

The Importance of Interdisciplinary Collaboration in the Field of Special Education in Greece



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SUMMARY: The issue of the cooperation of all experts in the field of education is a very important element that significantly affects the effectiveness of the educational project. Although for many it is taken for granted, it is not at all easy to realize. The purpose of this paper is to highlight how teachers, including social workers, who work in special education structures in Greece perceive this issue. To elicit the discourse of specialized professionals, ten semi-structured interviews were conducted with teachers, social workers, and psychologists in the context of qualitative research and thematic content analysis. The results highlight useful information related to what is happening today in the field of education. They focus on the experiences of the professionals themselves on the one hand with each other, on the other with the parents, and the supportive environment of the students. The results yield very valuable information about how professionals try to achieve what is called integrated intervention. Uniquely, the difficulties of professional everyday life are captured and at the same time, an attempt is made to highlight ways of effective management of cooperation problems.

KEYWORDS: (Special education, interdisciplinary collaboration, education)

INTRODUCTION

Interdisciplinarity involves many forms (Wang & Schneider, 2020), a fact that also explains its indefinite nature (Wang, Thijs & Glänzel, 2014). Those who tried to define this concept ended up with descriptions that did not differ from each other and were not able to encompass all its aspects (Wang & Schneider, 2020). Using this term essentially refers to a multi-dimensional concept, which is often interpreted in a one-dimensional way. However, many aspects of it are being studied, such as the development of a research field from various scientific disciplines, the involvement of scientists with different research interests, the exploitation of common terms, questions, or boundaries in a set of scientific fields, the creation of smaller disciplines that will emerge from the combination of different main disciplines and the formation of a theoretical framework (Smelser, 2003). Therefore, the basic pursuit in the creation of perspectives, as well as the inclusion of innovative practices, the examination and analysis of ground-breaking research, the attempt to settle issues related to everyday life, but also the production of scientific work outside the narrow borders of classical research disciplines, constitute the concept of interdisciplinarity (Lam, Walker & Hills, 2012).

The essential value of the collaboration of several scientific fields in a common research object is the desire for intellectual development (Huutoniemi, Thompson Klein, Bruun & Hukkinen, 2010), as through this process the expansion of knowledge in a wide range of sciences is sought (Frodeman & Mitcham, 2007). It is of paramount importance to examine each time aspects of the involved disciplines and not their totality (Szostak, 2002). With interdisciplinarity, even quite different fields can exchange knowledge and practices (Alvargonz à lez, 2011). Often the collaborating scientific fields have relevant and conceptually close content. This has the result that the work produced by the research is not dispersed in scientific fields that are distant from each other, which facilitates the exchange of data and the mutual influence between them (Huutoniemi, Thompson Klein, Bruun & Hukkinen, 2010).

Interdisciplinarity recalls the multidimensional form of knowledge, which is composed of various scientific parts (Nissani, 1997). This type of research is done in two ways. It is possible to exist through the creation of a new research field that results from the transcendences made by scientists coming from different scientific disciplines (Sanz–Men endez , Bordons & Zulueta, 2001), making use of the existing knowledge, which they enrich and evolve (Krishnan, 2009), this usually happens in the social and psychological sciences (Smelser, 2003), but also through the integration of researchers with diverse research interests in a dominant scientific field (Sanz – Men è ndez, Bordons & Zulueta, 2001). This presupposes the existence of a research object that is of common interest to them (Alvargonz à lez, 2011). It is a common assumption that research based on a research field that integrates elements from other fields is considered more productive, as it is more difficult to equally utilize data from many fields at the same

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time. However, this carries the risk of perpetuating the mindset of scientists that they must know one discipline well, to the exclusion of others (Wang, Thijs & Glänzel, 2014). At the same time, with the application of interdisciplinarity, the participating scientific fields may lose their special, separate characteristics, through the development of a new discipline (Krishnan, 2009).

