

# Research on special education needs: what and how to investigate in Special Education

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## **Abstract**

The following discourse seeks to characterize and to outline research from the field of Special Education. The research tradition in this field is ample, both at theoretical and especially practical levels, but unbalanced in terms of research and meta-research. Such an imbalance can be attributed to (among other possibilities) the lack of agreement on research criteria or approaches: positivist, interpretive and critical. As has occurred in other areas of social and human sciences, in Special Education it is pressing that we reach either an acceptance of the diversity of approaches, or, that a global, comprehensive approach emerges which can integrate all the perspectives or ways of seeing and investigating this reality. The need for diverse approaches or for an emerging global approach is justified due to the inherent complexity of the object under study: educational response to students with special educational needs. This involves not only analyzing the students themselves, but also resources at the human, spatial, material, technological and functional levels, as well as whatever relationships are established between them and between the school, family and social contexts.

**Keywords:** Special Education Research / Research topics in Special Education / Research approaches in Special Education / Research methodology in Special Education

## Introduction

When asked about research objectives in Special Education (SE), we might respond in a generic sense that such research seeks to improve the educational attention received by those students who have special educational needs (SEN). But this is a teleological objective which requires fragmenting, a great number of operational objectives or sub-objectives can be derived from it, and these in turn can be subdivided further. Two or more researchers might agree about the initial formulation of the objective, but presumably they would differ when it came to a closer look, delving into concrete issues about such an ontological optimization of the individual with SEN (as a consequence of improvement in his or her overall intervention and stimulation of development) – ranging from the possible SE “customers” and methods of working with them, to availability of technological, human, material, spatial, functional, instructional and economic resources. The disparity of opinions, impressions and even investigative methodologies (desirable, of course, since they enrich us) should not surprise any researcher familiar with the complexity of the reality under investigation: the breadth of the SE field and the variety of pupils with SEN. Nor has the historical course of research in this field served to make criteria more uniform; the research history is both brief and extensive, and not free from collateral circumstances which aggravate the controversy. A prime example is the indefiniteness of science itself (natural science vs. social and human sciences), which until recently resisted the inclusion of many disciplines – SE among them – as belonging to scientific knowledge. Similarly, the former paradigm dominance (related to the above controversy), has led to simultaneous coexistence of different approaches, something we accept and consider appropriate.

Therefore, to shed light on concepts directly linked to our field of study, we must start inevitably with a brief review or retrospective analysis, covering several arguments:

- “He who forgets his history is condemned to repeat it.” As much as we do not wish to repeat but rather to advance in our discipline, or at least to delve deeper into aspects and not to reiterate them, we must be familiar with what has been investigated and how it was done. In my opinion, resistance to this is the reason why replication studies (which replicate other work) are not well received; in fact, they encounter certain disdain in the research community. I do not share such a feeling, since these are laudable efforts to refute or corroborate research, theories, sequences, etc., towards an objective of

generalization. Confirmation or refutation of hypotheses has always been a high priority in research (Chalmers, 1984).

- A familiarity with the origins of former aspects allows or facilitates knowledge of where these are headed and what their immediate purposes are. Ortega y Gasset put it quite clearly: *“the substance of man is his history, all antihistoric behavior acquires a suicidal nature”*. It is not in vain that the research tradition, whether its contexts and/or individual researchers, determines to a large extent what results will be obtained, though naturally the direction of these results cannot be inferred. Certainly there is little to surprise the researcher in the field of education, unlike what can presumably occur in other fields like medicine, where treatments thought to counteract or relieve certain pathologies end up improving others, or even harming more than they help (collateral secondary effects). Perhaps there will never be a case in educational research like what happened to Christopher Columbus who, attempting to discover an alternative spice route, towards India, stumbled upon the immense American continent. Carbonell (2004: 5) expresses it plainly: *“We are always relaborating, reorganizing, reinventing based on what is already known. Let’s not fool ourselves: at least in Pedagogy, very little is invention”*.
- This said, when memory is activated and studied, it contains more seeds for the future than remains from the past. So it is that new research topics arise from recalling the contributions of former researchers. This does not mean anchoring ourselves in the past, which would be counterproductive since society changes and research needs along with it. It does imply a commitment to the past, keeping it in mind and updating it with each investigation. This is the reason why all research should begin with an intensive and extensive bibliographic review. They say that history is cyclical; personally I think it is, though it does not always follow the same orbit. In any case, the researcher who is not aware of the activity which has gone before him runs the risk of going out of orbit. The newness which is to characterize the research vanguard requires a familiarity with traditional research, and is spawned by one’s understanding of past research approaches.

