courses can improve and develop their cognitive level in a targeted way. Therefore, Bruner advocated the arrangement of subject content according to the requirements of the "spiral curriculum". At the same time, in the process of learning disciplines, we should pay attention to the frontier of disciplines and start from the basic structure of disciplines. Standing on the height of the development of the discipline to understand their current knowledge, is conducive to the absorption and understanding of knowledge.

2.1.3. Emphasize the importance of intuitive thinking

Bruner pointed out that in the past, only analytical thinking skills were emphasized in teaching, but in the future, intuitive thinking skills should be emphasized as well. Analytical

thinking is characterized by proceeding step by step further. The steps are obvious. In this thinking process, people can fully realize the knowledge and operations contained therein. However, intuitive thinking is quite different. It is not characterized by proceeding in a careful and prescribed manner. "Intuition is direct understanding and recognition," it is always based on familiarity with the field of knowledge involved and its structure, enabling the thinker to make leaps, skip levels, and take shortcuts.

Although the ancient Chinese philosopher Laozi emphasized the importance of intuitive thinking two thousand years ago, most teachers in modern education and teaching still place a greater emphasis on analytical thinking teaching, such as mathematical proof problems and physics application problems, while the emphasis on intuitive thinking is clearly insufficient and even the importance of intuition is denied. Bruner believes this is unreasonable. Instead, he attaches great importance and emphasizes intuitive thinking. Bruner (1982) proposed that "clever conjecture, rich hypotheses, and bold and rapid conclusions drawn from experiments are extremely valuable assets for any thinker. We should guide school children to acquire this innate ability".

However, the correctness or incorrectness of intuition in the end usually depends on the method of proof rather than on intuition itself. Intuition itself generates a trial organization of knowledge of a certain type, which can lead to a feeling that the facts are self-evidently organized in this way, and its main help lies in providing us with the basis for moving forward in the examination of reality. This way of thinking is operationally implicit, manifestly intuitive, and often capable of producing novel and innovative thinking results, with creativity, and is an important way of thinking for creative activities.

Given the neglect of intuition in teaching, Jerome Seymour Bruner pointed out that intuitive thinking and analytical thinking are complementary and are also an important technique and skill for solving problems.

Analytical thinking plays an important role in modern education. It is undeniable that analytical thinking is important, but we have to note that many inventions and creations start from the process of solving problems by guessing the correct answer or the general direction of solution by intuitive thinking, and then prove it by concrete experiments or reasoning by abstract thinking. It can be seen that intuitive thinking and analytical thinking are complementary and should cooperate with each other in the process of problem solving. Intuitive thinking is actually based on a certain amount of experience, and then applies analytical thinking to the previously set relationship for analysis and thinking. Of course, the choice to use intuitive thinking first comes when analytical thinking is not working at first.

Jerome Bruner proposed several ways to cultivate intuitive thinking: 1) Give intuitive thinking its due status. 2) Provide the structure of the curriculum. 3) Paint rich images. 4) Encourage organized reasoning. 5) Use the method of discovery.

2.1.4. Emphasizing the importance of internal motivation

Jerome Seymour Bruner criticized the grading system and competition. He also pointed out that the award-winning system would have some negative effects on the educational environment, such as the common consequence of overemphasizing exam scores.

Jerome Seymour Bruner emphasized that learning should

be an active process, and internal motivation is the true driving force for learning. The internal motivation means finding the root and reward of learning in the learning itself. The reward it requires is a sense of satisfaction or pleasure for those who achieve good results in the activity, or a sense of joy in the process of the activity. Jerome Seymour Bruner advocated that students' internal motivation should be stimulated. He felt that the effects of the external motivation such as rewards or competition were limited and could not be sustained in the long run. Therefore, Jerome Seymour Bruner advocated organizing children's learning based on their interests, believing that the best learning stimulus is the interest in the material being learned, rather than external goals such as rankings or future competitive advantages. Increasing the intrinsic interest of the material itself will make students feel they have made a new discovery. Stimuli that can arouse internal motivation generally include "novelty," "surprise," "complexity," "interest," and "contradiction." They can generally arouse the internal motivation of students and cause students to think.

