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# Response to Intervention Model as a Tool for Fostering Inclusive Education in Unprivileged Contexts: A Pioneering Case Study in Mozambique

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## To cite this article:

Cristina Daniel Tomo, Arlindo Alberto Siteo. Response to Intervention Model as a Tool for Fostering Inclusive Education in Unprivileged Contexts: A Pioneering Case Study in Mozambique. *American Journal of Applied Psychology*. Vol. 11, No. 2, 2022, pp. 74-83.

doi: 10.11648/j.ajap.20221102.15

**Received:** March 28, 2022; **Accepted:** April 19, 2022; **Published:** April 28, 2022

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**Abstract:** This article presents findings of an exploratory study conducted under a Response-to-Intervention based model in a regular primary school in Mozambique, aiming at identifying pupils with Special Educational Needs and provides them the support in the context of Inclusive Education. The study was methodologically grounded on the Action-Research approach. Participants were 106 Grade 2 pupils identified by their teachers as performing negatively in Portuguese Language and Mathematics. Their performance was appraised through their marks in officially prescribed assignments, yielding 4 levels of performance in each subject. In Language: Below the Pre-school Level, 45 pupils (42.5%); at the Pre-school Level, 28 pupils (26.4%); at Grade 1 school Level, 30 pupils (28.3%), and only 3 pupils (2.8%) were ranked at Grade 2. In Mathematics: Below the Pre-school Level, 21 pupils (23.7%); at the Pre-school Level, 27 pupils (30.3%); at Grade 1 Primary School Level, 38 pupils (42.7%), and 3 pupils (3.5%) ranked at Grade 2. Thereafter, 72 pupils, comprising 31 pupils from the Below Pre-school Level group; 14 from the Pre-school Level group; 25 from Grade 1 Level group, and 2 from Grade 2 Level group were submitted to a monitored intervention for 20 sessions of one hour each, five days a week. Post-intervention assessment results revealed that a good number of pupils had made progress, as only 1 (one) pupil had remained at the Pre-school Level, while 69 were found performing at Grade 1 school Level, and 2 (two) at Grade 2. These overall outcomes have been interpreted as indicative of the applicability and usefulness of Response-to-Intervention model in the Mozambican context for purposes of early identification and intervention on pupils “at-risk”. Additionally, evidence was drawn that Response-to-Intervention approach is a useful tool also for school organization purposes.

**Keywords:** Inclusive Education, Response-to-Intervention, Special Educational Needs, Identification, Early Intervention

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## 1. Introduction and Contextual Background

In recent years, Inclusive Education has become one of the major educational issues under intense debate at both political and theoretical levels in Mozambique, as testified by a number of studies and policy documents [1-5]. However, for several reasons, including limited awareness and lack of handy and well-grounded procedures, implementing Inclusive Education in the country has been an uneasy, not consensual, and a slow process. This empirically supported

paper seeks to suggest that RTI approaches may be valuable and practical procedures as to assist the key players – the school teachers, to break-through the apparent hang-up about Inclusive Education.

In countries where education is effectively compulsory – at least at the basic level, and where special education (sub)systems are well established and consolidated, integration of children with Special Educational Needs (SEN) into regular schools precedes their inclusion. Perhaps for that very reason the expressions *integration* and *inclusion* tend to be taken as synonyms. However, these terms have different meanings, once each of them is underpinned by a

completely different array of assumptions. In integration, the individual is expected to adapt himself to the new reality when moving from a special school to a regular one, while in inclusion it is the school context that is required to undergo adjustments in order to accommodate the special needs of the individual [6].

A glance at the educational context in Mozambique unveils the severe scarcity of special education opportunities, since there are only 7 schools prepared to offer special education in the whole country of around 30 million inhabitants [10]. Additionally, about 2.8 million of the country's school-aged children are found outside the school system, due to the limited number of schools. In its turn pre-schools (kindergartens) cover only 3.5% of the eligible children [10]. Consequently, most of those children who are lucky enough to enroll in schools start their primary education without experiencing pre-school education, seen as a crucial pre-condition for a successful primary school attendance in the country [11]. In such complex circumstances, inclusion ought to be taken as far beyond the mere physical presence of pupils in a regular school, because what really matters and characterizes inclusive education is the ultimate quality and performance of the student who has attended an inclusive classroom. That presupposes knowing who is that student; how does he/she learn; how must he/she be taught; and under which conditions does he/she learn.

