

# Educational Psychology in Special Education - Individualised Instructional Planning and Learning Enhancement

Juan Zhang

Zhengzhou University, Zhengzhou, Henan, 450000, China

**Abstract.** Students in special education face unique needs and challenges, and the application of educational psychology in special education is crucial. This paper describes the origin and significance of individualised teaching plans in special education, the main contents at home and abroad, the principles of formulation, steps and implementation strategies, discusses the application of educational psychology in learning and teaching, evaluation and improvement, learning disabilities and special needs in special education, and analyses the relationship between individualised teaching plans and learning outcomes, including increasing interest and motivation in learning, enhancing self-confidence and self-esteem, and promoting the overall development. It concludes by identifying the challenges faced by IEPs in special education and makes recommendations for future development.

**Keywords:** Special Education; Educational Psychology; Individualised Teaching Plans; Learning Outcomes.

## 1. Introduction

Special education students face discrimination and exclusion due to physical or intellectual disabilities, and are hindered in their learning and psychologically impaired, and are in urgent need of personalised care, which requires the collaboration of teachers, schools and society to help them integrate and develop. The application of educational psychology in special education is of outstanding value. When learning and teaching, it helps teachers to understand students in order to formulate personalised plans, such as the use of student-centred teaching methods and the design of optimal learning methods; when it comes to evaluation and improvement, it provides scientific goal-setting and achievement measurement methods, and analyses the factors that influence them. Individualised teaching plan is the key. In the United States, legislation has been enacted since 1975 to promote individualised education plan and it has been improved continuously, and China also has a corresponding system. Evaluation is an important part, and students' physical and mental characteristics are grasped through various aspects of evaluation. In conclusion, educational psychology plays an extremely important role in the development and implementation of individualised teaching plans for special education, in order to meet the special needs of the students and enhance the learning effect.

## 2. Overview of Individualised Education Programmes in Special Education

### 2.1 Origins and Significance of Personalised Teaching Plans

Individualised Education Programs (IEPs) originated in the U.S. In 1975, the U.S. Congress passed Public Law 94-142, which required the development of Individualised Education Programs (IEPs) for children aged 3-21 with exceptionalities and their periodic evaluation and revision, and in 1990, the Individualised Development and Expansion Act (IDEA), Public Law 101-476, made referrals for services a requirement of IEPs. Transfer services were included as an IEP requirement in Public Law 101-476 (IDEA) in 1990. It is derived from special education laws and is designed to provide an appropriate, free, and least restrictive educational environment for children with exceptionalities, such as dyslexia, to access public education and related services.

This is of great significance. In terms of parental involvement, the IEP places emphasis on parental participation in the assessment of the child, the setting of teaching goals and evaluation, and the

promotion of communication and cooperation between parents, teachers and other personnel. In terms of educational equality, the IEP focuses on the "least restrictive environment" provided by public schools in the U.S. through the weighing of educational materials and teaching methods so that children can receive appropriate education. At the level of responsibility for educational performance, the long-term and short-term goals of the IEP can be used as targets for teachers' instructional activities, which facilitates the evaluation of teaching effectiveness, and it is illegal for school districts to fail to carry out IEPs in a timely manner. Inclusive education, where children with special needs learn alongside their peers in the least restrictive environment, such as special needs students in the same classroom as regular students, is highly regarded but can be challenging for teachers[1]. Multidisciplinary involvement requires the collaboration of educational, medical, and psychological professionals to develop an IEP plan, with a team that includes the family, the school, and third-party providers. Individualised education is based on the needs and inherent abilities of the child, with individualised instruction based on a variety of factors, including current performance and annual goals.

