

Review

Preparing Future Special Education Teachers: Emphasis on Reflection as an Inclusive Practice

Maria Georgiadi ^{1,*} and Maria Papazafiri ² 

¹ Department of Psychology, University of Crete, 74150 Rethymno, Greece

² Department of Special Education, University of Thessaly, 38222 Volos, Greece; mapapaza@uth.gr

* Correspondence: m.georgiadi@uoc.gr

Abstract: This review paper aims to highlight the importance of the role of reflection practice of special educators in the inclusion of students with disabilities and special educational needs. Specifically, an attempt at conceptual clarification of reflection is made at the first level, and the models of reflection that have been developed and applied in special education are described. In particular, in the first section, a reference was made to the definitions and types of reflection as described in the international bibliography. Also, the models of reflection that various researchers have developed, and each model has contributed significantly to improving the work of professionals working in special education, are described. Finally, we are referring to specific practical applications of the reflective process. These practices could motivate professionals to use them in their teaching process to create inclusive environments.

Keywords: reflection; models of reflection; practical applications of reflection in teaching practice; school inclusion

1. Introduction

Preparing professionals to work with students with disabilities and/or special educational needs is a challenging task. Special education plays an important role in the education system for many countries and is provided in special schools, special classes, or in typical schools by implementing inclusive practices. In recent decades, special education has made a shift to equitable educational provision for everyone by providing interventions through teaching strategies, equipment and materials, and accessible settings. Professionals in special education can be teachers, psychologists, speech pathologists, occupational therapists, physiotherapists, and other specialties depending on the educational context, the student's needs, and the relevant legislation. All these professionals have to be specialized, know every type of disability and/or special education need and their impact on students' development, understand the students' individual educational needs, know how to assess students' needs and manage the diversity of these needs, create support networks, have knowledge of differentiated instruction and how to implement it, know various strategies and methods to meet students' educational needs, have a wide range of communication methods, and have several approaches to collaborate with the family. Professionals are expected to use inclusive strategies and address a wide range of students' needs [1]. Professionals need to develop inclusive strategies that promote learning environments to support students' participation and the feeling of belonging in the school community. All the aforementioned constitute challenges for the professionals and highlight the need for an improved, well-organized curriculum at the pre-service and



Academic Editor: Hani Morgan

Received: 22 December 2024

Revised: 7 February 2025

Accepted: 11 February 2025

Published: 13 February 2025

Citation: Georgiadi, M.; Papazafiri, M. Preparing Future Special Education Teachers: Emphasis on Reflection as an Inclusive Practice. *Trends High. Educ.* **2025**, *4*, 8. <https://doi.org/10.3390/higheredu4010008>

Copyright: © 2025 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

in-service educational program, which will sufficiently address the challenges that future professionals (such as special education teachers) meet in the field of special education.

The continuing development and learning of professionals in education, especially in special education, is crucial to improving high-quality education programs and improving students' outcomes. In the literature, various researchers try to approach the term professional development in special education. Professional development is a process through which professionals in education review and renew their everyday practice in teaching, as well as develop critical knowledge and skills to improve the teaching experience for the students [2]. Desimone [3] states that professional development is a dynamic and flexible process that begins at the university and ends in retirement. It is important to highlight factors such as (a) personal characteristics such as age, culture, and beliefs; (b) professionals' characteristics such as experiences, sensitivity, awareness, etc.; and (c) process-related characteristics such as expectations, openness, etc. affect professional development in education [4]. Professional development in education refers to continuous learning and improvement of skills throughout one's career [5]. Professionals' learning takes place either through their studies in university and their participation in various in-service training courses or in various training events offered by several organizations. This is the formal approach to professional learning. Moreover, professional learning can be informal through various reflection actions that will be implemented on their own or with other colleagues, such as by discussing with colleagues regarding the challenges they face or by implementing new ideas [6,7]. The term pre-service training is used to describe the training that professionals participate in during their studies or their entering the work. Professional pre-service training for professionals in the field of special education is a crucial step in professional development. However, at the same time, pre-service training is a very demanding aim, as it is one of the first resources providing information on addressing students' needs, implementing inclusion strategies, managing challenging behaviors, implementing differentiating instruction, etc. [8].

In Greece, the professionals who will work in the field of special education are required to be certified through undergraduate or post-graduate programs delivered in the context of tertiary education. These training programs require the students (future professionals) to be placed in institutions for them to be directly involved with students' educational programs. During this procedure, the professionals face several challenges that they will face later in their everyday professional life. Thus, the content of the pre-service training programs must meet the challenges that professionals will face.