The new Mozambican National Education System Act [12], approved on December 28, 2018, does not contain an explicit definition of inclusion in its main text. A tentative explanation of that term is provided in a text at the glossary of the Act. Nonetheless, that text seems to just ramble around the basic principles of Inclusive Education [13] and sounds like a "non-definition", because it fails to provide an operational definition of inclusion. That mishap may be due to a lack of a paradigmatic discourse, which should depart from an effort of readdressing the educational system itself, whilst not neglecting the actual conditions in which education operates in the country. Such a state of the art may be a consequence of a "steps skipping" move in the process of developing an educational subsystem for people with Special Educational Needs in the country. In point of fact, contrary to what can be seen elsewhere, in Mozambique, a special education subsystem has not been part of the educational system package or chronological educational paradigm. Wedged in that crossroads, the Educational Act seems to put forward an idyllic "definition" of inclusion, one that bypasses the conditions that may hamper the Inclusive Education from happening. In short, the Educational System Act does not provide well-grounded and enlightening paths for the implementation of Inclusive Education in the country.

Despite the above described state of affairs, characterized by unsettled issues at both the conceptual and procedural levels, introducing Inclusive Education in Mozambique has been proclaimed as an imperative endeavor since the approval of the new National Education System Act, in 2018. Consequently, and given that there are no specialized

institutions to offer diagnosis services, children with no noticeable special educational needs, namely intellectual and developmental disabilities, do enroll normally in regular schools without undergoing any kind of assessment of their potential learning problems. Thus, the burden of identifying those pupils and provide them some kind of support lays on the school teachers. Yet, those have no specific training to face that challenge.

The study, of which the present paper is an outcome, has been intended to develop, validate and propose a handy tool, namely a RTI based model, which may support school teacher in that venture of identifying and dealing with pupils with SEN, being the ultimate purpose the fostering of Inclusive Education in the country.

## 2. Literature Review

### 2.1. Clarifying the Concept of Inclusion

For this study the concept of inclusion is taken from Stainback & Stainback [7], who have defined it as a set of convictions, attitudes and behaviors of acceptance of differences, and of co-responsibility in the search for solutions to ease the needs of others. Mantoan [8] has stressed that the most relevant in school inclusion is that "all pupils, without exceptions, do attend classes in a regular classroom". In view of that, Inclusive Education seeks to rethink the school, so that it turns into a school of heterogeneity rather than a school of homogeneity [9]. Hence, inclusive education is to be seen as an opportunity and a challenge to teachers, who are required to identify, interpret and intervene in educational problems, bearing in mind students' differences in their classes.

### 2.2. The Response-to-Intervention (RTI) Model

In a study on the disproportion of students referred to special education, Kirby et al. [14] addressed the relationship between evaluation and the quality of teaching and found that a valid evaluation is distinguished by its usefulness and relevance for teaching. These researchers also claimed that a child's potential is not necessarily ascertained from his initial performance but rather by the degree of progress he/she makes in response to the teaching provided to him/her. Quite often, the lack of an immediate preventive support that a student may need, through adjusted teaching, is likely to hinder his progress in learning. In claiming that regular school teachers should be responsible for providing multiple interventions to struggling students, while monitoring and keeping records of the observed progress, Kirby et al. [14] had essentially set-forth the foundations that capture and conceptualize the essence of the Response-to-Intervention approach, in which intervention, meaning targeted teaching or services, is the key process. Meanwhile, RTI is not a special type of teaching. It is a proactive and integrated approach that comprises general, remedial and special education, through scientifically-based interventions provided under a multi-tiered model, once academic and

