

Influence of Social Interactions and Attitudes of Hearing Students on the Socialization Profile of Hearing-Impaired Students in an Inclusive Context at the Agbekoi Public Primary School in Abidjan (Côte D'ivoire)

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ABSTRACT:

This study examines the links between interactions, attitudes of hearing students and the social impact profile of hearing-impaired students at Agbekoi Public Primary School in Abidjan. It covers 40 hearing students and 40 hearing-impaired students, aged 8 to 13, with an average age of 10.75 years (standard deviation = 3.64). An interaction situation is selected for each participant. Games are the most frequent interactions (37.5%) and positive impacts are more numerous in situations of play (60.0%), mutual aid (50.0%) and discussion (45.0%) than in situations of exclusion (7.1%). However, no significant relationship is observed between the form of interaction observed in hearing people and the social impact profile highlighted in hearing-impaired people. On the other hand, a significant link is observed between the friendly and tolerant attitudes displayed by hearing students and the social impact profile observed among hearing-impaired students. This result highlights the importance of open-mindedness and tolerance observed among hearing students in establishing good socialization profiles among hearing impaired students, in an inclusive education context.

Keywords: School inclusion, interactions between students, attitudes, socialization, hearing- and hearing-impaired students, Côte d'Ivoire..

1. Introduction

The schooling of hearing impaired students in an ordinary environment is not limited to their presence in a classroom. They also need to be able to participate in activities and have relationships with their classmates. Pedagogical adaptations and means of communication are necessary, but they alone do not regulate the relationships between students. In children, relationships with peers occupy an important place in the construction of social behaviors. Play, exchanges and mutual assistance offer opportunities to participate in the life of the group (Smith, 2005). Conversely, the separation of the child reduces the possibilities of contact and participation in various activities.

Research on the relationships between deaf or hard of hearing children and hearing children highlights several difficulties. Xie et al. (2014) highlight, in particular, the role of communication opportunities, social skills and peer reactions. Batten et al. (2014) also highlight the importance of the conditions in which the interactions take place. These works show that the school experience of the hearing-impaired student does not depend solely on his individual characteristics. It is also linked to the relationships he establishes with other students and to the way they react to his presence. This perspective can be enlightened by the theory of intergroup contact developed by Allport (1954). According to this theory, contacts between members of different groups can contribute to reducing negative attitudes and promoting more positive relationships when the conditions for interaction are favorable. In the school context, the fact that a hearing-impaired student plays with a hearing-impaired classmate, works with him or provides him with assistance can create opportunities for encounters that go beyond simple coexistence in the same classroom. So the difficulty does not depend only on the hearing impaired student. The reactions of other students without disabilities are also important and necessary. Trying to communicate, reformulating a directive or inviting a schoolmate to participate in an activity does not produce the same

conditions of interaction as avoidance or indifference.

In the ivoirien context, this question remains rarely asked, even unexplored. Agbekoi Public Primary School, in Abobo, offers a conducive setting for questioning relationships in ordinary situations of school life, especially during recess, group activities and schoolwork. This is what justifies the present study, whose objective is to examine the link between two forms of interactions in hearing impaired students and the social impact profile in hearing impaired students. To this end, two hypotheses are formulated. The first assumes that the play, discussion and mutual assistance observed in hearing students are associated with favorable social impact profiles in hearing impaired people. The second indicates that the friendly and tolerant attitudes deployed by the hearing are linked to positive profiles of social impact in the hearing impaired than neutral and reluctant attitudes.

2. Methodology

2.1. Framework of the study and participants

The study is carried out at Agbekoi Public primary School, in Abobo, in the autonomous district of Abidjan, in Côte d'Ivoire. The institution welcomes hearing impaired students in ordinary classes with their hearing classmates. The sample included 80 students, divided into two groups of the same size : 40 hearing impaired students and 40 hearing students. Participants are enrolled in school from the Elementary second year course (CE2) to the Middle second year course (CM2). They are aged from 8 to 13 years, with a concentration around 10 and 11 years. They have an average age of 10.75 years, with a standard deviation of 3.64.