When implementing an interdisciplinary project, the main goal is to find and apply an appropriate methodology, while it is necessary to identify common elements between the scientific fields, for their cooperation to be effective (Parker, 2010). Scientists participating in interdisciplinary research show an easily adaptable behavior, overcoming the narrow margins of their science (Nissani, 1997). They must study new scientific fields and integrate them to produce a work that will be accepted by a group of scientists with a different research object (Leahey, Beckman & Stanko, 2016). Also, it would be good for them to get rid of entrenched perceptions that identify with their industries. Acquaintance and contact with data from other scientific fields, as well as their application in the appropriate situation, are considered essential components of an interdisciplinary collaboration. Essentially, it is a painful and tiring process for the participants, who need a strong reason not to leave (Lèlè & Norgaard, 2005). Therefore, for those involved in an interdisciplinary project to immerse researchers in other academic disciplines for the effectiveness of the project, in addition to being important, it is also extremely difficult (Huutoniemi, Thompson Klein, Bruun & Hukkinen, 2010), without necessarily guaranteeing the expected result (Fitzerald & Callard, 2015). The essential change will certainly occur gradually, without pressure, and with a change in the mentality and culture of scientists (Buanes & Jentoft, 2009). However, the absence of a common method of interpreting and dealing with an issue often leads to the failure of collaboration from the very initial stages, as the opinion that some disciplines are superior in research to others usually prevails (Lèlè & Norgaard, 2005). Often researchers who focus on a single scientific field do not show the intention to expand their interest beyond it. This fact makes those involved in interdisciplinary research pioneers and able to give a touch of renewal to the academic field. It is equally important to treat academia as a common field of interest for scientists to work collectively to address anything that threatens freedom in scientific research. This effort fails when each researcher deals exclusively with his science, ignoring the data of others (Nissani, 1997). However, to achieve the best interdisciplinary result, a more global approach to science and not its division into categories would be important (Szostak, 2008).

While a prerequisite for conducting research with interdisciplinary participation is the familiarity of the researchers involved with other disciplines, a good knowledge, that is, of the research fields of their colleagues, with whom they will collaborate, this fact creates ambiguity as to whether this benefits research and science, as there is evidence that engagement with other disciplines limits the output of research work. Furthermore, an inhibiting factor of the research process and its effectiveness is, possibly, the use of different linguistic scientific codes among scientists, which affects the organization of the research (Leahey, Beckman & Stanko, 2016).

The purpose of this research is to highlight the perceptions and attitudes of the scientific staff of special education schools regarding interdisciplinary cooperation in education. Furthermore, an attempt was made to capture those qualitative characteristics that determine the individuals' assessment of the profile of the difficulties they experience. Also, the individualized way in which they perceive the whole educational project was investigated simultaneously with the highlighting of their suggestions for the optimal result.

Interdisciplinary Collaboration

Interdisciplinarity must rest on solid foundations. First, a system of principles defining research methods is drawn up. Secondly, it is important to define the theoretical framework that accompanies the research process and finally, the definition of a code of ethics is considered important for the correct conduct of the research. It becomes clear that the above principles for the implementation of interdisciplinarity presuppose the willingness of scientists to collaborate and revise the way they traditionally worked (Buanes & Jentoft, 2009).

Issues concerning the theoretical background that frames interdisciplinary research can be addressed in several ways. Drawing information from publications belonging to a variety of research fields, leveraging data and practices from scientific disciplines with more targeted research, and defining the characteristics that researchers entering the research team should possess, ensure the connection between team members and scientific diversity (Sanz – -Menéndez, Bordons & Zulueta, 2001).

Examining and, by extension, solving a problem by a group of scientists coming from a variety of disciplines is considered a method that has a high probability of leading to a satisfactory result. This fact should not be taken for granted, as there are times when either there is no appropriate way of applying interdisciplinarity for each case, or it cannot be applied. Also, the absence of a positive intention to collaborate may lead to a negative climate among researchers, which will affect the outcome. Furthermore, some issues present complexity and can be addressed within the framework of a single research field (Choi & Pak, 2006). Thus, while theoretically, interdisciplinary research is more effective than a conventional one, this assumption is supported by a small scientific project (Larivière & Gingras, 2010). In the literature, few researchers examine issues of interdisciplinarity (Lattuca, 2002). There are scientific disciplines where interdisciplinarity is practiced more widely and consistently, while others do not have this tradition (Morillo, Bordons & Gómez, 2003). One way to measure the interdisciplinary nature of research is the number of bibliographic references used. Based on this, medical sciences, usually, show a greater degree of interdisciplinarity compared to natural or human sciences (Larivière, Haustein & Bö rner, 2015). For example, Biomedicine is a branch of frequent application of