## **2.2 Key Elements of Personalised Teaching Programmes at Home and Abroad**

The full IEP required by IDEA is rich in content. Current performance is assessed through data-based assessments that identify the student's level of proficiency in all areas, strengths and weaknesses, and the impact of barriers on academic performance. Annual Goals set measurable goals in multiple areas based on the student's current status and developmental needs. General Education Participation Defines how and to what extent the student participates in the general curriculum, such as whether he or she is a full-time participant or needs special support. Time and Place of Service defines the specific time and space schedule for special education services. Examination Status describes state and regional testing participation and forms of special accommodations. Evaluation ProgressBuild a scientific system to assess the learning process, such as periodic testing. Transition ServicesSupports to help students transition through educational stages, such as support at the beginning of elementary school or at graduation.

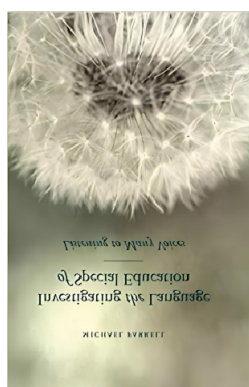
The main elements of our IEP include basic information, covering the child and family, which provides the background for the teaching programme. The child's current situation is based on an assessment that shows the impact of the child's performance and disabilities on his or her academic life. Educational and related services identify special education needs, including placement, curriculum, and support services. Long-term goals (annual or termly goals) identify learning priorities and may be divided by subject or area[2]. Short-term goals (instructional objectives) are specific and actionable as milestones to reach long-term goals. Plan Assessment Methods Criteria and Dates A comprehensive assessment plan is developed, using a variety of assessment methods, objective criteria, and reasonable scheduling, with the participation of multiple personnel, to allow for timely adjustments to instruction.

## **3. Development of Individualised Teaching Plans for Special Education**

### **3.1 Formulation of Principles**

The development of an individualised teaching plan takes into account three basic factors: the characteristics of the child with special needs, the characteristics of the placement pattern and the situation of the family. The types of disabilities and psychological characteristics of the children with special needs are key, such as the social communication difficulties of children with autism, for which special programmes should be designed. In terms of placement patterns, the teachers, facilities and class arrangements of pre-schools should not be overlooked, and teachers and facilities should be adjusted when there are more children with special needs. In terms of family situation, parents' occupation, education level and financial income affect children's growth, and schools should provide free resources or special assistance to families with financial difficulties.

The principles of scientificity, development and feasibility should also be followed. Scientificity requires rigorous testing with the help of assessment scales, such as the use of professional intelligence test scales to assess cognitive abilities, and avoiding subjective assumptions. The developmental aspect aims to meet the developmental needs of children with special needs and promote healthy development, and to make plans with reference to the developmental sequence of able-bodied children to stimulate their potentials, such as planning a reading enhancement pathway for children with learning disabilities, ranging from picture books to complex texts[3]. Feasibility is reflected in the fact that it is in line with the children's current level and takes into account the teachers' qualifications and hardware of the centre, so as to set practical teaching steps and goals, such as arranging suitable rehabilitation training facilities for children with physical disabilities.



**Figure 1.** Development of individualised teaching plans for special education

### 3.2 Content Selection

Based on our national situation, the personalised education programme covers seven areas. The child's current level includes physical, psychological and behavioural habits, which are fully understood with the help of professional assessment tools, such as combining intelligence tests, behavioural observations and medical examinations to grasp the child's situation. Special assistance and treatment is based on the child's special needs, including speech therapy for children with speech disorders, physical rehabilitation for children with physical disabilities, and counselling for children with psychological conditions. Emphasis is also placed on the same learning content and requirements as those for able-bodied children, with the content and difficulty of subjects being adjusted according to ability, and character, artistic and physical education being developed.

Teaching methods need to be chosen according to the characteristics of the children, such as small group teaching to increase interaction for inattentive children and individual counselling for children with learning disabilities. At the same time, it should be made clear when and how to provide assistance and how parents should co-operate, and parents should be encouraged to participate. Developmental goals include terminal and milestone goals, which should be clear, measurable and achievable, e.g. the terminal goal is to lead an independent life and integrate into society, while the milestone goal is to enhance specific abilities[4]. Regular checking and feedback arrangements should be made to assess learning progress and provide timely feedback, such as monthly quizzes and semesterly comprehensive assessments, in the form of written reports and parent-teacher conferences. In addition, it is necessary to pay attention to other issues such as children's emotional needs, safety and security, and social adaptability, and to provide care and support to ensure safety and develop social adaptability.