One of the key terms that pre-service programs should include is the concept of reflective thinking and reflective practice in order to improve the quality of education in special education contexts and implement inclusive practices. "Reflective thinking" refers to a metacognitive process, the ability for meta-thinking skills. Reflective thinking is a process that allows one to observe an event, experience, or action in the past and to give insight into future behaviors [9] (Table 1). Boud et al. [10] defined reflective practice as those mental and emotional activities in which individuals explore their experiences to lead to new understandings. Reflection should not only take place on an unconscious level but also on a conscious level. Only when we bring our ideas into consciousness can we evaluate and make choices about what we want and what we do not want [11]. Dewey [12] believed that reflective thinking results from a state of doubt or difficulty that leads to thinking and gives rise to some conclusions or solutions. He defined reflection as a structured, focused way of thinking that is far from mere thinking. Rodgers [13], studying Dewey, summarized four (4) mandatory criteria of reflection: a. reflection is a process of meaning-making that leads professionals from one experience to the next with a deeper understanding of relationships and connections with other experiences and

ideas, b. reflection is a systematic, rigorous, and disciplined way of thinking rooted in scientific research, c. reflection needs to happen in the context of a community in interaction with others, and d. reflection requires attitudes that value the personal and intellectual development of both oneself and others. Reflective practice, such as writing down a diary, could be considered a preparation tool where professionals can evaluate their practices and explore new intervention approaches [11]. As stated by Kelly and Barrio [14], reflective practice is applied in all teachers' education programs. It follows a cyclical learning process through action reflecting knowledge acquisition, performance, and experiences.

Table 1. Concepts of reflection.

Concepts	Definition	Implementation Example
Reflective thinking	A metacognitive process that allows one to observe an event, experience, or action in the past and to give insight into future behaviors	Describe an event, experience, or action in the past Analyze an event, experience, or action in the past Judge an event, experience, or action in the past Design the best teaching practices
Reflective practice	Individuals explore their experiences to lead to new understandings	Self-reflection and a particular focus on thoughts and feelings of their own but also take into account thoughts and feelings of the involved persons in the situation

Reflection is determined based on time, depth, and content [15]. Taking these factors into account, various types of reflection emerge, such as a. time-defined reflection, b. depth-defined reflection, and c. content-defined reflection (Table 1).

More specifically, time-defined reflection refers to (a) knowing-in-action, (b) reflection-in-action, and (c) reflection on action [16] (Table 2). More specifically, knowing-in-action is a non-conscious action that takes place before the professional starts the action. The knowledge of the action is based on the professional's previous knowledge and experience in everyday educational practice [16]. Reflection during the action (reflection-in-action) is a conscious process and concerns the professional's attempt to manage a situation during the practice, which has never happened before. One could say that it is a reflex energy. In this type of reflection, the professional is concerned, seeks the best solution, and immediately modifies his/her teaching or therapeutic approach [17,18]. This process requires experience in managing day-to-day educational practice [19]. It could be considered that reflection during the action is more difficult as various factors significantly impact the practice. Additionally, the reflection on action takes place after the completion of the application, i.e., the action. Reflection on action refers to an action carried out in the past by analyzing the various factors that influenced the action and carefully examining the observed or possible results. The professional recalls how he or she carried out the educational or therapeutic intervention, the strategies and methods used, and how he or she managed a situation. Through this process, the professional identifies the result of his/her actions [17]. This process helps the professional identify his/her strengths and weaknesses, develop flexibility, make decisions, design and differentiate his/her approach, apply alternative methods of educational or therapeutic intervention, and use different strategies.

Depth-defined reflection is a progressive course that follows four stages (Table 3). The pre-reflection stage is when the professionals involved are in a "survival stage" where they have not been involved in the process and simply act automatically on the situations that arise without thinking about alternatives and the effects they will have on their students. The surface stage is the first essential stage of reflection, where professionals achieve specific learning goals they have set. In this stage, professionals reflect based on their assumptions and rely on beliefs and unconscious biases of their own. The next stage is the pedagogical

stage. At this stage, professionals face the problem from a different perspective, where they try to look for pedagogical theories in the educational practices they apply. Last follows the stage of critical reflection. At this stage, teachers consider the ethical and political implications of who they are and what they teach their students. At this stage, teachers can help students who are struggling [15].

Table 2. Types of time-defined reflection practice.

Time-Defined Practice	Definition	Implementation Example
Knowing-in-action	A non-conscious action that takes place before the professional starts the action	The professional designs a therapeutic or educational intervention taking into account students' needs based on his/her knowledge
Reflection-in-action:	A conscious process during the practice	The professional, during a challenging situation, asks himself/herself questions such as "Is this the best course of action?" and "Can I do something better?" These types of questions allow the professional to have a more responsive approach to the certain situation
Reflection on action	A conscious process after the completion of the application	The professional after the intervention thinks about the behaviors of a student with autism spectrum disorder during their interaction. The professional questions him/herself regarding the effectiveness of his/her strategies and the appropriateness of his/her decisions during the implementation.

Table 3. Stages of depth-defined reflection practice.

Stage	Definition	Implementation Example
Pre-reflection stage	Professionals simply act automatically in the situations	The professional reacts automatically to the challenging behavior of the student with intellectual disability without considering alternatives. The professional believes that these behaviors are not his/her responsibility.
Surface stage	Professionals reflect based on their assumptions and rely on beliefs and unconscious biases of their own	The professional is concerned regarding the strategies he/she uses to enhance the understanding of a student with an intellectual disability. However, he/she does not consider any new practices.
Pedagogical stage	Professionals face the problem from a different perspective	The professional is concerned regarding the strategies he/she uses to enhance the understanding of a student with intellectual disability. He/she approaches the problem through different perspectives and tries to use new evidence-based practices.
Critical reflection	Professionals consider the ethical and political implications of who they are and what they teach their students	The professional is concerned about his/her thoughts about the student with an intellectual disability. The professional understands that his/her thoughts affect the students' outcomes.