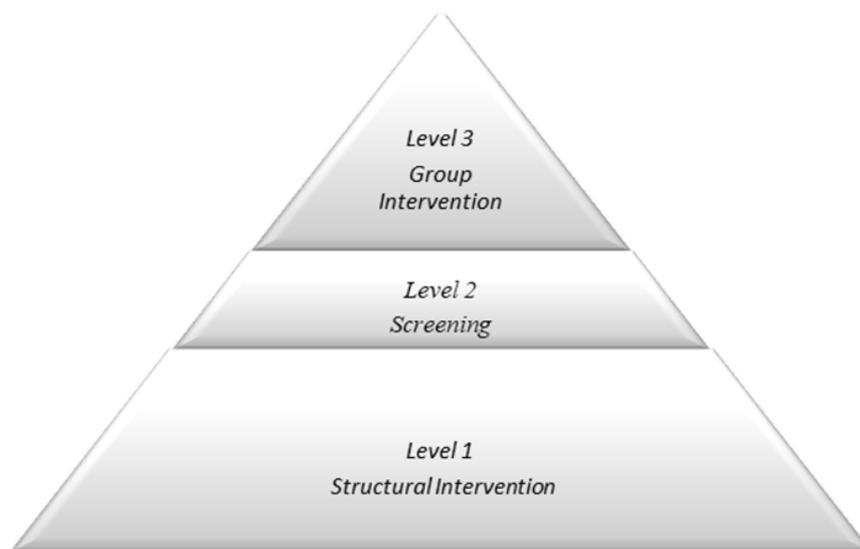
behavioral difficulties are identified amongst learners, through appropriate problem-solving strategies (e.g., assignments). For that reason, RTI has been proposed as a general, preventive and corrective approach for the child's learning [15, 16].

Generally, the RTI approach is depicted through an archetype of a multilevel or multi-tiered intervention. The RTI model frequently used is an archetype with three tiers; each one representing a specific level of intervention [17]. The model designed and used in this study was also a three-tiered one and was purposely adapted to the context of Mozambique [18]. Its first Level of Intervention was labeled Structural and covered interventions at the structural and organizational level of the school. In fact, the diversity of the student population, as well as the requisites for a fair functioning of a contemporary regular school require its systemic reshaping and innovation [6]. In Inclusive Education, the onus of organization lies with the school itself, mainly concerning the following aspects: (i) teachers training/refreshment;(ii) curriculum management, with emphasis on the provision of more teaching and learning time, materials and resources to meet common learning needs; (iii) provision of compensatory materials for needy students, and (iv) the downsizing of classes, usually crowded [19]. The Second Level of Intervention is Screening, which encompasses the assessment of the pupils, through assignments based on the prescribed syllabuses. The assessment procedures, which are administered by the teacher, take place in the classroom, involving all class pupils. That screening process allows the identification of the pupils "at risk". The third Level of Intervention in the proposed model is the Group Intervention, which implies implementing especially conceived teaching and monitoring pupils identified as being "at risk" at the screening level. It is an intervention that is usually delivered to small groups.

Essentially, Response to Intervention is a specific approach of helping those learners that, even subjected to appropriate

activities, they do not show a progress similar to that of their peers. It consists of a cyclical process of evaluation and intervention, in which pupils' progress is systematically monitored. Evidence of their progress is to be reflected in their performance or marks on school assignments, or through records of their behavior [17]. The progress monitoring process is meant to evaluate the effectiveness of the intervention, as well as to screen and identify pupils that may be facing learning or behavioral difficulties [19, 20]. The results of the monitoring process are used to make decisions either on the need for instructional adjustments or on the need for an eventual increase on pupil's support services. In view of that, interventions are considered, planned and implemented under strict conditions, so to ascertain what will actually help the students [20]. Given their singular characteristics, when applied in a regular classroom, RTI approaches act as preventive model of learning difficulties and academic failure of the learners, in general [21].