### 3.3 Developing Steps

The purpose of the analysis and evaluation is to analyse the child's individual differences, including the types, causes and possibilities for correction, and to determine the behaviours to be corrected and the teaching objectives through scales, observation, home visits, etc., and, if necessary,

to seek help from special education specialists. Plans are formulated based on the results of the analysis and evaluation, taking into account child, placement and family factors, and following relevant principles, such as designing social programmes for autistic children, deploying teachers and facilities according to the classroom situation, and providing resources for families with difficulties. In revising the programme, attention should be paid to the emotional problems of children with special needs, who are prone to low self-esteem and other psychological problems, and teachers should provide more encouragement and increase their confidence in learning through praise and rewards, as well as cooperating with their parents to provide them with care and support, and to make timely adjustments to the teaching programme.

## **4. Educational Psychology in Special Education**

### **4.1 Learning and Teaching**

Educational psychology is significant in the area of learning and teaching in special education. It helps teachers gain insight into students' needs, interests, and learning patterns. Using a variety of assessment tools and observation methods, teachers can pinpoint the cognitive, affective, and learning tendencies of students with special needs. For example, for students with attention deficits, they can analyse the causes of their distractions and create structured learning environments with short, intense learning tasks. For students with learning disabilities, they can identify their subject weaknesses and implement targeted counselling.

Educational psychology also provides teachers with diversified teaching methods. The student-centred approach highlights the role of the student, with teachers designing learning activities based on students' interests and facilitating their independent exploration of knowledge and skills. Heuristic teaching stimulates students' thinking and fosters creativity and problem-solving skills through questioning, guidance and discussion. For example, the teacher throws open questions to guide special students to think and express their opinions, so as to improve their thinking and expression level.

In addition, based on the findings of educational psychology on the principles of memory and attention, teachers can design optimised learning strategies. In view of the difficulties of special students in memory and attention, teachers can use repetition memory, associative memory, etc. to help knowledge memory, and improve attention by reducing interference and enhancing stimulation. In conclusion, educational psychology provides scientific theories and methods for the learning and teaching of special education, and helps students with special needs to improve their learning effectiveness.

### **4.2 Evaluation and Improvement Aspects**

#### **(1) Scientific goal-setting**

Goal setting should be based on a holistic view of the student, including current level, special needs and developmental potential. Referring to the IDEA and our IEP, long-term and short-term goals should be clearly defined. Long-term goals should be clear, measurable and achievable, such as achieving independent living and social integration for children with special needs; short-term goals should be more concrete and practical, providing direction for teaching.

#### **(2) Methods of Measuring Achievement**

Standardised testing and assessment system: professional assessment tools and methods are used to comprehensively assess the physical development, cognitive ability, emotional state and behaviour of children with special needs. For example, we use intelligence scales to assess cognitive ability, and daily behavioural observation to identify emotional and social skills. A scientific evaluation system is built on the basis of assessment. Regular tests, homework assessment, teacher observation and other diversified methods are used to assess the academic progress on a monthly basis, so as to compare the current performance with the objectives and judge the learning progress.

Diversified assessment strategies: In addition to standardised tests, assessment of works and oral presentations are also used. For example, in art classes, creativity and aesthetics are assessed through paintings, and in language classes, oral presentations are used to test language expression and thinking skills. Combining nature observation and situational assessment, children's behaviour, emotions and language are observed in daily life and specific situations to understand their interests and strengths, and to assess their cognitive, emotional and social skills.