Other types of reflection are based on the content. The content refers to what reflection is performed on. These types of reflections are as follows (Table 4): Technical reflection refers to how professionals reflect on their educational or therapeutic practices based on relative research findings. Deliberative reflection comes from the professionals' task of jux-

taping various points of view and perspectives or research that are at odds. Personalistic reflection involves the personal development of the professional and his/her relationship with his/her students [15]. In a nutshell, the professionals are asked to describe the techniques they choose to use, analyze why they chose them (understanding of the teaching or therapeutic practices), be able to judge these choices in terms of their success (cognitive reframing), and apply this knowledge in plans (meaningful educational or therapeutic intervention) [11].

Table 4. Types of content-defined reflection practice.

Type	Definition or Use	Implementation Example
Technical reflection	Professionals reflect on their educational or therapeutic practices based on relative research findings	Is the measurable evidence derived from research, which tends to mask the reflective professional's quantifiable knowledge derived from experiential knowledge relationship, which provides a degree of private insight? What research outcomes, according to the literature, are available?
Deliberative reflection	Professionals' task of juxtaposing various points of view and perspectives or research	An example is that in discussion with another colleague, the outcomes are totally different from my own experience.
Personalistic reflection	Professionals describe the techniques they use, analyze why they chose them, are able to judge these choices in terms of their success, and apply this knowledge to plans	How can I help my students to succeed?

2. Models of Reflection

Over the years, the role of professionals in education, particularly in special education, has become increasingly complex. Within this dynamic framework, the professional is called upon to adapt to new conditions and respond to the needs. The professional is required to design and implement appropriate assessments and educational and therapeutic programs that meet the needs of each child individually, to create educational environments that are supportive and responsive, and to enhance the autonomy of each child. For the professional to be able to respond to all aspects of his/her role, it is important to take into account the needs, interests, and talents of children, to approach critically the methods and practices used, and to redefine his/her goals and the content of the educational programs implemented [18]. A deeper look at the procedures during everyday practice is needed. An important energy in this dynamic process is educational reflection. The goal of educational reflection is for the professional to be in a constant exploration of his/her experience to design and implement programs that meet the educational needs of children as well as to improve the practices used [17]. For this reason, the professional needs to become familiarized with the models of reflection: a. model ALACT, b. Dewey's model, c. Gibbs' model, d. Kolb's model, e. the onion model, and f. the CAR-Keys Model (Table 5).

More specifically, the model ALACT is one of the best-known models of the reflective process designed by Korthagen in 1985. The ALACT model consists of five phases. didactic intervention, b. reflection, c. identification of teaching characteristics, d. redesign of alternative didactic intervention, and e. new didactic intervention (Action—Looking back—Awareness of essential aspects—Creating alternative methods of action—Trial) (Table 5). It is a continuous cyclical process that constantly shapes new cycles [20]. During the first step, i.e., the "action", the educational or therapeutic intervention, the professionals reflect on the process. In the second step, i.e., "reflection", the professionals re-examine the

educational or therapeutic intervention they just carried out and review their approach, goals, methodology, materials, and other important aspects. The third step, “awareness,” involves identifying elements that the professionals may find important to adapt or change. In the next step, referred to as “design of alternative methods of action”, the professionals seek alternative approaches, methodologies, and other materials, adjusting the goals so that the educational or therapeutic intervention better meets the needs of each child and has the desired result. Once the professionals have decided and designed the alternative courses of action, they move on to the next step of testing these actions [21]. This is an ongoing process. Imaginary spirals are formed that contribute, on the one hand, to the improvement of educational or therapeutic intervention and, on the other hand, to the professional development of professionals [19].

Table 5. Models of reflection.

Models of Reflection	Stages
ALACT	Didactic intervention Reflection Identification of teaching characteristics Redesign of alternative didactic intervention New didactic intervention
Dewey’s	Proposals Reflection Hypothesis Justification Application/experimentation
Kolb’s	Identification and delimitation of a particular experience Reflective observation Generalization Experimentation
Gibbs’	Description Emotions Appraisal Analysis Result Action plan
The onion	The environment The behavior of the individual (both effective and ineffective) The abilities of the individual The beliefs The identity that refers to a person’s self-esteem Its mission
CAR-Keys	Context Attention to detail Response

Another well-known model is Dewey’s model [12]. According to this model, professional reflection is an intellectual process, as “each person’s experiences shape it, and when reflective practice is part of learning, meaning and relevance are created, which initiates growth and change” [12], taking place in five stages, i.e., a. Proposals, b. Reflection, c. Hypothesis, d. Justification, and e. Application/experimentation (Table 5). The first stage refers to having many ideas about how the professional can act in a complex situation. It is a stage that is significantly influenced by the feeling that the professional feels about the specific situation. However, as this process progresses, the feeling morphs

into more intentional thoughts and ideas. The “reflection” stage refers to identifying the reflection and its possible source. “Hypothesis” then refers to the selection of one or more proposals as supposedly better solutions to the problem. “Justification” refers to the use of the professional’s knowledge, which comes from his/her education, experiences, and culture. This stage leads to the decision on which solution the professional will choose to try. Then, it follows the stage of applying the solution, i.e., experimenting to test or verify the hypothesis [12]. It is a model that has received a lot of criticism because of its rational basis.