After passing briefly through the history and research techniques of Special Education, we will be prepared to make new progress in this discipline. Obviously, each researcher must also have a brave, persevering attitude, keeping in mind that the person who trips but does not fall is moving forward. One must be daring in order to face new challenges, but this does not

mean a leap into the void, instead, one dives into science having a full knowledge of it. Consider as a simile that, when faced with slippery ground, every researcher must try to either get around it, jump over it, build a bridge or some device that gets him over it, and without having to come back. The unsuitable researcher or pseudo-researcher would test his or her luck by stepping on this ground, hoping not to sink, knowing full well, or even worse, not knowing, that others have already gone down there. One of the most credible Spanish proverbs applies here: *“Man is the only animal that trips twice over the same stone”*. The good researcher will encounter different barriers, and through trials leading either to error or to success, scientific progress is produced. In any case it is preferable to make a respectable withdrawal from the path being pursued, even if it means retracing one’s steps – to regret something we have done -- than to regret something we failed to do, not because we didn’t think of it, but out of cowardice. Investigative work is never entirely fruitless.

Both research topics and research methodologies have been notably linked to paradigms. Thus, the following discourse is unavoidably a synopsis of conceptual paradigms and research and their acceptance among the research community in the field of Special Education (SE). The discussion is therefore structured along the different paradigms that have existed and coexisted over the course of history.

### **1. Research in SE from the functionalist approach**

This is the traditional research framework. It has been known as functionalist, positivist, technical-bureaucratic, empirical-analytical, technological, rational, efficient, etc. From this paradigm research is conceived as a universal activity, quantifiable, objective, disinterested and aseptic, not being contaminated by the researcher’s values, beliefs, assumptions, prejudices, knowledge and positions. This is the most traditional concept of Science, closely linked to assumptions in natural sciences, with Physics as the example par excellence. The theoretical pillars which underlie positivist research come from behavioral psychology, specifically, from analysis applied to behavior.

Along these lines, there is an attempt to make classroom research equivalent to laboratory research. This is indeed a tough business, since it requires total control of the wide range of classroom variables perceived as extraneous, mediating and/or intervening, responsible for the difference between them. In practice, followers of this approach do not

exhibit such a concern, or they play down its importance, considering these variables controllable and not determinant in the didactic process (teaching-learning process). Research from this approach certainly looms large over the researcher, requiring a good deal of research skill and talent in order to maintain objectivity, make adequate use of research instruments and interpret the numerical data obtained.

Methods used in this approach have been diverse. To paraphrase Salvador Mata (2001), the following methods stand out:

- Experimental method, being the functionalist method par excellence: the most utilized and most valued. It stems in essence from use of the experimental design pretest-posttest, thus involving application of tests, scales, questionnaires, etc. (Buendía, Colás & Hernández, 1997).
- Case analysis, consisting of an in-depth study of concrete individuals, using the unique random case design. This design is useful because of peculiarities or differences among different groups with special educational needs.
- Longitudinal method, consisting of a long-term follow-up over time in the study of one concrete aspect. This method has been the least used in Special Education.

Regarding data analysis techniques, only strictly quantitative analyses are used. These can be correlational analyses for discovering relationships between two or more variables, or quasi-experimental analyses, whose purpose is to quantify the incidence of one or more independent variables in another dependent variable or variables.

Finally, research topics that predominate in this approach have mainly had to do with the effectiveness of a given intervention (known as a treatment, in this point of view) for optimizing certain cognitive, affective, motivational, social, professional and academic abilities, by means of acquiring or modifying observable, measurable behaviors. In effect, researchers from this approach have produced a multitude of designs and evaluations of different programs or treatments for optimizing some ability within the relevant spheres. These programs try to overcome “learning disability” in general – those associated with some deficiency, dysfunction or handicap – or they address some specific area, such as mathematics.

