Frontiers in Education Technology
Vol. 8, No. 1, 2025
www.scholink.org/ojs/index.php/fet
ISSN 2576-1846 (Print) ISSN 2576-1854 (Online)

Original Paper

The Development of Motor Skills in Children with Mild Intellectual Disabilities with Autism (Proxemic Analysis of Teaching Action)

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Received: December 15, 2024 Accepted: December 28, 2024 Online Published: January 6, 2025

doi:10.22158/fet.v8n1p13 URL: http://dx.doi.org/10.22158/fet.v8n1p13

Abstract

The study of the effectiveness of teaching action is a means of pedagogical intervention which has been the subject of a large body of research. Most researchers emphasize the possibilities in pedagogy, and more particularly in motor education where there is some practical material, about the use of methods based on verbal interventions. In motor education, the teacher, in order to improve the learning conditions, uses verbal exchanges, he instructs the class by organizing the tasks, by making the landmarks contained to all the students in the class can be carried out in an indirect way. The objective of our study is the proxemic analysis of the teacher's action for our population composed of eight teachers of motor activities during learning ensured by an improvement in communication and integration of autistic children much more than the modes of intervention. The results of our research, justified by a qualitative mode, are articulated with the quantitative mode. Our research therefore strives to construct, from an exploratory perspective, elements of an answer. It is therefore a question of laying the premises of a new approach, based on a study focused on certain elements of teaching action based on pedagogical intervention. Our work is based on research work whose subject is proximity. Our study on the difference in distance by tool to compare the repertoires of the four PE teachers teaching motor activity to subjects with autism. We are interested in what actually happens in motor performance optimization sessions, and we want to describe and understand the role of teacher distance in the teaching-learning process. We seek to see how the different types of distance used by the teacher during the transmission of knowledge participate in the didactic techniques of chronogenesis, topogenesis and mesogenesis in order to respond to the different situations encountered within the didactic system. All of this research is part of a comparison. It aims to characterize the proxemic productions of the four PE teachers and to identify their didactic functionalities.

Keywords

motor skills, motor interactions, proxemic analysis, teacher's action

1. Introduction

The development of the communication and motor skills of children with mild intellectual disabilities with ASD (Bhat et al., 2011). MacDonald et al. (2013) provide evidence that poor social skills in individuals with ASD were also found to be weaker in deficits in participation in motor activity, which is an effective tool for developing communication and social interaction. According to the National Autism Center (2015) Motor skills is a method that is used not only to improve the physical sufficiency of students with ASD, but to decrease behaviors that are not appropriate such as increasing behaviors to give appropriate responses and take responsibility. However, participating in physical activities, games, or motor activities for children with ASD are not able to do so at the expected levels due to their communication and social interaction (Yanardag & Yılmaz, 2017). The development of social relationships is also a defining characteristic of ASD. The skills of people with ASD may be due to their inability to learn skills or their lack of motivation (Sivaraman & Fahmie, 2018). In addition, the difficulties faced by people with ASD are mainly related to a lack of understanding of the behaviour of others, such as the inability to interpret and respond to social and emotional cues given by others, including eye contact and facial expressions (Sowa & Meulenbroek, 2012). Pedagogy has never cured a biological disease (Martinet C. & Rieben L., 2010)). Integration techniques have always been the subject of criticism, in fact guiding the child with permanent support by the professionals who accompany this child, describes a field of pedagogical action identifying a method used with autistic people. The mode of social skills training presented by the study (Liratni, Blanche, & Pry, 2013) on the evolution of the symptomatology and socio-communicative skills of children with autism with moderate mental retardation, has clearly shown that this mode of care is beneficial for developing socio-communication in autistic subjects. Several scientific studies have shown a decrease in stereotypies and an improvement in social skills as well as academic performance through physical activity programs. Motor and coordination disorders for children with autism spectrum disorders are expressed by poor coordination of the upper limbs in vasomotor tasks or dexterity tasks and poor coordination of the lower limbs in balance, agility or speed tasks. The correlation between motor disorders and communication disorders remains a relevant subject of research. As a result, movements have a role in early communication and the motor plan improves the communicative prognosis of autistic children, the decrease in running speed and the appearance of instability in the sagittal plane during activities implies a double task in autistic children, especially in football: running and ball control at the foot. In fact there is no significant difference between the walking groups, there is only a difference in speed. Studies have shown a decrease in stereotypies with physical exercise. Some show a short-term effect of intense aerobic exercise (such as running) (Petrus & Adamson, 2008), with a decrease in stereotypies after a 14-week Kata techniques learning program (Bahrami, 2012). Hence the

similarity in the movement pattern between stereotyped movements and movements performed during exercise (Bahrami, 2012). The gestures required during the exercise according to stereotypies would make it possible to reinvest the function of the limb and more particularly of the movement concerned. Social behaviours have been shown to be improved in several studies (Vivanti & Victorial, 2013)). Several techniques have been used to promote the well-being of autistic people. Among other things, this model described above, which proposes a structured organization of space, but also and mainly, motor activity which offers a place of relaxation.

The teacher's action, thought out with the help of conceptual tools derived in particular from the didactics of mathematics (Schubauer-Leoni, 2000); and relating to questions of distance and proxemics, following Hall's (1971) definition for this term: proxemics is "the set of observations and theories concerning the use that man makes of space as a cultural product".

For any communication, four criteria are presented, these are developed by Amade-Escot Chantal, HalledwaedT (1984) and summarized as follows:

• space (prudential modality or remote communication).

• Time (synchronous or delayed communication).

• The technique (direct or mediatized communication).

• The first direct form is the most used in a pedagogical context since it puts the interlocutors in relation to the protagonists through choice, gesture, posture, etc. …).

• The communication situation: "each situation presents inducing elements and then influences the possibilities of exchange", Mucchelli A (1991)

Indeed, educational communication is often a prudential communication, synchronous, direct and more or less interactive.

The principles of communication:

The understanding of communication mainly involves the knowledge of its principles are:

• Communication is a set of signals (verbal or non-verbal behaviors usually reinforce each other.

• Communication is a process of adjustment (the effectiveness of communication depends on the ability to detect the other person's signals, to know their use and to understand their meaning; it ensures the cohesion of any organism).

• Communication has content and relational aspects (this is when a simple message contains content that concerns the desired reactions in terms of behavior).

• Communication involves symmetrical and complementary transactions (the two people reflect each other's behaviours).

• Communication sequences are punctuated for interpretive purposes (i.e., dividing the communication process into causes and effects or stimuli and responses).

• Communication is a transactional process (there can be no message without a sender).

• Communication is inevitable (in a situation not not to communicate).

• Communication is intentional (during communication, we try to send a message to someone and we aim for an objective).

• Communication is irreversible (once you have communicated something, you cannot go back).

1.1 Ways of Communication

Communication is the mechanism by which human relationships exist and develop; it includes all the symbols of the spirit with the means of transmitting them through space and maintaining them over time GAMBA C. (2007). It includes facial expression, attitudes, gestures, words, writings, print. If the communication previously defined is an exchange of a message between at least two interlocutors, it should be added that this basic model is supplemented by a channel which, in addition to linking the two parties, makes it possible to convey the message and produce its reception with effects inherent to it. This channel is defined as the set of characters, words and symbols, written or graphic, verbal or gestural, which are assembled according to rules for the purpose of communicating information. So language, which is both an act and an instrument of communication, is a verbal language that is based on conversation and words, and a non-verbal language that is based on mimicry, gestures and body movements, etc.