As it focuses on evaluating pupils' responses to interventions (i.e., whether pupils' academic performance or behavior changes as a result of the intervention), the RTI approach is a powerful tool through which a teacher can select, change and dose interventions according to pupils' responses. Therefore, those responses are part and parcel of the formal process of identifying students' needs or difficulties [22, 23]. In that sense, RTI allows teachers to distinguish amongst two possible causes of learning hindrances: inadequate teaching, or actual special educational needs of the student. Specifically, if the majority of the pupils in a class do not show significant or any progress even with an intervention, the inappropriateness of the teaching is likely to be the source of the problem. Otherwise, if only a few pupils are found not improving their performance after an intervention, it may be inferred that teaching practices in the class are adequate and that only those few students need more intensive or even individualized intervention, adjusted to their specific learning needs [24].



**Figure 1.** The RTI version proposed [18].

Basically, the Response-to-Intervention model of the present study (see Figure 1) bears the following:

- 1) Assessment of the school organization and teaching condition (Level 1 –Structural);
- 2) Assessment for the identification of pupils “at risk” (Level 2 – Screening);
- 3) Intervention – Monitoring – Assessment for the identification of pupils with SEN, and for adapting the resource to the special needs of the pupils (Level 3 – Group Intervention).

### 3. Methodology

The study was qualitative and exploratory, grounded on the Action Research approach. The techniques used included Documentary Analysis, Task Analysis and Group Intervention. Documents subjected to analysis were intentionally selected according to their relevance for the purposes of the study. Those were: the new Primary Education Curriculum; the Study Plan for the 1st Cycle of Primary Education [25]; the General Regulation for Evaluation for Primary Education; Literacy and Adult Education, and Secondary Education [26]; Pupils’ written assignment papers, and Teaching materials used by teachers.

The task analysis technique was applied for assessing pupil’s responses to mid-term assignments in Language (Portuguese) and Mathematics, designed at the District level to be administered in all District schools. That analysis, taken as part of the screening procedure, was particularly directed at answer papers of low performing pupils, i.e., those scoring negatively, thus getting marks below 10 points in a zero to 20 points scale. This procedure is quite similar to the one adopted in Rosal’s study [23], known as “teacher’s indication criterion”, which was used as an alternative to a previously designed screening instrument, found not sensitive enough for early identification of “at risk” pupils.

Pupils’ assignment papers were further analyzed under the ‘competence comparison criterion’, prescribed in the New Primary Education Curriculum and in the Study Plan for the 1st Cycle of Primary Education [25]. The results of that analysis were then used to draw pupils’ academic and behavioral profiles. Pupils’ profiles paved the way for the establishment of their actual Levels of Performance, to which the pupils were assigned accordingly. Those levels were also a reference point for the devising of the activities to be undertaken during the intervention.

The intervention with the targeted group was run for the period of 20 (twenty) sessions lasting 1 hour each, during 4 (four) weeks in 5 working days a week. It was carried-out at the same venue and shift, but outside the usual classroom. The targeted group of pupils had to show-up for the intervention one and a half hour before the regular class time, so to participate in the intervention (for one hour) and enjoy a 30 minutes break before joining the rest of the class for their ordinary routine. Each intervention session

comprised learning activities in Language (Portuguese) and Mathematics already devised and set in the intervention plan for each level group of pupils. An exercise book was provided to each participating pupil, on which he/she was required to write-up his/her learning activities and hand it back to the researchers at the end of the session, who had the task of analyzing the writings, thus monitoring each pupil’s progress. Regularly, pupils’ exercise books were submitted to the attention of their teachers and parents or care takers. After the initial 10 sessions, i.e., at the mid-term intervention, pupil’s response to the intervention in each level were assessed through the so-called “Systematic Control Assessment Test”, an assessment procedure well known to teachers, once prescribed in the Regulation for Evaluation [26]. At the end of the 20 sessions of the intervention all participating pupils were submitted to another similar assessment, irrespective of their performance on the first one.