In 1984 Kolb’s model was presented and consists of four stages: a. identification and delimitation of a particular experience, b. reflective observation, c. generalization, and d. experimentation (Table 5). In the first stage, professionals experience a situation that troubles them. In the second stage, the professionals observe the situation they are experiencing and identify their concerns, taking into account their knowledge and experience. This is followed by the third stage, during which the professionals form new ideas to address the problem. Finally, the professionals test these ideas [22]. It is observed that each stage is not a completely distinct event leading to the next [23]. It seems that in this model too, the process consists of repeated cycles. Kolb’s model can enhance practitioners’ professional skills, especially when applied to critical situations [23].

Gibbs [24] introduced the cyclical model of reflection—Gibbs’ model. This model consists of the following 6 stages: a. description, b. emotions, c. appraisal, d. analysis, e. result, and f. action plan (Table 5). In more detail, during the description stage, the professional should clearly describe the experience. In the next stage, the professional explores his/her thoughts and feelings that he/she had at the time of his/her specific experience. In the next stage, the professional discusses and analyzes what went wrong and what he or she would like to change. Next, the professional studies what may have helped or acted as an obstacle during the educational or therapeutic intervention. Then, the professional gathers all the ideas he or she had at the previous stage and decides where to focus. Taking into account everything studied in the previous stages, the professional creates a plan for the new educational or therapeutic intervention, identifying what to keep, what to develop, and what to do differently. In Gibbs’ model, the first three stages are about what happened. The last three stages concern understanding the experience and how the professional can improve the educational or therapeutic process. Gibbs’ model encourages practitioners to reflect on their thoughts and feelings.

Furthermore, the onion model is another model of reflection [25]. This model consists of several levels that influence the actions of professionals. More specifically, this model argues that both the internal processes of the professional affect the way he operates and the environment [26]. The levels of which the model consists are [27] a. the environment, b. the behavior of the individual (both effective and ineffective), c. the abilities of the individual, d. the beliefs, e. the identity that refers to a person’s self-esteem, and f. its mission (Table 5).

Moreover, the CAR-Keys Model is a model developed by Thomas and Parker [28] to support reflective teaching practices for pre-service teachers. CAR (Context, Attention, and Response) consists of three elements: Context, which is a reflection in and on the action; Attention to Detail, which is a technical reflection; and Response, which is a critical and deliberative reflection (Table 5).

3. Practical Applications of Reflection in the Field of Special Education as an Inclusive Practice

Educational and therapeutic intervention is a complex process, involving great demands and challenges, especially for younger professionals. However, even the most

experienced professionals often face concerns due to the dynamic process of education [29]. For these reasons, during the professionals' preparation, it is important to familiarize themselves with various reflection practices. According to Mirzaei et al. [30], observation, communication, judgment, decision-making, and teamwork are the most important reflective thinking skills that a teacher should develop. The literature reports various practices professionals can adopt to develop their reflective thinking and ability (Table 6). Indicatively, the most common practices mentioned are the following [31]:

Table 6. Practices of reflection.

Practice	Reasoning	Example
The study of literature	Formulate questions regarding knowledge and causes of actions	Study, for example, a scientific article on how to enhance social communication among students with autism spectrum disorder
Video recording	Watch interventions many times Focus on various aspects of educational or therapeutic intervention in detail	Evaluate the nonverbal communication behaviors, such as signs and gestures of communication, between professionals and students
Micro-lessons	Receive feedback	Evaluate methods and strategies used during the educational or therapeutic intervention
The journal recording	Record the important incidents experienced during the educational process, thoughts, feelings, ideas, and practices.	Record the behaviors of a student who does not concentrate during the intervention. The professional records ideas to enhance students' concentration.
Evaluation of peers	Collaboration of colleagues and meaningful discussion with an exchange of ideas and opinions that leads to an improvement of everyday practice	Identify the cause of a challenging behavior expressed by a student with multiple disabilities and search for new ideas to improve social skills
Monitoring of educational intervention of another professional	Systematic observation to collect information on issues	Observe the way that a student with tactile defensiveness responds to educational materials while he/she actively explores them with his/her hands
Case studies	Highlight challenges and practices that can, of course, be useful in other situations identify a variety of issues or concerns, interpret a variety of situations, recognize important decisions and potential risks, and recognize effective practices	A case study of a student with multiple disabilities can enhance professionals' deeper understanding of the student's social needs and the practices that can be used

The study of literature (articles, books, and conference proceedings). It is important for professionals in the field of education to explicitly formulate their questions regarding their knowledge and the causes of their actions. For this reason, one of the practices they often use is the study of international and national literature on research findings of practices applied. In addition, they attend conferences related to their subject, where they enrich their knowledge and exchange views on their practices and approaches [7].

The video recording of educational or therapeutic interventions. Video recording is an effective practice of reflection as it allows professionals to see their interventions as many

times as necessary and carefully study their practices [32] (Table 6). In addition, video recording enables professionals to focus on various aspects of educational or therapeutic intervention in detail on behaviors that are difficult to observe and link their analysis to relevant evidence [33] (Table 6).