But the role of internal motivation is often neglected in our daily education. It is manifested in the following two misunderstandings: First, many parents and teachers mechanically force students to learn some knowledge or skills that they are not interested in, thus causing students to reverse psychology; Second, many parents and teachers are easy to use external materials to award children, but they do not know that such a process gradually brings children into a utilitarian learning state, which is dangerous. Knowledge itself should be pleasant, in the process of conquering difficulties and acquiring knowledge, each problem solved, will harvest a sense of pleasure, we should let students themselves realize the charm of learning, so as to have an interest in learning.

Here are some measures to stimulate and maintain internal motivation in schools:

Create a problem situation. The so-called problem situation is a kind of learning situation that has a certain difficulty for learners, and it contains learning content that learners can partially understand, but can not fully understand. Learners feel that it is neither easy nor impossible to complete such learning tasks. Therefore, when the learner feels that there is a certain distance between the learning task and his existing cognitive structure, which forms a certain contradiction, or provokes a cognitive conflict of the learner, the problem situation will arise. Problem situation refers to a certain subject, which represents the interaction between learning situation and learners. Problem situation is the necessary condition to arouse learning needs and expectations, so as to make learning in an active state.

Let students have a sense of self-determination. According to cognitive evaluation theory, making students have a sense of self-determination will make them learn under the impetus of internal motivation. Some studies have found that whether teachers use external reinforcement to control students, or take some methods to attract students' attention to the course itself, so that students have more opportunities to participate in, has a great impact on the internal motivation of students.

Use external reinforcement to stimulate internal motivation. Motivating internal motivation is not incompatible with using external reinforcement. At the beginning of learning, external reinforcement is used to promote students' understanding and mastery of what they have learned. When students have mastered to a certain extent, they will have a sense of mastery and corresponding sense of ability. However, when using

external reinforcement, it must be made clear that the purpose of learning is to promote the mastery of what is being learned, not to control the students.

Use interest transfer to stimulate the internal motivation of learning. If students are interested in certain activities, then their interest in this activity can be linked to the curriculum related to it, so that they can generate the internal motivation to learn the course. For example, if a student is interested in assembling a radio, then it can be linked to the physics class, so that the student is also interested in the physics content.

The above are the main ways to stimulate the learning motivation and mobilize the enthusiasm of students. Other ways, such as the appropriateness of the teaching content, the seriousness and friendly feelings of teachers, also play an important role in stimulating the learning motivation of students, so it is also worth advocating.

2.2. One Idea: About the Role of Teachers and Teaching Aids in the Teaching Process

Bruner advocates a balanced view of teaching aids. On the one hand, teaching aids do play a certain teaching function in the teaching process, providing immediate corrective feedback to students and relieving teachers' burdens; but on the other hand, teaching cannot rely too much on these aids, as the devices themselves are not the goal, but they should be used in conjunction with other techniques. Teachers remain the main assistants in the teaching process, and the transmission of knowledge depends to a large extent on teachers' proficiency in the knowledge they are teaching. Therefore, it is necessary to improve the quality of teachers. In order to make teachers knowledgeable role models and exemplars, in addition to taking some measures to improve the quality of teachers, it is even more important to let teachers use various educational devices flexibly, because these devices can "expand experience, clarify experience and make the experience meaningful to the individual".

While emphasizing the importance of devices, Jerome Seymour Bruner also sees that devices themselves cannot determine their own purpose, and if good devices are not linked to other teaching techniques, they may lead to a passive situation. Of course, if teaching is limited to a rigid classroom lecture, accompanied only by traditional textbooks, it will make a lively subject dull and boring. Therefore, Jerome Seymour Bruner strongly emphasizes the close integration of teachers and teaching aids, believing that if teaching aids are developed with the purpose and requirements of teaching in mind, teachers and teaching aids will not make a conflict.