1.2 Verbal Communication

According to Sapir E, verbal action is presented as a purely human and not instinctive means of communication, through a system of created symbols. These symbols are primarily auditory and are produced by the so-called speech organs. According to Vygostsky's perspective, language has a double function MONTESINOT-GELET I. & MORIN M.-F. (2012). On the one hand, it mediates interindividual relationships and refers to the importance of social interaction. On the other hand, it mediates the relationship between activity and consciousness. Its differentiated use, as learning progresses, would reveal the degree of formation of the action, i.e. the expertise of a student in the face of a task to be accomplished. BENOIT H. & SAGOT J. (2012), states that it is through this dual function that language allows access to the basis of learning orientations and would reveal the degree of formation of action and its internalization. In motor sciences, the teacher, in order to improve the learning conditions, uses verbal exchanges In addition, he instructs the class by organizing the tasks, by making the landmarks contained to all the students in the class can be carried out indirectly. Indeed, the teacher also uses language to make corrections to the movements performed by the student. But now, it remains for us to situate and define the second possible path given rise to by any pedagogical intervention, which is the non-verbal language MARTINET C., BALSLEV K. & SAADA-ROBERT M. (2007).

1.3 Non-verbal and Gestural Communication

1.3.1 Non-Verbal Communication

It should be noted that the person who expresses himself does not do so only by verbal communication. This motor activity affects all the speaker's bodily areas: the head, eyes, shoulders, arms, hands, legs, etc. etc. Gestural manifestations, facial expressions and bodily expression are referred to by the term

paralanguage. Research that pays attention to these manifestations is called nonverbal communication. So expressive activity deeply involves speech and bodily movement. It seems to us that the question of the scope of this motor activity within the communication process is obviously crucial. Non-verbal communication is a very interesting field of research; since in any pedagogical situation, non-verbal communication processes intervene. The occupation of space, the regulation of distance, and gestures, depending on the tonic state, the orientations of the body, the looks, the mimics, the contacts, etc. They concern the teacher-student relationship.

This non-verbal communication was the subject of research conducted by Pujade, Renaud G. and Zimmerman D in real pedagogical situations. On the basis of various observations and experiments, the authors identify the non-verbal ways of educational relations, they envisage an implicit non-verbal, a kind of law governing the incorporation of school norms. Based on studies on the teaching of motor skills, BASIL C. & REYES S. (2003), show that the subject constructs a pictorial representation of the observed model by encoding visual data in images or words. These symbolic mediators then make it possible to find the appropriate answers.

For Pujade, Renaud, G. and Zimmerman, D. (1992), a visual image is a form of cognitive representation that has the characteristic of preserving perceptual information in a form that has a degree of structural similarity with perception? It constitutes a cognitive instrument that allows the individual, in the context of his motor actions, to imagine situations of a spatial nature, or dynamic configurations, an instrument of evocation. The visual image becomes an instrument of anticipation because it helps to plan action. Motor education teachers use these instruments to better construct the goal of the action in the learner, but it is above all a question of getting closer to an image to be reproduced by simplifying it, exaggerating certain tenses and distorting it: an oriented, filtered, structured image. MUCCHELLI A. (1986) show that gestural cues given by teachers are used in 82% of cases when teaching physical activity. However, the use of a visual model can take several forms in PE. Vigarello G. and Vives J (1986) and later Gamba C. (2010), differentiate this mode of communication by focusing more particularly on the gestures of the coaches. In their observations, they highlight “illustrative” and “partial demonstrations” which can be classified according to three possibilities: fragmenting demonstrations, deforming demonstrations, rhythmic demonstrations. These particular demonstrations are intended to help the student better perceive the message. Speech is only sequential, it says one thing after another, it fragments it; gesture and, for its part, more syncretic, offering a more global vision. The analysis of discourse is opposed to the synthetic of gesture. A more in-depth observation leads these authors to classify the different gesture demonstrations performed by coaches in the set of physical and sports activities. These gestural communications are grouped into four categories according to meaning: the role and function that we summarize as follows:

• The teacher designates brands, for example, locations or specifies places where action to be carried out.

• The teacher gives a verbal instruction and the gesture accompanies the communication.

• The teacher distorts certain aspects of gestures, points to key moments and fragments actions using his own body. The priority here is in the image offered to the students.

• This presupposes the acquisition of the rules of the language of the activity. This way pushes students to understand the metaphors that the teacher proposes. He must not wear out his body in life-size as in the illustration, but transposition operations are carried out.

• To give an instruction to close the body at its center of gravity, the teacher uses his arm to close it at the elbow.

Whatever the types of gestural communication, they are intended to help the student better perceive the message. Thus speech is only sequential, it says one thing after another, it fragments; the gesture is more synthetic, it offers a more global vision. In this regard, Vigarello G. and Vives J stipulate that "the analysis of discourse is opposed to the synthetics of gestures".

Seners points out that all these media are only "didactic media". The teacher should not be satisfied with favouring just one, on the contrary, it is preferable to differentiate them as much as possible to enrich the communications. It is necessary for the teacher to ensure that the message is understood by the students. MAKDISSI H., BOISCLAIR A. & SIROIS P. (2010), confirm that it is not enough to present a reliability or an activity for all its elements to be perceived or understood by the participants. A check is often necessary before launching the whole group into the activity. Effective communication depends in part on the ability to detect the other person's signals, to know how to use them, and to understand their meanings. If we project all the work cited above onto our field of research, we are led to say that we cannot not communicate in class. As soon as the teacher and the pupils are present, an order is established. All the researchers cited also agree in recognizing the importance of non-verbal cues in this definition and constant redefinition of the situation by the subjects of the interaction. This importance of non-verbal elements in communication phenomena, and in particular in classroom communication, was already present in the work of teachers Quintillan G. (2002) on waiting effects. Indeed, many researchers agree on the importance of non-verbal cues in the definition and constant redefinition of the situation by the subjects of the interaction;

In motor education MARSCHARK M., TANG G. & KNOORS H. (2014), where the human body itself is concerned in the first degree, it is commonly accepted that the term non-verbal communication applies to gestures in their kinematic amplitude, postures, mimicry, body orientations, distance relationships through which information is emitted by the individual(s) concerned. This form of communication or interaction brings into play a set of so-called "medium" elements, which contribute dynamically or statically to interactive exchanges in intimate relation to the strictly verbal part.

1.4 Teacher's Action

- The notion of the teacher's gesture in didactics:

The "professional gesture" has a dual role in didactics: First, it focuses on the process of circulation of knowledge that develops through a structured set of situations and means, theoretical and practical, and also a regulated set of professional gestures that take place in a situation. These gestures, according to

Amade-Escot, Loquet and Léziart, in 2003, contain an important part of didactic ingenuity, which conceals ways of making people experience and subsequently, little known. Second, it is the one that also focuses on the process of knowledge circulation. Nevertheless, the word gesture will be used in a more restricted sense, in other words, as a movement of the body, mimicry. So, we think that the gestures used include an important part of didactic intention determining the teacher's action.

1.5 The Importance of Gestures in Motor Praxeologies

In a different register, Parlebas (1984) presents his theory of sports games. The author develops two fundamental notions, namely "praxema" and "gesture". The "praxema" is the motor conduct of a player interpreted as a sign whose signifier is the observable behaviour and the signified the corresponding tactical project as it has been perceived. The "gesture" is defined as a class of attitudes, mimics, gestures, motor behaviors performed in order to transmit either a request, an indication, or a tactical or relational injunction by simple substitution for speech (Parlebas, 1981, pp. 75-169). Otherwise, we can consider that the "praxema" as a unit of action made up of a set of "gestures", the smallest elementary units of action. These notions are created in order to account, in a structuralist way, for the importance of the player's gestures in the interaction with his team, his opponents and the decisions made. The idea of motor praxeology emphasizes the importance of gesture in motor communication.