Additionally, micro-lessons and video material are also commonly used practices. In literature, the creation of micro-lessons is mentioned as an important practice of reflection. Micro-lessons are particularly found in educational or teacher training programs, where learners are asked to design micro-teachings and record them [34]. This process aims to receive feedback from their mentors as well as from other trainees regarding their practices through the promotion of their micro-teaching (Table 6).

Another practice is journal recording. It is a practice that is widely used in the field of education. Diary recording allows the professional to record the important incidents experienced during the educational process, thoughts, feelings, ideas, and practices (Table 5). The aim is to look back later and process, study the positive or negative aspects, and figure out new practices or enrich those already implemented. Namely, the professional can evaluate educational intervention through diary recording. Also, through diary recording, the professional develops skills such as synthesis, critical thinking, analysis, and evaluation [35]. However, journaling is a process that is necessarily consistent and systematic to accomplish the purpose of reflection.

Moreover, evaluation of peers seems to also be a good practice. The development of groups where they can discuss case studies (Table 6). It is also referred to as collective reflection, which takes place through the collaboration of colleagues and meaningful discussion with an exchange of ideas and opinions that leads to an improvement of everyday practice [36]. Peer evaluation is a deliberate process of observing one colleague by another. As a result, they provide feedback to each other. This provides an opportunity for professionals to compare and contrast their practices.

Another practice is the monitoring of educational intervention of another professional. In this case, the most inexperienced professional monitors the educational intervention of a more experienced professional, which aims to make a systematic observation to collect information on issues that may concern him/her [37] (Table 6). However, it is a practice that can also be used by experienced professionals to face a new challenge.

Also, case studies can act as an effective reflection practice as they highlight problems or challenges and practices that can, of course, be useful in other situations [38]. It is also a practice used mainly in educational and training programs for teachers and therapists [39]. This practice can help practitioners connect theory to practice, identify a variety of issues or concerns, interpret a variety of situations, recognize important decisions and potential risks, and recognize effective practices [39] (Table 6).

Jay and Johnson [40] propose the practical application of reflection in three main dimensions: descriptive, comparative, and critical. The descriptive dimension is the first dimension in the typology they propose and refers to the description of the problem, which will be the focus of the reflection (Table 7). The second dimension is comparative, where the professional tries to focus on the problem but from different dimensions, perspectives, etc. (Table 7). The third dimension is criticism, where all dimensions of the problem and its visual considerations are linked to theory and define a new perspective on the problem (Table 7).

The application of reflection to professionals working in special education or to students practicing in special education structures according to Kelly and Barrio [9] is divided into three phases: before the implementation, during the implementation, and after the implementation.

Table 7. Dimensions of reflection.

Phase	Dimensions	Questions to Ask
Before implementation	Descriptive dimension	What is going on? Is this effective and for whom is it effective? For whom is it not effective? How do I know this? How did I conclude it? How do I feel? What pleases and/or troubles me? What have I not understood? Does this have anything to do with the goals I have set and to what extent have these goals been achieved?
During implementation	Comparative	What are the alternative views on what is happening? How do others directly or indirectly involved describe and explain what is happening? How does research contribute to the understanding of this issue? How can I improve what does not work? What are other ways to achieve this goal? How do other people achieve this goal? For every prospect and alternative, who is served and who is not?
After implementation	Criticism	What are the consequences of the problem when viewed from these alternative perspectives? Considering these various alternatives, their implications, and my ethics, what is the best solution for this particular issue? What is the deeper meaning of what is happening in terms of the public democratic purposes of the school? What does this topic reveal about the moral and political dimension of the school? How does this reflective process inform and refresh my perspective?

Before the implementation, the first step is to gather all necessary resources and study bibliographic sources (e.g., scientific articles on a disability), search for videos, and other creative ideas that address disability issues. Especially for students, before starting their internship, a regular and safe space should be designated where they can express it in case they feel that they have been caused some kind of concern or upset. Professionals and students should be aware that the design of teaching should be adapted to the needs of the student. Student feedback should be taken into account by teachers to make changes or additions to teaching.

During the implementation, the topic is presented. It is important that professionals focus on the difficulties that may have arisen and the need to intervene but also on the strengths that they should encourage.

After the implementation, recording daily diaries helps assess whether all goals for special education students have been achieved. At this stage, especially for pre-service teachers, support from mentors is important [15].

In the literature, various studies emphasize the role of reflection practitioners in the improvement of professional skills as well as in special education therapeutic and educational programs, in the improvement of inclusion of students with disabilities and/or special educational needs.

Klefbeck and Holmqvist [41] conducted a study in which teachers of students with autism spectrum disorders participated. This study aimed to investigate the teachers' perceptions regarding students' knowledge and abilities as developed through collaborative reflections using video recordings and the way that teachers capture the changes in students' skills. The results highlight the important role of video recording and collaboration

reflections in teachers' awareness of the way that their teaching approaches and methods affect students' learning and inclusion. The teachers' perceptions regarding the abilities of their students are to capture the changes and to make changes to their approaches and strategies, implement more inclusive practices to meet the students' needs, and enhance their active educational participation.