#### 3.1. Ethical Considerations

For this study to take place, ethical aspects were observed at all stages and levels. To start with, the research protocol was approved by the Scientific Council of the Faculty of Education of the Eduardo Mondlane University (UEM), in Mozambique, where the main researcher has been enrolled as a doctoral student. Thereafter, under a credential issued by the UEM, she paid an exploratory visit to the school identified to host the study and to the municipal authorities at the District level for talks with the respective stakeholders about the nature, objectives and implications of the study. All of them welcomed the study and gave their consent. Likewise, the parents of the targeted children signed a letter of consent for their children to be submitted to the intervention. In their turn, those parents declared that would remain available to interact with the researchers, whenever necessary. All participants’ identity was safeguarded. Schedules for the intervention and other organizational issues, as well as for the interaction with the teachers were timely negotiated. At the end of the intervention, the preliminary findings of the study were shared and discussed with the key players at the school and District levels.

#### 3.2. Study Setting and Participants

##### 3.2.1. The Setting

The research was based at a regular Full Primary School located at the outskirts of Maputo, the capital city of Mozambique. That school has been typified by the Education Authorities as an inclusive one for being rather large (it is attended by around 4.500 pupils in 3 shifts); for enrolling all kinds of pupils, regardless their handicapping conditions, and to the fact that part of its teaching staff has undergone some training on Inclusive Education [3].

##### 3.2.2. Participants

The main participants were 106 pupils aged between 7 and

9 years old, taken from 11 Grade 2 classes, after being identified by their teachers as performing negatively in Language (Portuguese) and Mathematics. In the framework of the present study, those are designated as “at risk” pupils. Following a *screening intervention* explained earlier, 72 of those 106 pupils were submitted to the main intervention, under their parents’ consent. Also participated 11 Grade 2 teachers, essentially in the process of discussing and designing the RTI model proposed.

## 4. Results

### 4.1. Assessment Results

According to the proposed model [18], assessment results are an outcome of the Screening stage (Level 2). An initial overall analysis of written responses of the entire sample of 106 pupils to a Language (Portuguese) assignment paper revealed that all were found performing negatively, i.e., scoring below 10 points marks. Out of those, 89 had performed negatively also in Mathematics, which is to say that positive marks could be observed only in Mathematics, and those were just 17 out of the 106 pupils “at risk”. Those figures are summarized in Tables 1 and 2.

*Table 1. Pupils “at risk” in Language (Portuguese).*

	Nr of pupils	Percentage
Pupils “at risk”	106	100
Positive marks	0	0
Total	106	100

These figures and those of Table 2 were drawn from appraisals made by the teachers on the assignments.

*Table 2. Pupils “at risk” in Mathematics.*

	Nr of pupils	Percentage
Pupils “at risk”	89	84.0
Positive marks	17	16
Total	106	100

Noteworthy that in the process of appraising their pupils’ responses and assigning them marks, as to identify those “at risk”, teachers complied with the criteria set on the official Evaluation Regulations [25]. A further analysis was then performed by the researchers in order to understand the underlying risk level. Based on pupils’ actual written responses to the assignment and on the officially established criteria to judge pupils’ competences at each school grade — in the case the competences that a pupil is expected to develop at Grade 2, the researchers could assign levels of performance to pupils’ responses. Four levels of performance were set, namely *Below Pre-School; Pre-School; Grade 1 and Grade 2* levels.

Data gathered resulted in the following allocation of pupils in each of the four levels of performance in Language (Portuguese): 45 pupils Below the Pre-School level; 28 at the Pre-School level; 30 at School Grade 1 level, and 3 at School Grade 2 level (i.e., at the “right grade”). What can be inferred from Table 1 is that although all of the 106 pupils are formally attending Grade 2 classes, 42.5%; 26.4% and 28.3% of them

are performing at Below Pre-school; Pre-school, and Grade 1 school levels, respectively. All in all, 97.2% were performing below the level (Grade 2) they were enrolled at. Henceforth, the percentage of pupils that, in accordance with their actual performance, were found to be at the “right Grade” (Grade 2) is only 2.8%, as shown in Table 3.