1.6 Gestures as a Body Technique

Vigarello and Vivès (1989) in a number of successive works have focused on the body as a tool for transmitting information on practice. The study and analysis point out that written technical discourse is confronted with the need to highlight gestural phases that have no equivalent in the real situation. It is a question of translating "the right image of the action" to be carried out. The results of the study show that the difficulty encountered consists in translating all the richness of the action, its fluidity, its rhythm, from graphic signs.

In the continuity of this study, the authors will conduct investigations in the field of practice. Based on recordings in training or teaching situations, they show the importance in particular of the non-verbal aspects of orality, namely intonation and rhythm in the practitioner's understanding of the direction of movement. In particular, it emerges that the referent of the action is more present in the rhythms of the voice than in the text itself, at the risk of sometimes taking precedence over the content transmitted itself. It is from this work that the question of coaches' gestures, as a tool for the transmission of body techniques, becomes a relevant object of study.

1.7 The Notion of Distance as a Tool for Observing Didactic Situations

The models for observing and understanding communication situations have evolved from the simplest to the most complex since 1945. The simplest models are based on a telegraphic concept, where communication is in fact reduced to the transmission of information (Shannon & Weaver, 1949, in Picard, 1995).

This conception of communication, of the telegraphic type, is opposed to another, very different in its consequences from the point of view of observation and research methodology. There is indeed a great

difference in considering communication not as a "(computable) message that a transmitting subject sends to a receiving subject through a channel, but as the insertion of a complex subject into an environment that is itself complex: the subject is part of the environment, and the environment is part of the subject Sfez (1992). Winkin calls this second vision of communication "orchestral communication". It was inaugurated by Bateson in 1951. It is a cultural, anthropological vision of communication: "communication does not only refer to the transmission of verbal, explicit and intentional messages; As used in our sense, communication would include the set of processes by which subjects influence each other. This definition is based on the premise that every action and every event offers communicative aspects as soon as they are perceived by a human being" (Bateson & Ruesch, 1951/1988). Bateson's work first dealt with psychiatric problems, and in particular allowed him to highlight, in communication situations, the existence of paradoxical injunctions. This work gave rise to a current of research known as the Palo-Alto School, a telegraphic conception of communication. He gives as an example the absence of a message, which can be, depending on the context, an effective message. In this conception, we note the presence of the notion of expectation, which is taken into account through the idea of predictability. In parallel with this work in the field of interactionist sociology, we can also observe the emergence of this orchestral point of view in the language sciences, with the theory of discourse acts (Austin, 1962/1970). Beyond the transmission of information, this point of view also integrates processes of mutual influence in the production of utterances. In his enterprise of studying in which senses to say something is to do something. Austin distinguishes: the locutionary act and the phonetic, phatic and rhaetian acts that he includes which have a meaning; the illocutionary act has the fact of saying to a certain value; and the perlocutionary act, which is the obtaining of certain effects by speech. It is interesting to note that Austin does not limit the effects of perlocutionary acts to one interlocutor or even to the people present: "Saying something will often most often cause certain effects on the feelings, thoughts, and actions of the audience, of the speaker, or of other persons. And one can speak with the design, the intention, or the purpose of bringing about these effects" One of the consequences of the necessary didactic reluctance, already evoked in the paradox of the teacher, is precisely the strong perlocutionary valence of professorial statements, highlighted by Sensevy and Quilio (2003a and Quilio (2003a and Sensio). Mainly intended to make people act, to produce effects. It is also quite capable of specifying the behaviors that interest us, namely non-verbal behaviors. It is not surprising that the theories that emerge from orchestral communication are compatible with that of didactic situations in mathematics, if we consider the kinship that has already been evoked around the didactic contract (Sanazy, op.cit.), and in particular the reference to Goffman. It is undoubtedly possible to broaden the subject even further, by taking up in Bateson's quotation the following passage: "every action and every event offers communicative aspects as soon as they are perceived by a human being". We can then question the communicative aspects of the didactic environment and, even more, the "messages" implicitly conveyed by the institutions through the categories they host (Douglas, 2002). As soon as they enter a space such as a school or a classroom,

places as impregnated as possible with implicit institutions, and specifically set up by the class teacher, the actors are immersed in a world saturated with real and symbolic objects likely to feed their perception and guide their actions.

2. Methodology

Observation of behaviour is a very important step that is organised during structured motor activities. Analysis of the nature and quality of interactions with others, communication ability, the nature and quality of their games, autonomy, and diet, as well as the level of adaptation of certain behaviours (Rogé, 2002). This helps to foster a good appreciation of boundaries and resources in associated environments. The unusual behaviours that manifest themselves during observation during assessment sessions make it possible to identify the early signs of autism, as well as the child's development through the regular check-ups that are carried out, these are instruments both for family dialogue and for educators (Guidetti, Tourrette, & Colin, 1996). Socialization, communication, and daily living coping skills, as well as motor skills, are determined by the Vineland Adaptive Behavior Scale (Sparrow et al., 1984). It is one of the tools currently used to measure the child's socio-adaptive behavior and it is carried out by a professional. The latter must rate the scale in order to obtain a developmental age in each competency area. The evaluation of motor skills is done by examining tone, postures, manual coordination, stereotypies, and praxia (Baghdedli, 2006). Successive observations have shown us that distance is powerless to account for the distances perceived by the observer and, probably, by the teacher and the pupils. The distance in question is therefore not based solely on geometry. It should also be noted that Hall (1963) had already constructed his distances by combining several factors. Euclidean distance will therefore be one of the elements of distance that we will study, but we will have to take into account other determinants. In particular, if the Euclidean distance homogenizes space through the use of a Cartesian coordinate system, the distance perceived by an individual is self-centered. The subject is confused with the origin (the zero) of the coordinate system, whose axes are neither normative nor orthogonal. For example, when an object is 50 centimeters from us, in front of us, it is subjectively closer than if it is 50 centimeters behind us. Our notion of distance will therefore have to integrate, in a general way, the orientation of the speaker's body in relation to that of the speaker. Continuing the exploration of this example, we can say that, if we look at an object, we subjectively bring it closer. The distance that we will postulate as a didactic distance will therefore be a function of Euclidean distance, the orientation of the body and that of the gaze. The student and the put on will be all the closer to each other in the sense we understand it, the more their gazes are convergent, their posture is face to face, and of course their physical distance is short. Let us note at this point that the meaning of the adjective "didactic" in the above expression (didactic distance) agrees with the general meaning we have given it: this distance is "didactic".

We are well aware of the expression "keep your distance". In this context, let each of us mark our distance by talking to the other. Subsequently, four communication zones are distinguished:

• Intimate area: (15 to 45 cm), tone of confidence.

• Personal area: (between 45 and 1.20 m), professional relations, friendly path.

• Social area: (1.20 to 3.50 m), marks the function of each person.

• Public area: (> 3.50 m), facing an audience

2.1 Focus of the Research

Our study aims to highlight the staging of the teaching strategy for autistic children following the use of a program of intervention and management of the psychosocial skills of these children in the Tunisian context. The study sample consisted of 20 students aged 6 to 12 years. The students were divided into two groups: a training group that applied an intervention program, this group is composed of 8 students (n = 8 with ASD) and a group that applied a usual motor intervention program, this group is also composed of 8 students (n = 8 with ASD with mild intellectual disabilities). Researchers who have taken an interest in the non-verbal in the classroom (notably Pujade Renaud, 1983; Ferrao-Tavares, 1985; Savaria, 1987) report difficulties arising from the specificity of these behaviours, while agreeing on the absolute necessity of taking them into account. In a summary note, Genevois (1992) concluded on the interest of a naturalistic attitude based on the observation and description of behaviour in the field, an approach that is particularly interesting and worthy of being developed in the fields of pedagogy and training. Neill (1986), who is widely cited in this note, indicates an impact of the teacher's non-verbal behaviour on his or her perception by the pupils as effective or calm. This conjecture of Neill's is put forward even more explicitly by Moulin (2004), who extends it to the objective efficiency of the professor.