A study conducted by Meadows and colleagues [42] aimed to provide video recordings as a very useful tool for reflection regarding professionals' communication skills while they interact with people with learning disabilities and autism spectrum disorder. In this study, ten professionals with various communication skills participated, and three students with learning disabilities and an autism spectrum disorder. The video recordings aimed to record the professionals' interaction with the students and focus on students' communication strategies to improve interactions. After the procedure of video recording, the professionals were asked to watch the videos and focus on students' communication strategies. The professionals were asked to reflect on the communication skills and practices they used. Moreover, professionals identified their strengths and the effective practices they used. The results highlighted that the professionals used more effective strategies to communicate after watching the videos, and they were more confident.

4. Conclusions

The professional development of a professional who is involved in educational or therapeutic programs for children with disabilities and/or special educational needs is significantly influenced by his/her perceptions, knowledge, experiences, and other skills that he/she either develops or enhances through his/her education. The field of education in general and special education, in particular, is a constantly evolving area that is directly affected by all changes in society. As a result, the challenges faced by professionals in this field are changing. Professionals are called upon to manage and respond to these challenges effectively. For these reasons, it is required for professionals to consider their approaches, strategies, methods, and the environment to ensure that all students with or without disabilities and/or special educational needs are equally and actively engaged. Hence, professionals need to evolve, enrich their knowledge, and develop new skills or enhance existing ones. The professional through the process of reflection has the opportunity to recognize his/her strengths and weaknesses, but also to identify practices that will help him/her respond effectively to the challenges that arise [43]. Throughout the reflection practice, the professionals approach their experiences critically and develop a better understanding of the factors that influence certain experiences, apply the improved practice, and build knowledge supporting ongoing professional development. The reflection leads to the development of the professional's skills, enhances the professional's self-esteem, and leads to better outcomes.

Reflective practice is an essential element of professional preparation programs [44]. The application of reflective techniques already during pre-service programs for the preparation of future professionals who will be involved in educational and therapeutic programs for children with disabilities and/or special educational needs, but also by experienced professionals, leads not only to the formation of professional identity but also to personal development [44] as well as to students' inclusion. As the population of students with disabilities and/or special educational needs is extremely heterogeneous, professionals must have a creative and flexible approach to therapeutic or educational interventions [41].

The process of reflection enhances the ability of professionals to learn more about themselves as professionals, set goals in all aspects of their lives, find the right practices to achieve them as well, and redefine them through better knowledge of themselves [45]. Reflection is a process of discussing oneself with oneself. The person expresses concerns,

studies solutions, implements them, evaluates the results, and makes changes. Also, often others, such as colleagues, family, and mentors, may be involved in the process of reflection, resulting in significant social and collaboration skills [43]. Based on the aforementioned procedures, the skills that professionals develop through the reflection practice help them to use more inclusive practices during everyday practice as they become more engaged with the students, considering their various needs [46].

As a result, the process of reflection contributes to the formation of an inclusive educational environment, as it leads to the differentiation of teaching design and the selection of appropriate teaching strategies and practices that will meet the needs of each student. Through the use of reflective practices, the professional can understand the dynamics of the relationships that develop between all parties involved in the educational process, utilize his/her theoretical background, and proceed to make decisions that will benefit students. Reflection on the part of professionals leads to the development of observation, communication, critical ability, decision-making, and the ability to work in a team with other professionals [30]. It seems that the process of reflection brings benefits to the individual, that is, to the professional, to students, to families, and to any organization or institution that takes part.

Reflective practice in special education involves educators critically examining their teaching strategies, interactions with students, and overall approaches to meeting diverse learning needs. This process encourages educators to evaluate their effectiveness, understand the unique challenges faced by students with disabilities, and adapt their methods to foster a more inclusive environment. Through reflection, special education teachers can identify areas for improvement, enhance their professional development, and use student feedback to refine Individual Education Programs (IEPs) to ensure that each student receives the support necessary for their academic and social growth. This practice ultimately fosters a continuous cycle of learning and improvement that benefits both educators and students. Through reflection, professionals in the field of special education are influenced and influence the environment around them, such as students, parents, colleagues, and the prevailing culture. Reflection is a dynamic process that helps professionals grow while it gives insights into all the negative and positive aspects during the process of teaching and helps their personal and professional growth [47,48].

The preparation of future professionals to work in the field of special education is a complex and challenging task, especially in terms of effectiveness and successful teaching. Future professionals who will work in special education are required to have well-integrated knowledge that gives them the chance to identify the challenge and adopt a problem-solving approach. Metacognitive awareness is a significant skill that professionals who will work in the field of special education have to develop. Professionals with metacognitive awareness can respond to every situation during the educational or therapeutic intervention with flexibility, as they self-assess and have the ability to judge their practices and know when they have to select another approach or strategy to be more effective. In this way, the therapeutic and educational interventions become more structured and regular as they meet the diversity of students' with disabilities and/or special education needs. It seems that reflective practice is a crucial strategy that pre-service training programs have to include in their curriculums.