This approach also tries to offer a causal explanation for learning disabilities, shedding light on their etiology and possible concomitant factors. As a complement to this, it inquires into the different classifications of students who suffer from disabilities, as well as appropriate techniques for their diagnosis and intervention.

Other aspects that have been the object of research in this panorama are as follows (Salvador Mata, 2001):

- Transference and persistence of the acquired behavior
- Behaviors which influence academics
- Incidence of certain skills in academic performance
- Effectiveness of student involvement in learning.

Our field of research has not assessed this approach very positively, and perhaps it does not do justice to the enormous quantity of work generated from this approach, even if practical significance of results has not corresponded to proportionate problem solving in practice (Salvador Mata, 1999). The worst aspect is that, given the radical postulates of this paradigm, our field of research could hardly be considered scientific, given that the exclusive use of the experimental method, for the purpose of generalizing facts, is neither viable nor appropriate.

## **2. Research in SE from the interpretive approach**

This approach emerges as a critique of and as compensation for the previous approach, though still seeking to address the problem of classic philosophical perspectives which the functional approach claims to be unscientific, since they do not make use of the empirical-quantitative method. This second paradigm has been called interpretive, symbolic, ethnographic, descriptive, phenomenological, ecological, anthropological, hermeneutic, or some combination of these. Among the characteristic features of this SE paradigm we can mention its concern with discovering the meaning that individuals attribute to facts and to their own disability, as well as its emphasis on details which may seem superficial or unimportant at first glance. In contrast to the prior approach's random quantitative sampling

and pretensions of making generalized laws, from this approach one also accepts as scientifically legitimate the intentional choice of research subjects (according to their deficiency, location, availability, etc.), using methods of case studies which are characterized by precisely such an intentional selection (Buendía, Colás & Hernández, 1997). The number of individuals being investigated becomes less important than the depth of analysis of the corpus, since the concern is with understanding, explaining and optimizing the particular case, more than any possible generalization – while continuing to conceive of this approach as scientific.

This qualitative methodology is carried out through action research and qualitative-interpretive or descriptive research. We highlight the following methods as appropriate for making possible this type of investigation:

- Participant observation. As its name indicates, the researcher is not required to be purely objective, as had been thought earlier, but in fact participates in the context under investigation at the same time that he or she is investigating.
- Ethnographic observation. More radical than the above, this method depends on sharing in the beliefs, context, values, needs and perceptions of the research situation, since only in this fashion can plentiful, valid information be obtained, suitable for modifying reality. Here researchers are convinced that it is impossible to become familiar with a context from a supposedly objective, but hardly functional, external observation.
- Interview. This is used under the condition that it be open-ended, or semi-structured, with depth, as compared to the rigidly structured, closed interview which is more similar to a questionnaire or orally applied test. The interview pertains to descriptive narrative research.
- Analysis of material. For example, diaries, “the folder method”, schoolwork, photographs, audiovisual logs, all are collected for research or evaluative purposes (of academic and school performance).

As for techniques of analyzing data obtained, these will be eminently qualitative, largely based on the analysis of content. Having said this, mathematical analyses also can and

should be used, since there is no exclusivity, nor is exclusivity recommended, when it comes to data analysis techniques for one approach or another. Put another way, analysis techniques are not the property of the approaches, but are at their service (and not the other way round). The research objectives and the data themselves are what will determine usage of one or another, as well as, obviously, the researcher's own skill, training and attitude.

Work areas that have been developed from this paradigm are linked to interpretation of the disabilities themselves, *“placing emphasis on understanding what it means to be disabled in society and encouraging practitioners to listen to the voice of those they claim to serve”* (Salvador Mata, 1999). Studies seek to understand how students and professionals in education perceive the disability and learning dysfunctions, as well as their own competence, performance, successes, professional challenges and needs for training and for resources, be they human, material or spatial, for intervention with students having special educational needs.

On the other hand, another set of research has been carried out with relation to interpretation and transformation of practice. Proposals for didactic improvement in addressing students with SEN have included design and implementation of teaching techniques, such as teaching strategies to pupils, commonly referred to as *“learning to learn”*; and mediated instruction, a mediation that takes place between the learning content and the cognitive structure of the learner, encompassing, at the least, prior acquired knowledge and cognitive strategies which have been developed.