Our research therefore strives to construct, from an exploratory perspective, elements of an answer BALSLEV K. & SAADA-ROBERT M. (2007). It is therefore a question of laying the premises of a new approach, based on a case study focused on certain elements of teaching action based on pedagogical intervention.

… In this respect, it is important to better analyze and explain the two lines of communication in order to be able to clarify and delimit our research object. The problem that usually arises is to know which of the methods meet the interests of the learner and lead to better results at the level of assimilation for our population with specific aspects.Our work is based on research work whose subject is proximity. Our study on the difference in distance by tool to compare the repertoires of the four PE teachers teaching motor activity to subjects with autism.

We are interested in what actually happens in motor performance optimization sessions, and we want to describe and understand the role of teacher distance in the teaching-learning process. We seek to see how the different types of distance used by the teacher during the transmission of knowledge participate in the didactic techniques of chronogenesis, topogenesis and mesogenesis in order to respond to the different situations encountered within the didactic system. All of this research is part of a comparison. It aims to characterize the proxemic productions of the four PE teachers and to identify their didactic functionalities.

2.2 Study Population

Four motor education (ME) teachers, two novices and two and two experienced are involved in the present investigation, including two men and two women. Each teacher is asked to teach a motor education session for a group of 08 eight children with autism with mild intellectual disabilities.

Teachers are classified as Experienced Male (HE) and Experienced Female (FE) or Novice Male (HN) and Novice Female:

• The HE teacher, is a PE teacher who teaches in the middle school, and he is experienced

• Professor HN, is a PE teacher who teaches in college, and he is a novice.

• The FE teacher, is a PE teacher who teaches in middle school, and she is experienced

• Professor FN, is a PE teacher who teaches in middle school, and she is a novice

Data collection system:

Learning is based on the implementation of routines and repetitions, but also by the introduction of variations within these routines. Nevertheless, it happens that despite respecting all these principles, the child does not progress. In this case, this model has established a decision tree, a hierarchy of measures to be implemented according to the situations.

2.3 Research Objective

The research aims to determine the impact of cooperative play on the development of certain basic motor skills (running, throwing, jumping; crawling) for autistic children, as well as on the variable of integration and adaptation with the environment following a proxemic analysis of the teaching action as a function of distance during the various communications carried out as well as on the degree of expertise of the teacher.

2.4 Program

A program planned and organized in the light of the scientific and educational foundations based on the principles and techniques of the "Behavioral School" where it offers training through a range of activities of a number of sessions.

2.5 Gaming Activities

It is a targeted or unguided activity carried out by children in order to achieve pleasure and entertainment and exploited by adults in order to contribute to the development of children's behavior and personality by taking them away from the different physical, mental, and emotional dimensions.

2.6 Basic Motor Skills

These are some manifestations of motor realization that appear with the early stages of physical maturity, such as love, walking; run; roll; perforation; throw; climb; attachment; and because these motor patterns appear in humans in the first form," so they are called basic motor skills or key motor skills.

Research plan and procedures:

Teaching environment and use of joint activities.

The child and the teacher carry out the same routine activities together, from session to session. These routines are short activities (2 to 4 minutes) that are selected according to the child's preferences and interests. They have several objectives, in different fields. The implementation of routines goes through several stages: from the choice of the activity, to learning the routine, by developing the rotation and collaboration between the two protagonists, to the complexification of the routine action to expand the child's repertoire of activities and develop his mental flexibility, until the cessation of the routine, to move on to a new routine.

2.7 Mode of Investigation

The sessions are carried out in a shared game environment, they are often biweekly and of a short duration of thirty minutes each, during which the activities are supervised by two people, who alternate between the role of observer and that of the teacher. The intervention was carried out through the functional assessment of the child and the creation of an individualized project. The functional assessment of the child guided us to structure the detailed developmental phases of the child by detecting the strong points, and the still fragile points, the emerging skills to be consolidated. The assessment focuses on the examination of: autistic symptomatology, disorders of psychophysiological functions, cognitive functioning, language or socio-communicative skills Vismara, L., Young, G., & Rogers, S. (2012).

2.8 Study Population

The study involves 20 children between 4 and a half and 6 years old, cared for at the private centre for autistic children in Sousse, benefiting from motor activity sessions once a day. This over a period of 3 months. An initial assessment is conducted and a reassessment takes place at the end of this period. This reassessment is to verify whether an improvement in the capacities of: imitation, shared attention, interaction, regulation of behavior, perception has been made. In addition, regular evaluation of autistic symptoms to show whether a decrease in social communication disorders is occurring. The analysis of the child's interaction with the environment will be considerably observed to check whether the children accept the novelties of the environment, and better match their behavior. These testify to the improvements following this intervention, promotes the development of the child.

2.9 Research Approach

The population of our research represents autistic children in the governorate of Sousse, aged 4 and a half to 6 years, the research sample intentionally selecting the specialized center of which had (24) children in order to meet the conditions of the average severity of autism on a scale of motor activity; Research sponsored some of the conditions of the selection:

• The child does not have a motor disability that prevents him or her from participating in the activities of the programme.

• The child is not taking any medication that affects motor performance.

• The common child should not undergo other motor programs.

• The child's guardian agrees to participate

2.10 Research Tools

Diagnostic measurement of the autistic child

Scale Description:

This measure is designed to determine whether a child has autism and also how much autism they have. The scale used is that of the University of North Carolina and prepared by Professor Eric Schubler in 1988, who is also the discoverer of the teacch program.

The form contains fifteen evaluation elements:

• Relationship with others

•Imitation.

• Emotional response

• Using the body.

• Use stereoscopic

• Adaptable to change

• Visual response.

• Audio response.

• Respond to taste, smell and touch.

• Fear or nervousness.

• Verbal communication.

• Nonverbal communication.

• Activity level.

• Level and harmony of mental response

• General impressions.

Scaling Instructions:

After completing the scores for the 15 items on the form, the examiner compiles the scores for the items on the form to obtain the total test score under the form for the scale.

Within each item of the form, there is a special section of notes under each item that can be written on the examiner's observations of the child's behaviors associated with the item. Once the child's observation is complete, the appropriate degree of the child's behaviour is placed in the element by placing a circle around the degree to which the description of the child's behaviour is described in that element. The examiner may find that the child's behavior is between two terms of the element, in which case the examiner places a circle around the degree (1.5 -2.5 – 3.5).

2.11 Basic Motor Skills Tests

Tests of basic motor skills have been developed by identifying the most important basic motor skills of the autistic child, based on theoretical readings and specialized scientific references. These skills were placed in the form of a survey and presented to an expert group consisting of 8 teachers of special motor education with at least 01 years of work in the field of leisure, play and basic motor skills.

•Race.

•Throw.

•Attachment.

•Shooting.

•Crawl.

These variables were presented to a panel of experts to ensure that they fit and fit into this category is possible. A survey of studies and research as well as scientific references were conducted in which these abilities were applied to samples similar to the research sample to achieve tests that measure research skills and the researcher achieved the following tests.

• Running

• Jump: Stability Long Jump

• Throw: Throw a ball the farthest distance

• Crawl: Crawl on the stomach

The program based on the use of play activities for autistic children:

First: The overall objective of the program:

The current program aims to develop some basic motor skills for children with autism from the age of (5 to 9) years of age with simple to moderate autism.