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interdisciplinary research (Morillo, Bordons & Gómez, 2003). Accordingly, two facts argue in favor of the necessity for interdisciplinary research in social and humanities disciplines. First, the exchange of knowledge, practices, and opinions from various scientific fields contributes to solving both academic and everyday issues that concern society. While at the same time, the number of bibliographic references increases, when they come from a variety of scientific fields (Szostak, 2002). Thus, a good example of an interdisciplinary research field is Anthropology, as it combines both biology and the humanities. On the one hand, it studies human nature biologically, and on the other the cultural works of people (Krishnan, 2009). However, in the social sciences, the question of implementing interdisciplinarity is complex. These sciences essentially have a common object of studying the behavior of individuals. What differentiates them is the basic motivation to shape the behavior, as defined by the respective industry. Nevertheless, it is possible to engage and cooperate, despite the conflicts that are a common phenomenon in the field of social sciences and stem from how they interpret social phenomena (Lèlè & Norgaard, 2005). Mathematics has less interdisciplinary work to demonstrate than the field of science (Morillo, Bordons & Gómez, 2003). This may be because these sciences are not as easy to connect or disconnect as others (Alvargonz à lez, 2011), but also to the small number of publications in these disciplines (Larivière, Haustein & B ö rner, 2015).

To examine whether a project follows the principles of interdisciplinarity, three criteria are used. The number and type of bibliographic references, the scientific result, and the number of articles related to the subject under investigation (Larivi è re & Gingras, 2010). Furthermore, there is a series of criteria that ensure the successful outcome of interdisciplinary research. Initially, researchers should support each other, there should be solid knowledge in a scientific field related to the faith of each scientist in the possibilities of his field and his colleagues, the appropriate theoretical framework for the study of the researched subjects should be defined issues and the methodological process, it would also be good to define the limits of cooperation and finally, to have the common acceptance of the multiple dimension of an issue and the need to solve it (Petts, Owens & Bulkeley, 2008). While to evaluate the efficiency of interdisciplinarity, it would be useful to choose a criterion related to both the basic research object and the necessary knowledge that surrounds it (Wang, Thijs & Glänzel, 2014).

Methodology

This research was investigated according to the principles of qualitative research and in particular content analysis. Ten interviews were conducted with people who worked in special schools (3 special education teachers, 3 social workers, 2 psychologists, 1 speech therapist, and 1 occupational therapist), interviews were carried out, with open-ended questions and in a semi-structured interview organization framework. This means that people were free to express their opinions without the risk of limiting their expression and without being directed to closed-type answers. After all, the general framework of qualitative research focuses on the creation of theoretical, unique material that reflects reality and gives meaning to the individual perception of things. Although generalization to the general population is not emphasized, the findings that emerge offer opportunities for meaningful understanding of the subject.

An open coding and categorization of the fields that emerged from the participants' responses was first carried out and then an in-depth analysis of their content was attempted.

Analysis of Results

A variety of thematic areas emerged from the results that largely determine how the need for collaboration among professionals in the field is shaped. Among other things, they focused on personalized ways of perceiving the services offered by the whole project. At the same time, they highlighted important management issues of the general framework which they evolved during the implementation of the program

Coordination as a sought-after element - *"It's a mess here, everyone does what they think for themselves"*

Daily work with children is not sufficiently based on a coordinated educational project. Although the legislation provides for the duties of each specialty which defines the work of teachers, including cooperation, however, on a practical level this does not happen. Typically he mentioned a " *waste, everyone does what they think.... One day this way, the next another, I'm not saying that no work is done, quite the opposite! But there is no consensus* " (interview 3rd, male), similarly, other states: " *I was looking to be okay with my work, what the other person is doing is not of interest to me, I risk being misunderstood, that I am doing him a favor* " (interview 8th, female). This feeling may be largely due to the expectations they had from the beginning, but also to how they experienced their work at school. In other words, in the past, they experienced corresponding difficult moments of cooperation that led to impasses. It is also possible that their perspective is related to how they perceive cooperation in everyday reality compared to how they were taught the specific subject in their university school. To what extent was this training sufficient for them to use it appropriately in their workplace for the benefit of all? The fact that there is no one to coordinate the overall project, even though it is institutionally foreseen that this role should be played by the director of the school unit, highlights the existence of a significant deficit. On an individual level, each teacher may appear to be, and to a large extent is, delivering a large project, but this is not sufficient for the final overall project provided without a coordinated framework.