The 80 selected situations correspond to the 80 participants, each student is represented only once in the analyses. This precaution makes it possible to avoid treating several observations of the same student as independent observations. The students concerned have been attending the school for at least one term. This deadline was to allow them to have sufficient experience of

school life and relationships with their classmates or schoolmates.

2.2. Research instruments

Two data sources were used, in particular the observation of interactions and the questionnaire built specifically for this research. The construction of the questionnaire was organized in three stages. In the first, the variables to be measured were determined from the subject, the problem, the hypotheses and the literature. Three variables were selected : (1) the forms of interaction between peers ; (2) the attitudes of hearing students towards hearing impaired students ; (3) the socialization profile. In the second step, these variables were transformed into modalities. For example, the variable "forms of interaction" has been associated with the following modalities : play, discussion, joint work and mutual assistance, as well as with situations of exclusion. The "peer attitudes" modality was evaluated based on behavioral indicators, such as the invitation to participate, the help provided, patience in communication, avoidance and refusal to participate. In the final stage, the first items were subjected to a critical reading by specialists in the school context and issues related to inclusion. The objective of this step was to verify the relevance of the questions, their clarity, their conciseness and their adequacy with the age of the students. The items deemed redundant were harmonized, those whose vocabulary was too abstract were reformulated and some questions were deleted when they did not directly correspond to the study objectives.

A pretest relating to the questionnaire was carried out before the final collection from a group of six students who are not part of the study sample, who have characteristics close to those of the study population. The objective of this step was to verify the understanding of the questions, the relevance of the response methods, the length of the questionnaire and the duration necessary for its passing. During this pretest, the students were invited to identify the questions that they did not understand. This approach has made it possible to identify certain formulations that are too general or too abstract for primary school

students. For example, the initial question "How do you appreciate your interpersonal relationships with the students in your classroom ? " was considered too abstract for some students. It was replaced by a wording closer to their daily experience : "Do you like being with your classmates ? ". Similarly, the question "Do your peers show favorable attitudes towards you ? " was rephrased in these terms : "Are your comrades nice to you ? ". The word "peers", considered too technical for children, has thus been replaced by "comrades". Another question originally formulated in the form of "How often do you benefit from cooperative interactions with your comrades ? " was simplified in the following way : "Do your comrades help you when you have difficulties ? ». The questions that had two ideas were also separated. For example, the wording "Do your classmates play and work with you ? " could lead a student to answer "yes" for the game when he would have answered "no" for the work. So it was replaced by two separate questions : "Are your classmates playing with you ? " and "Do your classmates work with you ? ". Following these modifications, the final version of the questionnaire included questions on the profile of the students, in this case interactions, perceived attitudes, socialization and the feeling of inclusion. Most of the questions are closed. A few open-ended questions allowed the students to describe their experience. Observations are carried out during recess, collective activities, schoolwork and free time. An observation grid made it possible to note the form of the interaction, the participation of the hearing impaired student, the reaction of the hearing impaired peers and the situations of exclusion among them. The two sources are brought together in order to compare the statements of hearing students and the situations observed among the hearing impaired. The statistical analyses presented in the study are based on the 80 situations selected in the observation grid.

2.3. Data processing

The 80 situations observed constituted the unit of analysis. Each situation was coded according to the form of interaction, the attitude observed

in hearing-impaired students and the social impact profile in hearing-impaired students. The frequencies are recorded and the percentages have first been calculated to describe the different modalities obtained. The relationships between the categorical variables were examined using the Pearson χ^2 test, insofar as we are in the presence of qualitative data for two independent samples. The Pearson Chi-Square test (χ^2) is used to evaluate the relationship between the variables under study. Cramer's V and especially the size of the effect are taken into account to estimate the magnitude of the links between the variables. The significance threshold has been set at 0.05. Two

relationships were examined : the relationship between the form of interaction in the hearing-impaired and the social impact profile in the hearing-impaired, then that between the form of attitude observed in the hearing-impaired students and the impact profile in the hearing-impaired.