Second: The objectives of the program:

• Develop the physical elements to help perform the running skill of the muscular strength of both men and speed activities.

• Development of elements to help perform the jumping skill of the muscular capacity of the feet.

• Development of elements to help perform the shooting skill of arm muscle strength.

• Development of elements that help to perform the crawling skill of the strength of the arm and torso muscles.

• Identify the importance of the positive activities that autistic children respond to and contribute to achieving its goal.

• The ability to communicate verbally, non-verbally and self-expression in the autistic child.

It also aims to:

• Help the child to empty potential energy.

• To help the child develop his attention and concentration.

• Help the child develop the large and small muscles that are important in learning basic motor skills.

• Practice appropriate social behavior such as (obedience - order - cooperation - role sharing - waiting).

• Develop certain concepts associated with the perception of spatial relationships such as: above - under - right - left - forward - behind.

• Develop some of these children’s abilities that help develop communication skills such as (comprehension, imitation, connectivity; recognition, label).

• To develop the ability to imagine and play, and thus contribute to the development of a clear weakness in these children.

• Develop certain skills of discrimination and auditory perception.

There are basic principles to follow when applying the program with the autistic child:

• Repeated skill stabilization training in autistic children.

• Make a daily routine schedule with these people, based on their characteristics.

• Taking into account the individual differences between these children.

• Using appropriate reinforcement methods.

• Provide the right place to apply the program to be away from distractions.

• Put the task in the form of small steps.

• Save enough time to complete the mission.

• To lead these children to develop their attention and acquire new skills.

• Give instructions clearly in front of the child" using the signal as much as possible.

The content of the program:

The program contains a range of different motor activities that are collective or individual and simple and include motor activities, which are essential activities for children in general and autistic children in particular, where the program provides children with the opportunity to engage in sports activities that contribute to the development of autistic children's concepts and motor perceptions, cognitive and emotional" and also help to reduce the repetitive stereotypes that appear to them.

Materials and tools:

•Chairs.

•Hoops.

•Balls.

•Wooden boxes.

•Graphics

• Plastic baskets.

•Cones

•Strings

This study deals with the proxemic analysis of didactic moments, which is why we relied on a quantitative analysis, which thanks to data analysis software allowed us to obtain meanings by cross-referencing the various variables.

2.12 The Data Is Collected in Three Stages

- A pre-session interview of about twenty minutes, semi-directive, with the teacher about the teaching that will be recorded. It made it possible to specify the teacher's "didactic intentions", to situate the session in the didactic history of "the class", to identify the different tasks proposed to the pupils and to establish what knowledge will be taught. The documents for the preparation of a session are also taken into consideration:
- The film of the session with observations taken by the experimenter present.

- The data collected relates to the video and audio recording of all the actions and interventions of the teacher and the students. The device uses the coupling of sound and image in order to be able to relate the behaviour of the different actors to the words of each one (instructions, private or public remarks, verbal reactions of the teacher and the pupils). The teacher-student group is filmed in a fixed shot presenting communicative teacher-student interactions.
- A post-session, semi-structured interview, which allows the teacher to review certain elements of the session. This step is essential: it is a question of recognizing in the teacher's words the expression of authentic knowledge and thus avoiding attributing to the person we are observing the point of view of the one who is in his chair according to Bourdieu's formula.

Our materials are essentially the methods presented by Amade Escot C (2001) who proposes to carry out anti- and post-session interviews. On the other hand, we did not insist on the "didactic episode" which consists of following the progress of the objective during the sessions. Thus, the main purpose of the interviews was to support the interpretation of our results.

2.13 Statistical Tools

The observed data collected were exploited by a data analysis software (The Software: STATISTICA, SPSS (khi2 test)

The method of the khi 2 tests: This is a statistical calculation that makes it possible to decide whether the relationship between two variables is significant or not. More precisely, it makes it possible to test whether two variables are dependent, by judging the importance of the differences between the theoretical results and the observed results. It compares an observed distribution (calculated from the khi2 (K2) formula applied in Excel) to a theoretical distribution, based on the Khi 2 distribution table according to the degree of freedom (ddl) and the tolerated probability of error. ddl= (Row -1)(Column -1)

$K2= (x1 – x'1)^2/x'1 + (x2 – x'2)^2/x'2)$...: x1 represents the actual or experimental number, x'1 is the theoretical number). In our analysis, the theoretical chi-2 corresponds to a probability of error of 5%.

3. Results

The results are presented on the basis of the proxemic behaviors of the four teachers with reference to the four types of intimate, personal, social and public distances. By referring to the gender of teachers and their professional experience. And taking into account the gender of the students and their degrees of autism and intellectual disabilities. By presentation of individual and collective task types. Based on the didactic moments corresponding to a technique (topogenesis, mesogenesis and chronogenesis) interacting with the gender of the teachers and that of the student.

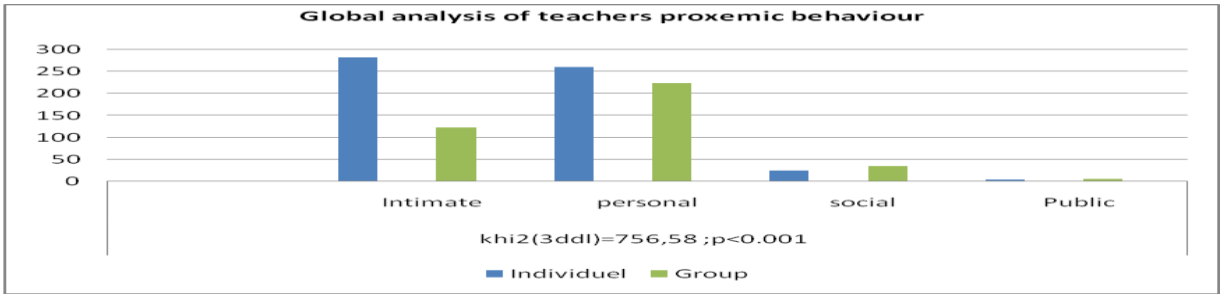

Figure 1. Global Analysis of Teachers' Proxemic Behaviour

The observation of our four teachers lasting 227 minutes made it possible to retain 1096 trips. Figure 1 show the overall results for the four teachers.

According to the results obtained, we can see that distances (intimate and personal) are the most used by our teachers, with values of 540 proxemic units for personal distance and 460 proxemic units for intimate distance. This leads to the conclusion that teachers use intimate and personal distances much more than social and public distances. Reading the graph of the variation in the type of distance as a function of the sex of the teacher shows a significant khi 2 at $p<0.001$ These results inform us about the difference in the use of different types of distances between male and female teachers. This is the intimate distance, with a percentage of 49.7% for female teachers and only 29.4% for teachers. The use of the type of personal distance is almost realized with similar values for both sexes (50% for men and 48.8% for women). Social and public distancing are used much more by men (by 17.9% and 2.6% respectively) than by women (by 0.4% and 0.4% respectively).

Figure 2 shows that teachers intend to place themselves at a distance of between 1.5cm and 1.2m to manage their students and impose an order of organization and discipline during their teaching.