### (3) Explore factors that affect learning and achievement

Psychological factors: Children with special needs often face psychological challenges such as low self-esteem and anxiety. Psychological interventions and counselling can help them to identify and deal with emotional problems and increase their psychological resilience. In accordance with character theories of educational psychology, teachers can use noble sentiments and sincere emotions to inspire students and guide them through exemplary behaviour.

Behavioural factors: Guide the child to identify and challenge negative thinking, set goals to achieve, and boost self-confidence and motivation. Carry out coping skills training, such as deep breathing and relaxation exercises, to help them remain calm and optimistic in the face of difficulties.

Environmental factors: The family, school, and social environments have a significant impact on children's psychological development. For example, the environment surrounding special education teachers affects their psychological well-being, which in turn affects their students' academic performance. Create a quiet and orderly learning environment for children with ADHD, break down learning tasks and use incentives to reinforce positive behaviour.

### (4) Counselling and support for students

Counselling services: Understanding the needs of students' abilities and providing counselling, coursework and individual education support. For example, specialised learning programmes and counselling are provided for students with learning disabilities to help them overcome their difficulties. Special education teachers communicate with students to understand their psychological needs and provide timely support to promote their physical and mental health and overall development.

Curriculum Coaching: Flexible adjustment of teaching content according to children's special needs to ensure the mastery of core knowledge and skills. Diversified teaching methods, such as games and music, are used to stimulate learning interest and increase participation[5]. Provide visual and auditory aids for children with special needs to help them understand and master knowledge.

Individual education support: Individualised education plans are developed and tailored to the child's interests, abilities and learning style. Specialist assessments provide a comprehensive understanding of special needs and set clear short and long-term goals.

## 4.3 Aspects of Learning Disabilities and Special Needs

### (1) Identification of learning disabilities and special needs

Scales, observations, home visits and other means are used to analyse individual differences in children and to identify behaviours to be corrected and teaching objectives. For example, simple scales and daily behaviour are used to analyse the developmental level of the child, home visits and seminars are used to understand the developmental situation, and special education specialists can be consulted in case of difficulties.

### (2) Provision of appropriate support

Special Programmes: Designed to cater for students with special needs, such as reading skills training for dyslexic students and attention training for students with Attention Deficit Hyperactivity Disorder (ADHD).

Personalised education: education programmes are tailored to students' interests, abilities and learning styles. For example, music teaching is used to help music lovers learn maths, and laboratory teaching is used to help hands-on learners learn science.



**Figure 2.** Personalised education

Study programme: flexible adjustment of teaching content, using a variety of teaching methods to stimulate learning interest and enhance participation.

Counselling services: Understanding the needs of students' abilities and providing support including counselling, course tutorials and individual education support to help overcome learning difficulties.

(3) Meeting Special Needs and Promoting the Acquisition of Learning Skills in Students

(c) Diversification of teaching methods: teaching methods are chosen according to the needs of children with special needs, such as group teaching for children with attention deficit and individual counselling for children with learning disabilities, and parents are encouraged to participate in the formulation of joint education programmes and collaborative teaching.

(c) Setting development goals: Defining short- and long-term goals to provide direction and motivation for education, e.g., the ultimate goal is to live independently and integrate into society, and the milestones are to enhance specific competencies.

Checks and feedback: Regular checks and evaluations of the learning progress of children with disabilities are conducted according to the teaching schedule and the actual situation of the students, such as monthly quizzes and semesterly comprehensive evaluations. Feedback is provided in a variety of forms, such as written reports and parent-teacher conferences, so that teachers and parents can keep abreast of the situation and make adjustments to teaching plans and methods.

(4) Achieving academic success and self-fulfilment

To provide support for students with special needs to acquire learning skills, make academic progress, gain a sense of achievement and self-confidence, realise their self-worth, better integrate into society, realise their potential and contribute to the community.