To perform studies which fall into the above topics, researchers draw from information about the students themselves, from the parents, from teachers and from the context, in addition to data collected by the researcher (the latter being the exclusive strategy within the functionalist approach).

This approach has been widely welcomed by researchers in social and human disciplines who demand scientific status, after their near exclusion or marginalization according to postulates of the earlier paradigm. Guerrero López (2001, 69-73) makes this more explicit below:

*“From my point of view, there exists among scientific rationalists (functionalists) a definition claiming that only that which is wrapped in numerical “liturgy” is truly science, and all the rest are “inferior” forms of knowledge. ...Nonetheless, I am more*

*worried about SE not taking on the possibility of being science – not logical, but ultimately science, from an epistemological viewpoint, and coherently with this premise, to feel proud and not feel inferior to logical science, just because investigation is not only quantitative but also interpretive or qualitative-ethnographic...it is very difficult to state general laws, but SE is no less scientific on that account. ... I would distinguish between logical-epistemological disciplines, epistemological disciplines and disciplines of magic ... Epistemological disciplines would be those having a rigorous research method, but whose “rules of the game” (credibility criteria) are coherent with their purposes (the study of man, not of the object), with a high level in terms of the sociological factors of science (publications, conferences, specialties, fields of study, etc...).*

Notwithstanding, the results do not speak for themselves. Compared to the proliferation of research studies and results from the positivist approach, from the interpretive approach we find timid contributions with limited significance and functionality for SE. Some authors (Salvador Mata, 1999), though they positively value this new view of educational research, warn against the risk of radicalizing the researcher’s subjectivity or the subjectivity of what is being researched.

### **3. Research in SE from the sociocritical approach**

We must begin by warning that, though there are important differences among researchers who dedicate their work to one of the two previous views of educational reality (followers of one approach or another), these differences greatly increase when it comes to this final representative paradigm. This is not something negative, but on the contrary, the variety of postures enriches research work and its results.

Prestigious researchers have provided this datum about the heterogeneity of sociocritical perspectives. As an illustration, consider reflections from García Pastor (2001) and Salvador Mata (1999). The first author was right in naming one of her contributions “*Critical perspectives in Special Education*”, a title which certainly suggests diversity. The second specifically presents a taxonomy to clarify the critical approach, anchoring it on one end to a radical structuralist approach and on the other to a radical humanistic one, a

classification which other authors have taken on and have defended in other contexts (Burrell & Morgan, 1979).

In any case, and in stark contrast to the first approach, all representatives of this approach agree that research activity is inevitably influenced by the social, political and economic context; as much as are the researchers themselves, persons who are marked by these structures themselves.

Thus, the classroom is far from a controllable, neutral situation (laboratory classroom as indicated by the positivist paradigm), but is conceived as a structure which represents the society (with its different social strata, values, principles, expectations, etc.) The school is an institution which serves society, and therefore serves the interests of public institutions or powers that dominate that society and that wish to continue doing so, such that the *status quo* is assured of being passed on. In this context, SE responds to economic, political and social control assumptions, seeking to reproduce the established society, and thereby maintaining the established powers.

Disability is an aberrant term since it has to do with characteristics intrinsic to the pupil, worth avoiding if we conceive of learning disabilities or SEN as a failure of society, or of other strata, in the educational intervention (and not as the student's lack of ability). Schools and competent administrators have tried to elude such failure by emphasizing the limitation or disability inherent in the students as a consequence of their deficit, disdaining their real intrinsic characteristics, making the student totally and uniquely responsible, something clearly seen in the indiscriminate use of labels that:

*"... place them invariably in the realm of the deviant, abnormal, taking on all the negative aspects associated with this situation ...labels were not so neutral as they claimed to be, but rather ...when the subject is assigned a label, it has an identifying power, the subject is no longer himself, but becomes what the label itself declares he must be"* (García Pastor, 2001).

With this panorama, the only viable research methodology according to this paradigm is action research.

Having made clear that this approach does not assign direct responsibility to the student for educational failure, the questions for inquiry are therefore those that *are* considered to be responsible, and which the researcher seeks to optimize. These come down to the social, economic and political structures (along with all their “underling” institutions, such as, in our case, the school).