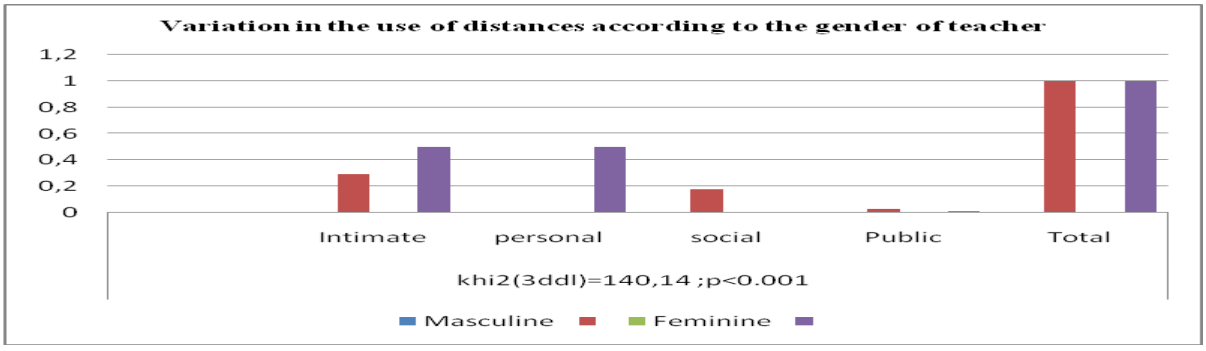

Figure 2. Variation in the Use of Distances According to the Gender of the Teacher

The proxemic unit used according to their professional experiences shows that teachers experienced in their teaching of motor activity frequently use both types of intimate and personal distances with the "absence" of other types of distances. The comparison between experienced and novice teachers has

shown that experienced teachers always place themselves close even in physical contact with their students during the teaching of motor activities, while novice teachers take more distance during moments of didactic interactions. The frequency of use of intimate distance is 53.9% for experienced teachers and 27.6% for novice teachers.

The variation in the use of personal distance shows that this parameter is used much more by novice teachers than experienced ones. The frequency of use of this distance is 54.9% for novice teachers compared to 44.6% for experienced teachers.

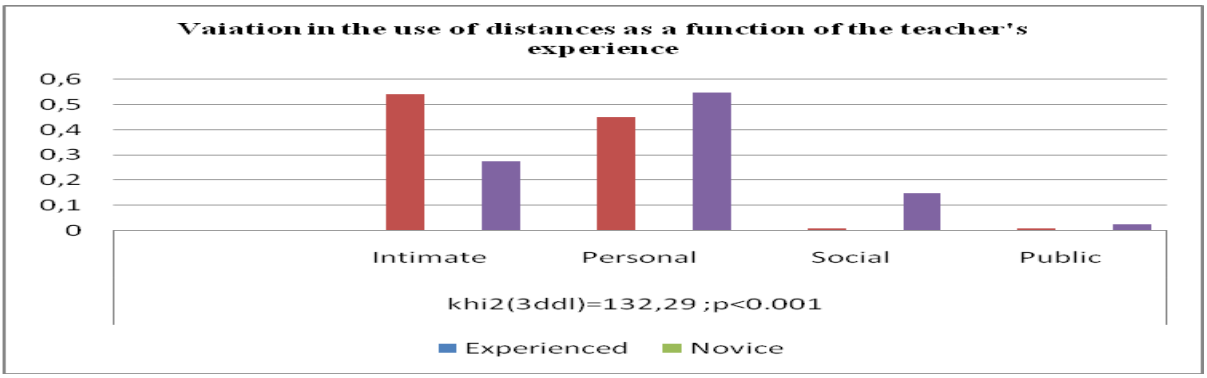

Figure 3. Variation in the Use of Distances as a Function of the Teacher'S Experience

Similarly, Figure 3 of the study of the variation in the use of distances according to the teacher's experience shows that social and public distances are used much more by novice teachers than experienced teachers, with normative values of 14.9% in social distance (social or public) for novice teachers and 2.6% for the same type of distance among experienced teachers. the values found in social disatance (social or public) are 2.6% for novice teachers and 0.4% for experienced teachers. This use of such a type of distance at the time of teaching proves the effect of professional experience in the teacher-pupil didactic interaction at the time of learning.

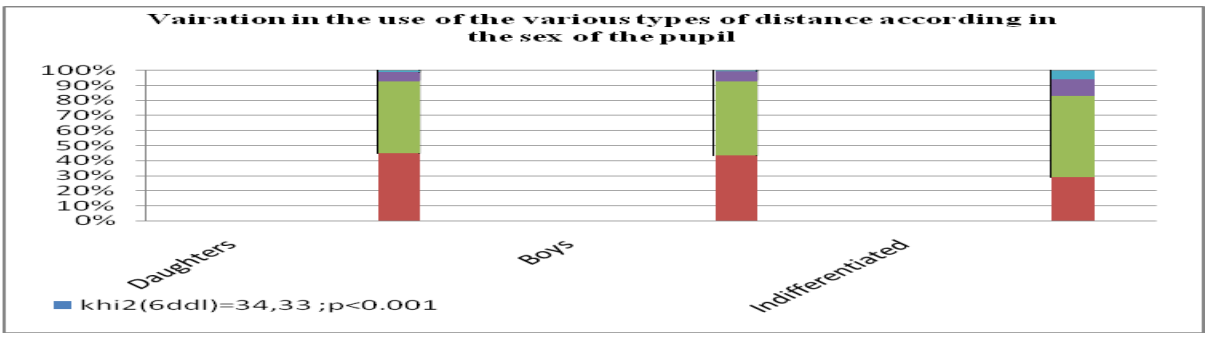

Figure 4. Variation: in the Use of the Various Types of Distance according to the Sex of the Pupil

The study of the variation in distance as a function of the student's sex presented in Figure 4 reveals a significant khi-2 at $p<0.001$ and confirms that motor activity teachers addressing a population of

autistic children with mild intellectual disabilities tend to frequently use intimate and personal distances during their teaching. Indeed, our teachers have shown that they feel close to their students without taking into account the nature of their gender. The results of the frequencies of use of intimate distances according to the sex of the student are 44.1% for boys and 45.5% for girls. For the personal distance type, this percentage is 48.8% for boys and 47.4% for girls. We also note that our teachers are more likely to address a group of girls, boys, or mixed (indifferentiated) by taking more distance per report (norms of 54.3% in personal type of distance and 11% in social distance and 6% in public distance). These distances are sometimes far away and it is generally to have the learners in a field of vision allowing the direct intervention of the teacher to correct, put in order or impose a continuity of work of the students.

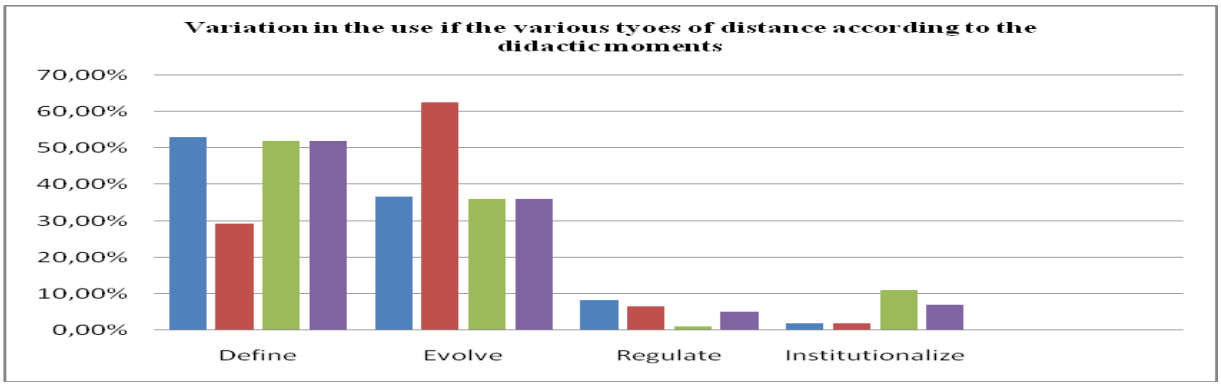

Figure 5. Variation in the Use of the Various Types of Distance according to the Didactic Moments