At the same time, Jerome Bruner also sees that "teachers are not only knowledge transmitters but also knowledge models." The model of teachers has a direct impact on whether the students in his class can feel the intrinsic stimulation of the subject, and also affects whether his students are willing to take risks and boldly imagine something and use intuitive thinking.

3. Comments and Reflections on the Book

The author believes that, in his book *The Process of Education*, Jerome Seymour Bruner's four central educational ideas (the importance of structure, preparation for learning, intuitive thinking and analysis thinking, and motivation for learning) can not only be used to reform mathematics and science education in primary and secondary schools, but also

apply to the reform of English education.

It is crucial to clarify the structure of linguistic knowledge and discourse in English teaching. In English course, the common teaching method is for the teacher to carefully explain the meanings and uses of words, phrases, grammar, and sentence structures, and for the students to diligently take notes and memorize them. Under this teaching model, English becomes a series of isolated and trivial language symbols, with little connection between knowledge points, and students have a relatively vague understanding of the basic structure of the subject. As a result, the efficiency of English learning is greatly reduced. English teachers should guide students to discover the differences and connections between knowledge points, classify them, and build their own knowledge structure diagrams, linking the isolated language symbols together and improving students' ability to use English comprehensively. At the same time, when learning discourse, teachers should guide students to analyze the overall layout of the discourse, clarify the author's creative thinking and methods, make correct predictions about the entire discourse, and build the framework structure of the discourse, improving students' memory and comprehension of discourse.

Jerome Seymour Bruner emphasized the importance of early education, proposing that any subject can be effectively taught to children of any developmental stage in a way that promotes intellectual development. He advocated for a "spiral curriculum", in which the basic structure of the subject is gradually broadened and deepened as students advance through the grades, resulting in a spiral-like upward trend in the curriculum. The critical period hypothesis proposed by Noam Chomsky also emphasizes the importance of early childhood language education. After adolescence, human language learning ability will decline or disappear. Therefore, the importance of early education in language teaching is even more significant. In zero-year-old plan, Feng (2000) put forward that currently, our country is actively promoting quality education, and infants are the main target of early quality education. The slogan "Quality education starts from childhood" and "Early education is comprehensive quality education in the early stage of life and the cradle of high-quality talent" are popular. During this psychological development stage, people begin to acquire basic human qualities, including good health, good habits, broad interests, skilled language techniques, and rich imagination, etc. For the connotation of "early education", Feng (2000) believes that "from conception to 6 years old is the period of rapid growth and development of the human brain. This period before the basic maturity of the brain is called the early stage of life. Providing children with influences, guidance, and training during the early stage of life and developing their mental potential is called early education". Successful early education can lay a solid foundation for a person's life quality, and this period is also the best time for language development. Language development directly affects a person's cognitive activities throughout the process. As a result, early language education has become the top priority of quality education.

Jerome Seymour Bruner emphasized the importance of intuitive thinking, in which thinkers use familiar knowledge domains and their structures to leap, bypass, and take shortcuts. In English language learning, intuitive thinking is more clearly manifested as the cultivation of English language sense. English language sense is a keen sense of the English language that people possess, a profound intuitive

thinking that includes their perception of English phonetics, semantics, emotional color of language, etc. English intuition is the result of the accumulation of subject knowledge and is learnable. It is also constantly developing and changing with the subject's cognition development. When students encounter language problems beyond their cognition, they can use their prior knowledge to accompany their intuitive perception and deduce the correct solutions. Jerome Seymour Bruner's spiral curriculum, which gradually broadens and deepens the basic structure of the subject as students advance, also helps gradually enhance students' English language sense, helping them form English language thinking and improve their English language competence.