## **5. Strategies for Implementing Individualised Teaching Plans in Special Education**

### **5.1 Establishment of the Assessment Panel**

The assessment team plays a pivotal role in the implementation of the special education individualised teaching programme. The team is made up of professionals from various fields, such as education, medicine, psychology and society, and is able to assess special students in an all-round and multi-dimensional manner, thus laying a solid scientific foundation for the effective promotion of the teaching programme.

In terms of teaching assessment, the assessment team regularly uses observation, testing and interviews to closely monitor the progress and effectiveness of special needs students in knowledge learning, skills training and emotional development, and to identify problems and make timely suggestions for improvement. At the same time, the team also conducts a comprehensive assessment of teachers' teaching methods, deployment of teaching resources and creation of a teaching environment, which strongly promotes the improvement of teaching quality. In the organisation and auditing work, the team organises teachers to carefully formulate personalised teaching plans and strictly check and audit them. The team focuses on whether the teaching objectives are clear, whether the teaching content meets the needs of students, whether the teaching methods are rich and varied, whether the teaching resources are sufficient and complete, and other core points, to ensure that the

teaching plan not only meets the uniqueness of special needs students, but also has the characteristics of being scientific, reasonable, practicable and effective.

The team also actively provides professional guidance and counselling services to teachers, helping them to gain a deep understanding of the special needs of students with special needs, to master highly effective and practical teaching strategies, to make rational use of all kinds of teaching resources and to create a quality teaching environment. The team also provides strong support to parents, helping them to understand their children's learning situation and encouraging them to participate in their children's education process. In addition, the assessment team coordinates all departments within the school to ensure the rational allocation and efficient use of teaching resources; strengthens communication and collaboration between home and school to build a harmonious and close home-school co-operation relationship; and actively liaises with all sectors of the community to gather more support and resources for the growth and development of students with special needs.

## 5.2 Teaching Methods and Strategies

In view of the psychological characteristics of children with different types of disabilities, it is necessary to make precise use of differentiated teaching methods and tools. In the case of children with intellectual disabilities, the visual method of teaching is very effective. With the help of visual aids such as pictures and objects, it is possible to help them break through the difficulty of understanding abstract knowledge. For example, when teaching number concepts, number cards and counters are helpful. Children with autism respond well to game-based teaching[6]. Through carefully designed role-playing and other interesting game activities, their social and language skills can be greatly enhanced. Children with physical disabilities benefit from co-operative learning, where they work in teams with their classmates in activities such as handicrafts, which not only enable them to complete tasks successfully, but also develop teamwork and self-confidence.

The provision of personalised learning resources is crucial. Adaptive teaching materials are provided according to the different needs of children with special needs, such as Braille teaching materials to help visually impaired children learn, and sign language teaching materials to facilitate hearing impaired children's quest for knowledge. Make full use of learning software and online courses to open up multiple learning pathways for children with special needs. Speech recognition software can facilitate the reading and writing of children with hearing impairment, and online course platforms allow them to start their learning journey anytime and anywhere. Personalised resources can also be created in line with children's interests, such as customised music teaching software and online courses for music lovers, so that they can improve their language and social skills while learning music at the same time.

The implementation of a personalised assessment system is indispensable. Expressive evaluation measures the learning outcomes of children with special needs by observing their practical performance, for example, in handicraft production, the quality of the production process and the quality of the work is used to judge their ability to work with their hands and creativity. Exhibition of works provides a stage for children to show their achievements, which effectively enhances their self-confidence and sense of achievement. Exhibitions of paintings and handicrafts are good examples, which enable parents and classmates to have a visual understanding of the effectiveness of their learning. Oral presentations provide children with opportunities to share their learning experiences and insights, and facilitate the assessment of their language and thinking skills, which can be achieved through oral presentations upon completion of learning tasks.