For the moments of the definition as what the teacher does so that the pupils know precisely which game they should play, this mode shows values according to the results found justifying that it is frequently used in motor education with a value equal to 53.4% in intimate distances, 36.4% in personal distances, 7.8% in social distancing and 2.4% in public distances. At the moment of devolution, as what the teacher does so that the students take responsibility for their work, their position, the fact that they “get caught up in the game”. A clear difference between teachers in greater frequency to use this function in the personal type of distance (62.5%) compared to the intimate type of distance which is (29.9%) and (6.5%) in social and (1.8%) in public. Regulation as what the teacher does in order to obtain a winning strategy from the students. This mode shows values based on the results found justifying that it is frequently used in intimate and personal distances with a value equal to 52.1% in intimate distances, 36.4% in personal distances, 10.1% in social distances and 1.4% in public distances. institutionalization as what the teacher does so that this or that behavior, this or that assertion, this or that knowledge is considered legitimate, true, and expected, in the institution. It is almost on par with the other previous modes according to distances with a percentage of 51.5% in

intimate distances, 48.5% in personal distances, and 0% in social and public distances. This allows us to deduce that through the sessions observed, our teachers begin their task teaching by definition to allow their students to know precisely which task must be performed. They resort to devolution during their sessions while keeping the two most preferred types for the teaching of motor activities, which are the personal and the intimate, hence the observation of distances varying significantly according to the didactic moment of the session. This didactic moment seems to be significantly related to the types of distances that would be imposed. As a result, a particular type of travel as well to act. The teacher would use a rather intimate distance, whereas at the time of devolution, we notice that he takes a little distance from his students.

Table 1. Variation in the Use of the Various Types of Distance according to Didactic Techniques

		Intimate	Personnal	Social	Public	Total
Chrono genetic didactic technique	**Nombre**	**0**	**4**	**5**	**3**	**12**
	%	**0,0%**	**33,3%**	**41,7%**	**25,0%**	**100%**
Topogenetic moments	**Nombre**	**435**	**487**	**60**	**15**	**997**
	%	**43,6%**	**48,8%**	**6,0%**	**1,5%**	**100%**
Mesogenetic didactic technique	**Nombre**	**32**	**39**	**13**	**0**	**84**
	%	**38,1%**	**46,4%**	**15,5%**	**0,0%**	**100%**
Total	**Nombre**	**467**	**530**	**78**	**18**	**1093**
	%	**42,7%**	**48,5%**	**7,1%**	**1,6%**	**100%**

Analysis of the results of the frequency of use of the various types of distance according to the techniques. The didactic moments presented in Table 1 show that the topogenetic moments, which are generally the teacher's moments, vary according to the teacher's movement to the various didactic moments with values of 48.8% in personal type, 43.6% in intimate type, 6% in social and 1.5% in public. It can thus be deduced that the division of responsibilities between the pupil and the teacher greatly favours the teaching action. Teachers tend to be close, even very close to their students and have more responsibilities. Thus the results of the variation in the use of the various types of distance according to the mesogenetic didactic technique show the action of the teacher in the course of his teaching: to encourage the pupils to use this or that notion, this or that system of notion, for a given piece of work. The action of the teacher of motor activity during his teaching in relation to the mesogenetic type evaluates in parallel with the tendency to use the personal and intimate type with a

percentage of 46.4% and 38.1% for the personal, while it is 15.5% for the social type and absent in public with 0%.

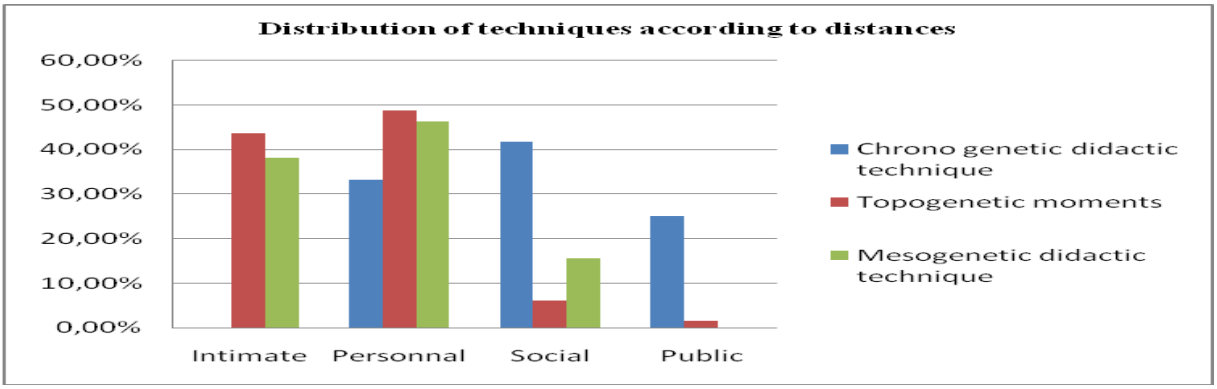

Figure 6. Distribution of Techniques according to Distances

The analysis of the results of the distribution of techniques according to distances presented in Figure 6 proves that the observation of the proxemic behavior of the motor activity teacher in his teaching action at the moment of chronogenesis as being what the teacher makes the students “advance” in the classroom in relation to the progression of the content shows that this variable is never realized in an intimate way. The recorded value is 0%. Indeed, this variable takes on a social rather than a personal tendency. The results illustrated are 41.7% social distance, 33.3% personal distance and 25% public distance. These data allow us to deduce that teachers, as they advance their didactic time from one learning situation to another, they take these types of distance as a reference explaining the nature of the discipline. The significant difference between the didactic techniques used by the teachers and their respective distances shows that during the “topo” moment, the distances are rather of an intimate and personal nature to ensure that the learner understands through a clear and meaningful discourse. We also see these types of distances in mesogenesis, with the presence of the social type. Our teachers change their teaching environment not only while being close to their students, but they do so at a distance indicating mastery of the student group on the part of the teacher and good management of the group according to space, material and time.

4. Discussion

Observation of behavior is a very important step that is organized during motor activities. Indeed, to recognize the signs of the child’s motor development. The analysis of the nature and quality of interactions with teachers, the ability to communicate, the nature and quality of one’s games, autonomy, and diet, as well as the level of adaptation of certain behaviours, makes it possible to promote a good appreciation of the limits and resources in the associated environments. The development of the child through the regular check-ups that are carried out are instruments both of the family dialogue and with the educators (Guidetti, Tourrette, & Colin, 1996). Adaptation skills from a communication perspective,