3.Results

3.1. Forms of interaction observed in hearing students

The distribution of the observed interaction forms is presented in the following table.

Table 1. Distribution of situations according to the forms of interaction

		N Percentage	
		N	Percentage
Forms of interaction	Games	30	37,50%
	Discussions	20	25%
	Mutual Assistance	16	20%
	Exclusion	14	17,50%
	Total	80	100%

Source : Our field surveys

Games are the most frequent with 30 situations, or 37.5%. Discussions represent 25.0% of observations and mutual assistance 20.0%. Exclusion constitutes 17.5% of the situations.

3.2. Forms of interaction and social impact profile

Table 2 shows the distribution of social impact profiles according to the form of interaction.

Table 2. Forms of interaction and social impact profiles

		Social impact profiles				
		Positive	Low	Mixed	Zero	Total
Forms of interaction	Games	18	6	4	2	30
	Discussions	9	6	3	2	20
	Mutual Assistance	8	4	2	2	16
	Exclusion	1	4	4	5	14
	Total	36	20	13	11	80

Source : Our field surveys

Positive impacts are more frequent in gaming situations. We count 18 out of 30, or 60.0%. Mutual assistance then arrives with 8 out of 16 cases, or 50.0%, then discussions with 9 out of 20 cases, or 45.0. For exclusion, only one case out of 14 is associated with a positive impact profile, i.e. 7.1%. The application of Pearson's χ^2 test

indicates [$\chi^2 = 14.47$; ddl = 1 ; Sig. = 0,107 ; $P > .05$]. Therefore, the link between the form of interaction and the social impact profile is not statistically significant at the probability threshold 0.05. Our first hypothesis is disproved. The observed differences between the forms of

interaction and the social impact profile should be considered as relative descriptive trends.

3.3. Attitudes of hearing students

The distribution of the observed attitudes is presented in the table below.

Table 3. Distribution of the forms of attitude observed in hearing students

		N Percentage	
		N	Percentage
Forms of attitude	Friendly	14	17,50 %
	Tolerant	35	43,8 %
	Neutral	22	27,5 %
	Reluctant / indifferent	9	11,30 %
	Total	80	100 %

Source : Our field surveys

The tolerant attitude is the most frequent with 35 situations, or 43.8%. Neutral attitudes represent 27.5%, friendly attitudes indicate 17.5% and reluctant or indifferent attitudes amount to 11.3%.

3.4. Attitude observed in hearing students and social impact profile

Table 4 relates the attitude observed in hearing-impaired students and the social impact profile observed in the hearing-impaired student. The enumeration unit remains the observed situation and each situation is evaluated only once.

Table 4. Forms of attitude observed in the hearing impaired and social impact profiles in the hearing impaired

		Social impact profiles				
		Positive	Low	Mixed	Zero	Total
Forms of attitude	Friendly	10	2	1	1	14
	Tolerant	18	9	5	3	35
	Neutral	4	8	6	4	22
	Reluctant / indifferent	0	1	3	5	9
	Total	32	20	15	13	80

Source : Our field surveys

Of the 14 situations in which a friendly attitude was observed, 10 have a positive impact, i.e. 71.4%. This proportion is 51.4% for the 35 situations characterizing a tolerant attitude, 18.2% for the 22 situations where the attitude was judged neutral and 0% for the 9 situations estimated as a form of reluctant or indifferent attitude. For zero impacts, the proportions are respectively 7.1%, 8.6%, 18.2% and 55.6% for the friendly attitude, the tolerant attitude, the neutral attitude, and the reluctant/indifferent attitude. The χ^2 test used to test the second study hypothesis indicates the following result : [$\chi^2 = 27.14$; ddl = 9 ; $P < 0.001$]. The value of Cramer's

$V = 0.34$. The relationship between friendly and tolerant attitudes among hearing-impaired students and positive social impact profile among hearing-impaired students is statistically significant. So, our second hypothesis is validated. But, the effect size is 0.3375, or 33.75%. This indicates a moderate relationship between the variables.