Author Contributions: Conceptualization, M.G. and M.P., investigation, M.G. and M.P.; resources M.G. and M.P.; writing—original draft preparation, M.G. and M.P.; writing—review and editing, M.G. and M.P., visualization, M.G. and M.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Larios, R.J.; Zetlin, A. Challenges to preparing teachers to instruct all students in inclusive classrooms. *Teach. Teach. Educ.* **2023**, *121*, 103945. [CrossRef]
2. Day, C. *Developing Teachers: The Challenges of Lifelong Learning*; Routledge: London, UK, 2002.
3. Desimone, L.M. Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educ. Res.* **2009**, *38*, 181–199. [CrossRef]
4. Sancar, R.; Atal, D.; Deryakulu, D. A new framework for teachers' professional development. *Teach. Teach. Educ.* **2021**, *101*, 103305. [CrossRef]
5. Avidov-Ungar, O. A model of professional development: Teachers' perceptions of their professional development. *Teach. Teach.* **2016**, *22*, 653–669. [CrossRef]
6. Ping, C.; Schellings, G.; Beijgaard, D. Teacher educators' professional learning: A literature review. *Teach. Teach. Educ.* **2018**, *75*, 93–104. [CrossRef]
7. Postholm, M.B. Teachers' professional development: A theoretical review. *Educ. Res.* **2012**, *54*, 405–429. [CrossRef]
8. Byrd, D.R.; Alexander, M. Investigating special education teachers' knowledge and skills: Preparing general teacher preparation for professional development. *J. Pedagog. Res.* **2020**, *4*, 72–82. [CrossRef]
9. Shavit, P.; Moshe, A. The contribution of reflective thinking to the professional development of pre-service teachers. *Reflective Pract.* **2019**, *20*, 548–561. [CrossRef]
10. Boud, D.; Keogh, M.; Walker, D. *Reflection: Turning Experience into Learning*; Routledge: Abingdon-on-Thames, UK, 1985.
11. DeBettencourt, L.U.; Nagro, S.A. Tracking special education teacher candidates' reflective practices over time. *Remedial Spec. Educ.* **2019**, *40*, 277–288. [CrossRef]
12. Dewey, J. How we think. In *The Later Works of John Dewey, 1925–1953 Volume 8: 1933, Essays and How We Think*; Revised Edition; Boydston, J.A., Ed.; Southern Illinois University Press: Carbondale, IL, USA, 1933; pp. 105–352.
13. Rodgers, C. Defining reflection: Another look at John Dewey and reflective thinking. *Teach. Coll. Rec.* **2002**, *104*, 842–866. [CrossRef]
14. Kelly, J.; Barrio, B. Disability at the intersections: Expanding critical disability reflective practices. *J. Spec. Educ. Prep.* **2021**, *1*, 6–15. [CrossRef]
15. Machost, H.; Stains, M. Reflective practices in education: A primer for practitioners. *CBE Life Sci. Educ.* **2023**, *22*, es2. [CrossRef] [PubMed]
16. Schon, D.A. *The Reflective Practitioner: How Professionals Think in Action*; Bookpoint Ltd.: Abingdon, UK, 1995.
17. Çimer, A.; Çimer, S.O.; Vekli, G.S. How does reflection help teachers to become effective teachers? *Int. J. Educ. Res.* **2013**, *1*, 133–149. Available online: https://www.researchgate.net/profile/Gulsah-Vekli/publication/337992327_How_does_Reflection_Help_Teachers_to_Become_Effective_Teachers/links/5df94788299bf10bc3634d9d/How-does-Reflection-Help-Teachers-to-Become-Effective-Teachers.pdf (accessed on 5 January 2025).
18. Meierdirk, C. Reflections of the student teacher. *Reflective Pract.* **2017**, *18*, 23–41. [CrossRef]
19. Kaya, G.; Öz, S. Investigation of the Effect of Teacher Training Programs on Reflective Thinking: ALACT Model. *Int. J. Progress. Educ.* **2021**, *17*, 275–291. [CrossRef]
20. Syslová, Z.; Ziklová, N. Developing Professional Skills in Pre-Primary Teachers via Reflexion and Self-Reflection. *e-Pedagogium* **2016**, *2*, 108–119. Available online: <https://epedagogium.upol.cz/pdfs/epd/2016/02/10.pdf> (accessed on 6 January 2025). [CrossRef]
21. Wegner, C.; Weber, P.; Ohlberger, S. Korthagen's ALACT Model: Application and Modification in the Science Project Kolumbus-Kids. *Themes Sci. Technol. Educ.* **2014**, *7*, 19–34. Available online: <https://files.eric.ed.gov/fulltext/EJ1131057.pdf> (accessed on 12 December 2024).
22. Kolb, D. *Experiential Learning: Experience as the Source of Learning and Development*; Prentice Hall: Englewood Cliffs, NJ, USA, 1984.
23. Burns, A.; Danyluk, P. Applying Kolb's model to a nontraditional preservice teaching practicum. *J. Exp. Educ.* **2017**, *40*, 249–263. [CrossRef]
24. Gibbs, G. *Learning by Doing. A Guide to Teaching and Learning Methods*; Oxford Centre for Staff and Learning Development 2013; Oxford Brooks University: Oxford, UK, 1988.
25. Korthagen, F.A.J. In search of the essence of a good teacher: Towards a more holistic approach in teacher education. *Teach. Teach. Educ.* **2004**, *20*, 77–97. [CrossRef]
26. Sööt, A.; Viskus, E. Reflection on teaching: A way to learn from practice. *Procedia Soc. Behav. Sci.* **2015**, *191*, 1941–1946. [CrossRef]