Now then, one point in common with positivist research is the inherent difficulty of this activity, since it requires the researcher to be “liberated” from social and political ties that might contaminate the research. Thus, while in the traditional (functionalist) approach, the difficulty was controlling all external variables, in this approach the challenge lies in requiring that the researchers themselves be freed, an emancipation that keeps them from clouding the research with their prejudices, values and assumptions. This emancipation is not only called for on the part of the researcher, but also for the results themselves, as well as on the part of teachers and teacher candidates, who are to receive the impact of research conclusions.

#### **4. By way of conclusion**

Once we are familiar with the most relevant contributions and perspectives of each of the approaches, as well as criticism they have drawn, that is, once we know the more or less immediate past of our research activity, we are in a position to move forward in the present and to make a wager for the future. This is the purpose of this section.

Critical analysis of the above-mentioned research perspectives reveals gaps in each of the approaches, and also the potential of each. Moreover, by further reflection we also easily discover that the gaps in each approach are covered by the other approaches (one approach emerges from criticism of another). However, none of them gives much regard to the benefits of the others.

At this point, the logic of our discourse takes a different turn, a constructive critical perspective enables us to perceive that all the approaches have their benefits (potential) and their errors (gaps). All are positive, since instead of taking a perspective which distances one approach from another, we can decide to bring them together, considering the benefits of each, and how these cover for errors in the other approaches. Just as if we were selecting a national team of athletes (for football or some other sport), we would put in the best elements, for a given time and for a given research objective (at the discretion of the “selector”, in our

case the researcher), so as to obtain the best competitive results (for us, research results), by combining for this purpose different techniques and strategies which historically have been linked exclusively to a single paradigm.

This is the direction we perceive recently in some research authors, if only timidly, though in general this integrating perspective is being welcomed. Others leap ahead and have labeled this incipient view an emerging paradigm, integrating, holistic, comprehensive, ecological or contextual, absolutely convinced of its goodness. Certainly its theoretical base resides in the complementary nature of the previous approaches and concepts, drawing out what is really valuable from each of them -- to my way of thinking, the best way to remember and give consideration to prior approaches, our best tribute to the efforts of our predecessors.

Any research effort of current relevance in the field of SE can find its place within this approach. The following topics serve to illustrate this:

- Methods of schooling appropriate to pupils with SEN, balancing acquisition of academic knowledge with development of the whole individual (socialization, autonomy skills, etc).
- Human resources appropriate for addressing diversity (specialized teachers vs. generalists), taking care to neglect neither initial teacher training nor ongoing teacher development (needs of teachers).
- Materials and instructional resources most appropriate for working in SE, encouraging in-house development of such resources based on students' prior knowledge and especially on student needs, motivations, and inclinations.
- Technological resources and their adaptation as needed for each pupil with SEN, and the most suitable way to effectively integrate these (functional use) in the classroom.
- Acquisition and generalization of socially acceptable behaviors, to the detriment of other behavior manifestations, gestures or postures which are inappropriate.
- Development of basic autonomy and independence skills, personal care and hygiene, dress, social relationships, etc.

- Development of academic skills, to the extent that our pupils show adequate capacity for apprehending them.
- Identification of common SENs in different groups of students who share the same pathology, and detecting as well other individual SENs; thus justifying the need for personalized psychopedagogical evaluation.
- Intervention proposals or guidelines appropriate to certain groups of pupils, useful for producing intervention programs.
- Development and implementation of specific programs for detecting their effectiveness in developing certain skills in certain pupils.

This list could easily be extended were it not for space constraints; however, research efforts cannot be channeled through external requests, but must arise from reflections on practice or the intrinsic motivations of the researcher. The research attitude requires *knowing*, *being able* and *wanting to*. As for *knowing*, I do not cast doubt on the good training which is generally characteristic of current researchers, and I hope that this discourse will make its contribution there. As for *being able*, the resources and possibilities for accessing classroom reality often do not make the task easier but rather just the opposite. Finally, *wanting to* is what we most care about at present: the researcher must feel motivated and fully satisfied with his line of research in order to guarantee a certain continuity and perpetuity. Thus we encourage SE researchers, once they have read this text, to reflect on the question we pose in our title: What and how to investigate in Special Education?

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