Conflicts - *"In the beginning, in the early years it is very rare to conflict, but later on..."*

Conflict as a condition that concerns all workers is not a surprising element. Especially the nature of the work in education implies as a prerequisite element the coexistence with colleagues from different specialties and the joint intervention with the same

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students. From the perspective of his profession, each teacher focuses on his work, but at the same time, he consciously or unconsciously identifies what his colleagues provide in the field. A typical teacher mentioned " *I don't see what my colleagues are doing, I don't care..., I look at my work, but when I follow an educational plan and the other does the opposite, e.g. the limits he sets are different, then it is logical that an impasse would arise* (interview 2nd, female). Or something similar is mentioned by someone else " *...I'm not involved... but I see others see our work from a completely different perspective... more indifferent... I don't know...maybe they're tired from the many years, maybe they're burnt out...but they're creating problems for my students...then the bang happens* " (interview 6th, female). The issue of conflict management in the field of work and especially in education is a perennial issue. Some of the questions that arise are whether teachers are ready to manage such difficult situations, who is competent, and capable, and in what, well-designed framework to help resolve them, what happens when such conflicts lead to impasse, and finally who reaps the consequences of these conflicts. These questions seek answers from each science separately. These difficulties need an organized management learning framework at entry level at least in academia. However, in practice, this is reported as something impossible, so does anyone report it? " *..while we learn from before and we know now, that what needs to be done when a conflict arises is to discuss it, but that is not enough. On the contrary, it often creates even more problems. I almost regret speaking. I don't get answers... and the only thing that happens is that everyone vents their malice....*" (interview 8th, female). Although the fact that the emotional discharge from this process works positively, nevertheless in the end the problem swells, because the impasse seems bigger. Learning coping techniques, and the difficulties presented in the field today in a creative way needs to be a primary object of training. In all areas, both academic and work. In particular, it is important to focus on interdisciplinary intervention at a practical level in today's society to bring about a positive development in the field.

Feelings: - " *.. I'm already sure, I see the fights coming, you can see it in the air of the school, then the hard times begin, despair...*"

The feeling of waiting for an explosive event, and experiencing a negative atmosphere in the workplace that seeks relief, signals a difficult condition for employees. The intuition that something bad is going to happen shortly leads to an introverted attitude of defense and inaction that directly affects the effectiveness of teachers. In this light, it is mentioned by someone " *I see it coming...it seems, in the beginning, in the first days, everyone seems to be in a pleasant mood, ready to offer and cooperate, but after a few months, the grumbling starts and in the end, the destruction*" (interview 7th, male), also another note " *.., I'm sure from before, I can see that the fights are coming, you can see it in the air of the school, then the difficulties begin, despair, then when you feel like doing something, just you wait for it to come and pass*" (interview 9th, male). This perspective highlights the teachers' sense of futility, which prompts them to inert any intention to change the situation. At a deeper level of analysis, this attitude could be related to the theory of "self-fulfilling prophecy" in which the event that is expected to happen, is caused to happen by the person himself. The only way out is simply to wait for him. Specialists who intend to deal with the issue are asked to take this parameter into account to intervene appropriately at all these levels.

Sentences from the same " *someone needs to put order somehow, anyone, otherwise nothing will change*"

The need for more systematic and organized intervention at the level of conflict management and the promotion of teachers' cooperation is constantly pointed out by the workers. The organized intervention which will be based on a properly designed level away from improvisations and simplistic thoughts of discussing the problem can bring substantial results. Furthermore, the evaluation of the work of the specialist who is called upon to manage the issue of collaboration and interdisciplinary intervention is important, so that the quality of his work is fed back. It is characteristically mentioned that " *someone has to put an end to all this, someone who will know what he is doing and will not simply improvise, or pretend to be the good boy who looks at everyone to be loved... these are preconceptions*" (interview 10th, female). It follows that it is necessary to place the subject in question as the priority of the educational process. In this way, such an important issue will be given the weight it needs.