4. Discussion

The data show descriptive differences according to the forms of interaction. Play, discussions and mutual assistance have more positive social impacts than exclusion. However, this difference

is not confirmed by statistical analysis. In this type of situation, the students share a common activity and common rules. The exchanges can then be based on the action itself and less on the word. This feature can facilitate the participation of a hearing impaired student in social activities.

The result concerning attitudes is more significant. Indeed, friendly and tolerant attitudes are significantly linked to positive social impacts than neutral or reluctant attitudes. This result is in line with the work of Xie et al. (2014), which underlines the importance of good attitudes of hearing peers in social interactions with deaf or hard of hearing children. Batten et al. (2014) also highlight the fertility of communication conditions and peer relationships.

However, a favorable attitude is not enough. A student may want to exchange with a hearing-impaired classmate and not know how to do it. That is why the concrete conditions for communication remain essential, even vital. In an inclusive classroom, the presence of the hearing impaired student does not, by itself, guarantee his participation or integration into social activities. He must also be able to take an effective part in the activities in force in the environment and establish relationships with other students. These results find support in the work devoted to school inclusion. Indeed, Rademaker et al. (2020), in a systematic review on the application of contact theory to inclusive education, show that relationships are built in intergroup exchanges and in the assessments that students give to other people's behaviors. Repeated positive contacts can promote rapprochement between peers with different biopsychosocial characteristics, while the absence of contact can maintain social distance between them. Tropp et al. (2022), for their part, emphasize that the effects of contact on young people's attitudes depend on the conditions in which intergroup relations develop.

Thus, at EPP Agbekoi, inclusion appears as a reality that goes beyond access to school, to the classroom. It also concerns participation in activities and caring attitudes towards peers characterized by a disability. The relational dimension therefore deserves a fundamental

place in inclusion actions. Pedagogical adaptations could be accompanied by cooperation activities and awareness-raising on communication methods with hearing-impaired students.

However, several limitations should be emphasized in our work. Indeed, the study is cross-sectional and does not allow establishing a causal link between the variables. The number of 80 situations also limits the scope of the analyses and statistical treatments carried out. Categorical indicators do not take into account the full complexity of interpersonal exchanges. Finally, the communication skills of hearing impaired students have not been evaluated in a sufficiently tangible way. Another deficiency concerns the analysis unit. The 80 situations correspond here to the 80 participants, with only one situation retained per student. This organization curbs the problem of repeated observations. In a subsequent study with several observations per student, it would be necessary to use statistical methods that take into account the dependence between observations.

5. Conclusion

This study sought to examine the links between the forms of interaction, the attitudes of hearing students and the social impact profile observed among hearing impaired students at Agbekoi Public Primary School. Games, discussions and mutual assistance have more positive social impacts than exclusion situations, but this difference remains descriptive and is not confirmed statistically. The result is different for the forms of attitude. Benevolence and tolerance are significantly associated with more favorable social profiles, while neutral and reluctant or indifferent attitudes are more related to low, mixed or no social impacts. These results remind us that inclusion is not limited to the presence of the hearing impaired student in an ordinary class. It also involves his participation in activities and a deployment of his relationships with classmates. On the other hand, the study remains limited by its transversal character, its low number and the variable indicators used. Nevertheless, it provides important elements on the relationships between

hearing and hard of hearing students in an inclusive Ivorian school.

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7. Author Declaration

- Confirm originality of work
- The authors declare no conflict of interest.