Ryan and Deci (2000) define internal motivation as "the inner drive force that prompts people to pursue novelty, challenges, extension, and the utilization of personal abilities to explore and learn".

Jerome Seymour Bruner emphasizes that learning should be an active process, and internal motivation is the true driving force behind learning. In English language learning, the stimulation of internal motivation can benefit students in many ways:

It not only aligns with national educational goals but also meeting the requirements for lifelong and creative learning for students. The final product of education is an independent learner and cultivating a learner's independence of autonomy should be regarded as the end goal that teachers or educators try to pursue (McDevitt, 1997:34). It also meets the needs of lifelong learning and creative education.

It helps students make progress beyond knowledge and improve their language comprehensive application ability. The present era is an era of knowledge and information explosion. Therefore, a person cannot use the knowledge learned at school to adapt to this constantly changing society. If the autonomy of learners is developed, then students will be skilled at learning how to learn. They will be able to acquire new knowledge and new technologies, and face new challenges and tasks.

It can adapt to individual differences among students. Different students have different learning styles. However, every teacher has their own relatively stable teaching methods and teaching styles. Therefore, in traditional language teaching, it is particularly difficult for teachers to meet the needs of every student. Under the guidance of internal motivation, students participate in learning according to their own will, make their own decisions on learning goals, learning progress and learning strategies, and evaluate their own learning achievements.

It is conducive to personal growth. Once students' learning is motivated by internal motivation, they acquire the skills of lifelong learning and the habit of independent thinking, which will benefit them for a long time. Moreover, it supports individual work but does not exclude collaborative learning. Therefore, in autonomous learning, students learn how to get along with others. This is also very important for them.

It can promote better and more effective learning. Learner sets the agenda, learning should be more focused and more purposeful, and thus more effective both immediately and in the longer term (Dickinson, 1987:8).

In English class, teachers can take the following steps to stimulate students' internal motivation:

Set English learning goals. Students with high goals tend to have stronger motivation to learn, so teachers should get to know their students deeply and help or let students set suitable

goals based on their own actual situations, interests, and hobbies. Once students set their own goals, they will naturally strive towards them in their daily learning. During the learning process, teachers should evaluate each student based on their goals and give timely praise and encouragement. In this way, every student can experience success in achieving their goals (Huifang Hua, 1998). Students can be motivated to learn more effectively if they receive feedback on their learning progress and achievements in a timely manner, which allows them to know their learning results immediately.

Reform teaching methods to enhance students' interest in learning English. An active classroom atmosphere, rich teaching content, and innovative teaching methods can all enhance students' interest and motivation in learning. Therefore, teachers must enrich their teaching content, select and introduce more topics that interest students while being selective about the content of the textbooks. Teachers can also use various teaching methods to achieve different teaching effects. For example, they can conduct a lot of practical language exercises in class, such as guessing words, group discussions, competitions, and role-play, to fully tap into students' initiative and motivation, making the English classroom a rich and interesting place.

Focus on cultivating students' language application ability. In the teaching process, teachers should pay attention to how to cultivate students' language application ability. For example, they should carefully prepare for class beforehand, assign some topics for students to exchange in the next class in advance, so that they can find some topics or themes they are familiar with and have something to say. In class, teachers can carefully design some teaching activities related to real life and leave more time for students to exchange with each other, so that they can feel satisfied and have their internal motivation aroused in the process of exchanging with their classmates.

Change students' mode of learning English. Teachers should not only constantly update the content and methods of exercises, but also pay attention to inspiring students and teaching them according to their abilities, so that they can learn something and achieve good learning effects quickly, and feel the joy of success, thereby boosting their confidence in learning English well. Don't just assign students to do a lot of exercises. They can complete a unit of study in a cooperative group, which is now advocated as project-based learning. Each student completes their own task based on their interests and abilities, and in the process of completing their tasks, they can experience the joy of learning English and arouse their internal motivation to learn English.