27. Korthagen, F.A.M.; Vasalos, A. Levels in Reflection: Core reflection as a means to enhance professional growth. *Teach. Teach. Theory Pract.* **2005**, *11*, 47–71. [CrossRef]
28. Thomas, S.; Packer, D.S. A reflective teaching road map for pre-service and novice early childhood educators. *Int. J. Early Child. Spec. Educ.* **2013**, *5*, 1–14. Available online: <https://dergipark.org.tr/tr/download/article-file/91450> (accessed on 18 December 2024). [CrossRef]
29. McCaughtry, N.; Cothran, D.; Kulinna, P.H.; Martin, J.J.; Faust, R. Teachers mentoring teachers: A view over time. *J. Teach. Phys. Educ.* **2005**, *24*, 326–343. Available online: http://digitalcommons.wayne.edu/coe_khs/16 (accessed on 18 December 2024). [CrossRef]
30. Mirzaei, F.; Phang, F.A.; Kashefi, H. Measuring teachers reflective thinking skills. *Procedia Soc. Behav. Sci.* **2014**, *141*, 640–647. [CrossRef]
31. Gioftsali, K.; Pitsou, H. *Reflective Approaches in Formal and Alternative Education Contexts. Practice and Reflection in University Departments of Education and Educational Sciences*; Gutenberg: Athens, Greece, 2012.
32. Orlova, N. Video recording as a stimulus for reflection in pre-service EFL teacher training. *Engl. Teach. Forum* **2009**, *47*, 30–35. Available online: <https://files.eric.ed.gov/fulltext/EJ923452.pdf> (accessed on 18 December 2024).
33. Pellegrino, A.M.; Gerber, B.L. Teacher reflection through video-recording analysis. *Ga. Educ. Res.* **2012**, *9*, 1. [CrossRef]
34. Rich, P.J.; Hannafin, M. Video annotation tools: Technologies to scaffold, structure, and transform teacher reflection. *J. Teach. Educ.* **2009**, *60*, 52–67. [CrossRef]
35. Forneris, S.G.; Peden, C.J. Contextual Learning: A Reflective Learning Intervention for Nursing Education. *Int. J. Nurs. Educ. Scholarsh.* **2006**, *3*, 17. [CrossRef] [PubMed]
36. Bodilas, L.; Smixiotis, F. The process of reflection during the practical training of computer science teachers in the Level B Training program. In Proceedings of the 8th Panhellenic Conference of Computer Science Teachers, Volos, Greece, 28–30 March 2014; Available online: <http://synedrio.pekap.gr/praktika/8o/ergasies/5mpontilas2-full.pdf> (accessed on 5 January 2025).
37. Hatzipanagos, S.; Lygo-Baker, S. Teaching observations: Promoting development through critical reflection. *J. Furth. High. Educ.* **2006**, *30*, 421–431. [CrossRef]
38. Price, B. How to write a reflective practice case study. *Prim. Health Care* **2017**, *27*, 35–42. [CrossRef]
39. Liu, W.Y.; Chen, P. The use of the case method to promote reflective thinking in teacher education. *Adv. Soc. Sci. Res. J.* **2019**, *6*, 547–557. [CrossRef]
40. Jay, J.K.; Johnson, K.L. Capturing complexity: A typology of reflective practice for teacher education. *Teach. Teach. Educ.* **2002**, *18*, 73–85. [CrossRef]
41. Klefbeck, K.; Holmqvist, M. Using guided video feedback for collaborative classroom research with SEND teachers of students with autism: A Case Report. *Int. J. Disabil. Dev. Educ.* **2023**, *71*, 866–882. [CrossRef]
42. Meadows, B.; Taylor, M.; Rayment, T.; Johnson, J.; Mahon, M. Video reflection: An emerging tool for training client-centred communication skills in staff supporting adults with learning disabilities in an education setting. *Br. J. Learn. Disabil.* **2020**, *48*, 132–141. [CrossRef]
43. Bubnys, R. A journey of self-reflection in students' perception of practice and roles in the profession. *Sustainability* **2019**, *11*, 194. [CrossRef]
44. Etscheidt, S.; Curran, C.M.; Sawyer, C.M. Promoting reflection in teacher preparation programs: A multilevel model. *Teach. Educ. Spec. Educ.* **2012**, *35*, 7–26. [CrossRef]
45. Travers, C.J.; Morisano, D.; Locke, E.A. Self-reflection, growth goals, and academic outcomes: A qualitative study. *Br. J. Educ. Psychol.* **2015**, *85*, 224–241. [CrossRef] [PubMed]
46. Golloher, A.; Middaugh, E. Diversity Dialogues: Online discussions impact on teacher candidates' adoption of characteristics of inclusive teachers. *Asia-Pac. J. Teach. Educ.* **2021**, *49*, 403–419. [CrossRef]
47. Baxter, L.P.; Southall, A.E.; Gardner, F. Trialling critical reflection in education: The benefits for school leaders and teachers. *Reflective Pract.* **2021**, *22*, 501–514. [CrossRef]
48. Szocik, K.; Gerry, M.A.; Nagro, S.A. The impact of reflective practice on teacher candidates' attitudes towards individuals with disabilities and professional identity. *Reflective Pract.* **2021**, *22*, 739–752. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.