Another interesting point is made by someone else. Reference is made to the need for cooperation with the family environment and the wider extracurricular environment of the students. All educational specialties need to know more and adjust their work accordingly for the benefit of children. The teachers need to know what happens to the child, on the one hand, in his family during the rest of the day, in the hours when the child is not at school, on the other hand, in the other institutions visited by the child, such as KDAP MEA or other private professionals. " *If we do what we do, for example, we try to set limits on the student's use of the tablet, and the child at home does completely the opposite, i.e. is on the computer all the time, or follows a program at a private professional and we don't know about it, then it is logical that something chaotic prevails for the child* " (interview 7th, male). In addition, information about what is happening at home is mainly provided by social workers. This shows that it is necessary to transfer these elements to the rest of the educational staff, in an appropriately structured way. It is not enough just to be informed that the child goes to KDAP in the afternoons, information is needed on exactly what and how the educational project is planned and implemented there.

Another teacher focuses on the importance of the distribution of responsibilities in each specialty. " *For me, the alpha and omega are not to enter each other's fields. When the alpha knows his responsibilities without others getting involved in them, then he will know exactly what he is doing and will be accountable for his work*" (interview 4th, female). The delimitation of teachers' work can reduce the cases of misunderstandings and misinterpretations of the work provided. The correct and above all clear

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distribution of responsibilities creates a safe framework in which individuals know their responsibilities, without violating their workplace. On this basis they can on the one hand work without creating misunderstandings regarding the priorities set and on the other hand they become accountable for the final work delivered.

On a separate level, someone else mentions *"It is very important for me that the parent feels that we are working with them. This way he will understand that we are on the same side, the one that wants the good of the child. To achieve this, we all need coordinated work. Imagine if the parent understands that here at school, we argue with each other or don't talk..."* (interview 7th male). Cooperation with the family environment is a particularly important factor. Without it, the educational project and the quality of its results are greatly hampered. The longest period of the child's life develops outside the school environment. For this reason, cooperation with parents is a primary point in the teachers' goals. This requires agreement on the part of the teachers so that the parent does not receive contradictory messages.

Conclusions – Discussion

It is essential to overcome the narrow boundaries of a scientific discipline (Petts, Owens & Bulkeley, 2008), as the search for scientific truth lies beyond them (Huutoniemi, Thompson Klein, Bruun & Hukkinen, 2010). Through interdisciplinarity, we seek to get to know a part of reality that is built in the context of a complex organization (Thompson Klein, 2004). This practice is necessary for solving issues that concern both the academic field and everyday life (Petts, Owens & Bulkeley, 2008). After all, social phenomena are multidimensional, as a result they cannot be studied by a single discipline (Smelser, 2003). In addition, interdisciplinarity can contribute to the achievement of social change, through the creation of a common field of scientific knowledge and action (Nissani, 1997). Scientists with multi-faceted research interests, the flexibility of scientific fields, and the cooperation between them are just some of the prerequisites and simultaneous benefits of interdisciplinary research (Chettyar, 2007). Along with the consequences that occur in the relations of the employees, the absence of healthy cooperation relationships also brings consequences to the trainees themselves. They realize this difficult climate and at the same time, they do not receive the educational work that will help them effectively.

The division of science into individual scientific fields is considered equivalent to the division of labor, relating the perfect internal structure, but also the continuous and large production of work. At the same time, the similarity between scientific and professional branches is pointed out, in points such as the education and competence of those engaged in them, the established educational program that includes all the elements necessary for the success of the branch, the special characteristics and the existence of an organized group of people that promote the interests of each sector. Firmly established scientific disciplines can easily be characterized as professional. Thus, the upward trajectory of a scientific branch is considered proportional to its direct correlation with the corresponding professional one. In this assumption lies the difference in power and influence between the branches. A consequence of this is that academic fields with a pure research focus hold more power in academia. Therefore, although there is a relationship of parity between scientific fields, some may have a greater degree of supply compared to others (Krishnan, 2009, Watson, 2022).

The management of conflicts that arise in everyday life is a fundamental issue. It is directly related to the quality of the educational work provided and seeks answers to many questions that surround it. The ancient philosophers' view of a holistic approach to an issue, makes the education and philosophy of their time interdisciplinary (Krishnan, 2009). In continuation of this scientific tradition, today, the constantly changing demands of society as well as the need for the development of science, can shape new fields of study in which interdisciplinary research succeeds the conventional one (Chettiparamb, 2007, Namusoke & Rukundo, 2022). The management of any conflict condition between teachers as well as between teachers and the supporting environment of students requires an organized and systematic framework of support

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