Flexibly use multimedia information technology. Teachers can also adjust their teaching methods according to their teaching tasks and content in specific teaching practice.

Bruner believes that the teacher is the main assistant in the teaching process, and the transmission of knowledge depends to a great extent on the teacher's proficiency in the knowledge to be transmitted. Therefore, it is necessary to improve the quality of teachers. In order for teachers to become knowledge disseminators, models, and exemplary figures, in addition to taking some measures to improve the quality of teachers, it is even more important to let teachers use various devices flexibly, because these devices can "expand experience, clarify experience, and make experience have personal meaning." According to the new curriculum standards, English teaching adheres to the principle of "teacher-led and student-centered". While adhering to the

student-centered principle, it also attaches importance to the auxiliary role of teachers, especially for students of medium and lower levels, the auxiliary role of teachers is even more critical. In addition, in English teaching, teachers not only play the role of providing information, but also the role of organization, guidance, control, evaluation, enhancement, participation, and psychological support: cultivating students' ability to unconsciously acquire knowledge, independent problem-solving skills, group awareness of getting along with others, social ideas, and so on. In other words, under the guidance of teachers, college students should look at reality and face the future, have certain social emotions and adaptability to society, freely extract knowledge from the vast ocean of knowledge, enrich themselves, quickly develop their abilities and enhance themselves in the competitive society, comprehensively improve their quality, become qualified social builders, and genuine historical promoters.

4. Conclusion

The four central ideas (the importance of structure, preparation for learning, intuition thinking and analytical thinking, and motivation for learning) and one proposal (teaching aids) put forward by Jerome Seymour Bruner in *The Process of Education* not only pointed out the direction for curriculum and instructional reform in the United States in the early 1960s, but also have considerable guidance significance for today's educational reform. These educational ideas are not only applicable to the reform of mathematical and scientific subjects, but also to the reform of English subject. Under the guidance of the educational ideas advocated in *The Process of Education*, English teachers should guide students to clarify the structure of knowledge and discourse in their learning; set up spiral courses and give students opportunities to learn English as early as possible; pay attention to the cultivation of intuitive thinking in the learning process and combine intuitive thinking with analytical thinking; use internal motivation to stimulate students more and help them find the true driving force for learning.

This report analyzes the educational significance and scientific implementation methods of these four central ideas and one proposal, and combines the teaching philosophy with English teaching to explore the effectiveness and feasibility of applying "the importance of structure", "preparation for learning", "intuitive thinking and analytical thinking", "motivation for learning", and "teaching aids" to English teaching, thereby providing enlightenment for effective high-quality English teaching.

Look forward to more research to further explore the theoretical and practical implications of Bruner's educational ideas in English subjects, so as to achieve effective learning goals for English together.

References

- [1] Dickinson, L. (1987). *Self-instruction in language learning*. Cambridge: Cambridge University Press.
- [2] McDevitt, B. (1997). Learner autonomy and the need for learner training. *Language Learning Journal*, (16), 34-39.
- [3] Ryan, R. M., & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, (55), 68-78.
- [4] Bruner, J. S. (1982). *The Process of Education* (R. Shao, Trans.). Beijing: Cultural Education Press.

- [5] Feng Dequan (2000). *Zero-Year Project: Cradle of Talents*. Beijing: Beijing Science and Technology Press.
- [6] Feng Dequan (2000). *Zero-Year Project: Wings to Soaring*. Beijing: Beijing Science and Technology Press.
- [7] Hua Hui Fang (1998). Research on motivation and strategies in English learning. *Foreign Language World* (03), 45-48.
- [8] Li Diansen (2003). Bruner's theory of intuitive thinking and its pedagogical implications. *Studies in Foreign Education* (01), 14-17.
- [9] Xu Hong (2010). Principles of effective teaching: An interpretation of Bruner's *The Process of Education*. *Journal of Yangtze University (Social Sciences Edition)* (06), 108-111+143.