as well as motor skills are determined to measure the child's socio-adaptive behaviors and it is carried out by a motor activity teacher. The latter must rate the scale in order to obtain a developmental age in each competency area. The quantitative analysis of our data clearly shows that there are similarities but also differences between our teaching quarters. Indeed, the data processed allowed us to observe that the elements of the proxemic category are common to the four professors in the sense that they are the most used by both professor. Our results also highlight the importance of a topogenetic modality compared to the other two techniques. Indeed, it would seem that in motor education aimed at children with autism with a degree of intellectual disability, more than in other disciplines, the definition of the "topos" of the teacher and the student brings into play a specific modality. Hence the importance of topogenetic techniques.The analysis should therefore allow us to better identify the dimensions of mesogenetic action in teachers. Is it an organizational environment, or a real didactic environment. A significant proportion of our teachers participate in the definition. The latter is associated with a devolution aim. The professors as we have just seen have many similarities, but we were also able to note differences according to their professional experience. First of all, our results show that teachers use more of the personal and intimate type in their teaching didactic actions with differentiated didactic functionalities. Motor and coordination disorders for children with autism spectrum disorders are expressed by poor coordination of the upper limbs in vasomotor tasks or dexterity tasks and poor coordination of the lower limbs in balance, agility or speed tasks. The correlation between motor disorders and communication disorders remains a relevant subject of research. As a result, our general hypothesis that movements have a role in early communication and motor plan improves the communicative prognosis of autistic children according to the analysis of didactic moments across distances is verified. Studies have shown a decrease in stereotypies with physical exercise. Some show a short-term effect of intense aerobic exercise (such as running) (Petrus & Adamson, 2008). And others show longer-term effects (up to 1 month later), with a decrease in stereotypies Social behaviors are shown to be improved in several studies (Movahedi, 2012). The meta-analysis by Sowa and Meulenbroek showed a superiority of individual interventions compared to group interventions, which is verified by our results. Autistic children have interaction difficulties that are linked to three symptoms: contact and social relationship disorders, language and communication, repetitive behaviors and/or activities. We emphasize that the difficulties of interaction in all cases, effectively confirm this hypothesis. Motor activity teachers find difficulties in interaction in these three symptoms presented in autistic children, educators of autistic children encounter difficulties, such as the problem of contact and social relationships, and difficulties that can engender. The results of the observation of proxemic behaviours in the didactic relationship have shown that the motor activity teacher frequently places himself at each moment of the session at a well-determined distance according to that of the pupil or the group he was teaching, consequently influencing the interaction of these two determining factors in the didactic relationship of learning as a result that the teachers expert. In their didactic interactions tend to have both personal and social, sometimes public, distances, which reflects the idea that they

tend to keep their distance from their students. The results of the observation of proxemic behaviours in the didactic relationship have shown that the motor activity teacher frequently places himself at each moment of the session at a well-determined distance according to that of the pupil or the group he was teaching, consequently influencing the interaction of these two determining factors in the didactic relationship of learning as a result that the teachers expert. In their didactic interactions tend to have both personal and social, sometimes public, distances, which reflects the idea that they tend to keep their distance from their students. The analysis of the act of teaching allows us to better understand how the competence to teach engages in a real bodily relationship with the environment and the students. Following our observations we also find that novice teachers tend to always be close to their students expressed by their frequent use of the intimate and personal type of distance, this can be explained not only by the experience of the teacher, but also by the nature of the task, and its place of practice similar to a classroom, with variation of the risk variable from one learning task to another. While professional experience plays an important role in the game of didactic interactions, the variation of the distance variable as a function of the teacher's gender with that of the students has shown us that men use a personal type of distance when they interact with girls in the course of their teaching, and it is much closer to boys. This is justified by the intimate type at the time of didactic interactions and it is the opposite result for female teachers who keep more distance in interaction with boys and more intimate with girls, from which we can conclude that our teachers, without differentiating their genders, each tend to be intimate with students of the same sex and keep more distance in interaction with a student of different genders moment of didactic interaction to be close to the receiver of verbal or gestural messages. On the other hand, the teacher is thus, unknowingly, at the origin of an effect that relieves the pupil of the essential part of the knowledge. Teachers of motor activity which is at the level of didactic features. Whereas institutionalization does not seem to be very developed by the latter. On the other hand, the teacher of motor activity, tends towards "manipulations" and favours regulations, which best characterise the teacher's action. Their didactic function is to help define and regulate knowledge, by means of essentially topogenetic techniques. The teachers are also at the service of the definition and regulation of the environment, through a mixture of mesogenetic and topogenetic techniques. Indeed, teachers manifest a certain number of meanings through their gestures and positions. At the same time, as soon as the teacher enters the scene, the students are on the lookout for signs that will allow them to guess his expectations, and thus reduce the inevitable uncertainty attached to any communication situation. We believe that the non-verbal modalities of exchange of meanings between the teacher and the students play a non-negligible role in the quality and effectiveness of the didactic relationship. Another way of specifying the notion of didactic contract is proposed by Chevallard in 1981, with the concepts of topogenesis and chronogenesis, concepts that have been taken up and extended by Sensevy, Mercier and Shubauer-Leoni (2000). Chronogenesis represents didactic time, the arrangement of knowledge in successive elements on the axis of time. Teaching is therefore, from this perspective, to travel, with the students, through an oriented series of objects of knowledge.

Topogenesis represents the state of the respective places, of the topos, occupied by the teacher, on the one hand, and each of the students or group of students, on the other hand. The places in question here are places for the teacher to understand all the tasks he is supposed to accomplish, and to master his space of knowledge. In the same way, the student also occupies a space, which is assigned to him by the teacher, and which includes the tasks he must carry out and the conditions in which he is supposed to carry them out. Seen from this angle, the didactic contract in progress, at a given moment of the didactic interaction, can be conceived as a state of topogenesis at this precise moment of chronogenesis. We can thus consider that in a learning situation, the student plays a "game" where the aim is to produce "answers" which he assumes correspond to the teacher's expectations. If the situation is constructed adequately, the teacher's expectation is sufficiently opaque to the student so that the production of the desired "response" is the result of the implementation of the targeted knowledge, or at least that the knowledge is contained in the strategy implemented to "achieve the proper execution of the task requested", i.e. produce the appropriate response. We can clearly see here that the teacher will be subjected to a paradox, because it is not he who must play, and the more he "reveals what he desires, the more he tells the student precisely what he must do, the more he risks losing his chances of obtaining and objectively observing the learning he should actually aim for" (Brousseau, 2003). The teacher is therefore led to play another game which is a game built on the student's game (Sensevy et al., 2000). To account for this teacher's game, Sensevy offers us a model for describing the teacher's action, the four structural elements of which refer to this idea of the teacher's game on the student's game.

5. Conclusion

Our research aimed to make visible teaching techniques for teaching motor activities for children with autism and a mild intellectual disability, which we saw during the analyzes themselves had the effect of making visible objects for didactic learning interactions. We will conclude with this idea of visibility That the teacher, in a didactic field which is at the same time proxemic, material and linguistic, assumes a differentiated management of joint attention, for the benefit of the forms of the environment which in principle contain part of the knowledge targeted. These forms can be considered as so many transpositions in class. The teacher organizes the progressive visibility of these forms by highlighting certain relevant elements of the environment without neglecting the response elements which can later attest to learning. In our research we are subject to a double requirement, to which is added a constraint of meaning. A first requirement, to understand what is at stake in the session and to make visible the knowledge issues present in this session. Because the notion of "knowledge" covers the realities of the content taught. A narrow vision of knowledge often leads to the indictment of the Professor. The making of knowledge visible in a session by the teacher therefore goes beyond the strictly disciplinary framework and requires reflection around knowledge. A second requirement, the one which is at the heart of our work, concerns the making visible of the non-verbal modalities of teaching arrangements.

As part of our research which allowed us to answer certain questions concerning the notion of skill development and the difficulties of interacting with autistic children. Our research is carried out on the basis of observations noted in the field and the practice of motor activity for autistic children, interaction difficulties encountered, contact disorder and social interactions, communication and language and behaviors, and many others require adequate multidisciplinary care for autistic children while throughout their lives. Until today, professionals have still not been able to find the underlying causes of this pathology. With this in mind, a team made up of different people likely to bring experience in the desired field ensures the study of the relationship of the body to the social environment. Bodily appearance in the social gaze depending on the gender of the educator and their interactions with autistic children is our research perspective in this field. The notion of social representations of the body presents itself as a variable for future study.

6. Research Limitations

An early diagnosis of autistic children is very sensitive and especially in terms of the child's future. Adapted and rapid intervention is therefore more effective for better management of the disorder and helps to cope with the difficulties encountered. To obtain an early diagnosis the experience of professionals can also be at issue especially with the lack of specialized structures, the diagnosis for the youngest age, especially since the early signs can be discreet and generally only represent slight deviations from the normal development.

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