## **6. Relationship between Individualised Teaching Plans and Learning Outcomes in Special Education**

### **6.1 Increase Interest and Motivation In Learning**

In special education, the design of teaching content and methods based on students' interests and other personalised factors can have a significant impact on increasing interest and motivation in learning. Diversified teaching methods can be used to meet the needs of different students. For example, for students who love music, music elements can be incorporated into the teaching, so that they can learn through singing and playing; for students who love painting, painting can be used to express the content and make learning more interesting, so that students can enjoy it and increase their motivation.

Enhancing students' sense of ownership and responsibility can also stimulate learning motivation. When teaching, students are guided to participate in the development of the programme, their views on the content of the course are sought, learning tasks are assigned, students are given a clear direction for their own efforts, they feel that they are making progress and growth, and their interest in and motivation for learning are enhanced, for example, by allowing students to participate in the selection of course themes and undertake the corresponding tasks.

In addition, personalised teaching can highlight the value of students. Providing students with opportunities to demonstrate their strengths, such as organising exhibitions for those who are good at drawing and competitions for those who are good at writing, will give students a sense of achievement and confidence, thus increasing their interest and motivation in learning.

### **6.2 Enhancement of Self-confidence and Self-esteem**

In special education, it is crucial to enhance students' self-confidence and self-esteem. The formulation of personalised learning plans and targets is an important foundation. In view of the great individual differences among special students, teachers need to set targets in accordance with their physiological and psychological characteristics, for example, life skills targets for students with intellectual disabilities and social communication targets for students with autism, so that students can have a clear direction, feel a sense of progress, and enhance their self-confidence and self-esteem.

Acknowledgement and encouragement of students' performance and endeavours are effective means. Special students are prone to low self-esteem and timidity, so teachers should give more affirmation and encouragement, praise and reward students when they complete their tasks, and give them support and help when they encounter difficulties, so that they can participate more actively in their learning and life, and enhance their self-confidence and self-esteem.

Developing student autonomy and creativity is an important way to do this. Students have the potential to do so despite their handicaps. In teaching, students are guided to explore independently and come up with ideas and viewpoints, and extracurricular activities such as painting, handicrafts and other creative activities are organised to enable students to realise their potentials and talents, to enhance their self-confidence and self-esteem, and to face challenges positively.

### **6.3 Promoting Holistic Development**

In special education, it is significant to cultivate students' spirit of co-operation and communication skills, pay attention to affective attitudes and values, and carry out multi-activity programmes. With regard to the cultivation of co-operation and communication skills, group activities are helpful to students with different special needs. For example, children with intellectual disabilities can complete handicrafts through co-operative learning, and children with autism can simulate social situations through role-playing games to enhance their communication skills. At the same time, specialised social skills training courses are provided to help students understand social situations and norms through the use of social stories and pictures.

For the cultivation of emotions, attitudes and values, teachers should give emotional support, care for students' emotional changes and establish good teacher-student relationships. Values education is



also integrated into teaching, guided by stories and cases, and social practice activities are organised for students to experience and practice.

Enrichment activities and programmes promote all-round development. Artistic activities foster aesthetics and creativity, such as painting exhibitions and concerts to showcase students' talents. Physical activities can improve physical fitness and athletic ability, and cultivate a sense of teamwork and competition. Practical courses develop hands-on and self-care skills, as well as creativity and problem-solving abilities, such as handicrafts to encourage creativity and cooking courses to exercise problem-solving skills.

## 7. Conclusion

Educational psychology is important in the application of individualised instruction in special education, as it can be used to plan for student differences, improve learning outcomes and promote holistic development. It provides support and guidance in the areas of learning and teaching, assessment improvement, and response to special needs, and its implementation strategies include the establishment of assessment teams and a variety of teaching methods. Although the programme is closely linked to learning outcomes, it still faces challenges such as coordinating resources, improving teacher quality, and perfecting the assessment mechanism. In the future, it is necessary to strengthen applied research, innovate methodologies, enhance teacher training, and solicit support from various sectors to enhance the quality of special education and help students with special needs to grow up in a holistic manner.

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