*Table 3. Pupils’ Levels of Responses in Language (Portuguese).*

Levels of Responses	Nr of pupils	Percentage
Below Pre-School	45	42.5
Pre-School	28	26.4
Grade 1	30	28.3
Grade 2	3	2.8
Total	106	100

Likewise, in Mathematics, the majority of pupils with negative academic marks were found far behind the expected level of performance, namely: 21 Below Pre-School level; 27 at Pre-School level, 38 at the Grade 1 School level and only 3 at the Grade 2, as shown in Table 4. This indicates that 96.7% of the whole sample was below Grade 2 level.

*Table 4. Pupils’ Levels of Responses in Mathematics.*

Levels of Responses	Nr of pupils	Percentage
Below Pre-School	21	23.7
Pre-School	27	30.3
Grade 1	38	42.7
Grade 2	3	3.3
Total	89	100

The above discussed procedures and data do support one of the key assumptions concerning RTI approaches, namely that they are useful tools for an earlier and practical identification of “at risk” pupils, paving the way to analyses on whether a low academic performance is due to likely pupils learning difficulties, or to problems related to the way and conditions under which the teaching and learning process occurs in the classroom. The numerical variations of pupils’ performance across school subjects are to be regarded as common occurrences in Education, for several reasons.

The study sample of 106 pupils “at risk” was taken from 11 classes unevenly populated, as shown in Table 5, which gives also an account of the number of Non-respondent (negatively performing) pupils per class.

*Table 5. Ratio teachers’ pupils and Non-Respondent pupils per Class.*

Class code	Ratio pupils’ teacher/ Class	Non-Respondents in Portuguese	Non- Respondents in Mathematics
1L	54	9	9
2M	54	13	6
3N	51	9	0
4P	50	9	9
5Q	52	12	11
6R	49	13	13
7S	47	11	11
8T	49	4	4
9U	50	9	9
10V	46	7	7
11X	54	10	10

These figures seem to tell a lot about aspects to be taken into account in class organization, particularly when it comes to implement Inclusive Education, such as room size and the teaching conditions in each room, as well as pupils' needs. Thus, the above presented scenario raises questions about the concept of inclusive class under which the school seems to operate, as well as on the concept of quality it upholds. Characteristics internationally recognized as typical of an inclusive school, such as flexible organization, decentralized curriculum and resources management, and flexible teaching and learning strategies [13] could not be identified or observed in the course of the study. Still from Table 5, it can be observed that in classes 1L and 2M,

both with 54 pupils each, there were 9 and 13 "Non-Respondent" in Language and Mathematics, respectively. Quite similarly, in those subjects there are 13 and 4 "Non-Respondents" in Classes 6R and 8T, respectively, both with 49 pupils each. A deeper analysis of these and similar figures could unveil disparities amongst teachers' performances. Nonetheless, that was outside the focus of the present study.

Combining pupils "at risk" assignment papers and their observed behavior during the intervention, clusters characterizing pupils' profiles in each of the already discussed 4 levels of performance were worked out. That is summarized in Table 6.

**Table 6.** Summary of relevant indicators of pupils' profiles by Levels of Performance in Language and Mathematics.

Levels of Performance and Nr of pupils	Description of pupil's indicators of profiles by Levels of Performance (against what is prescribed on the school curriculum)
Below Pre-School Level (45)	Holding the pencil incorrectly; Producing scrawls or mere blots when asked to write; Unable of being acquainted with his own name when called; Inept to follow sounds and rhythms.
Pre-School Level (28)	Clumsy at following/connecting dotted lines representing letters or numbers; Incapable of identifying drawings or sounds; Unable to understand laterality expressions; Able of singing the alphabet, yet unable to recognize each particular character when presented to him; Unable to identify his own name in the written form; Unable to identify the alphabet characters when asked to do so; Incapable of reading or writing the alphabet characters in the cursive scripts format; Unable to compose syllables; Inept to copy down words or simple sentences;
Grade 1, School level (30)	Incompetent to match press characters to cursive handwritten ones; Inept to write his own name; Incorrect hand movement in writing numbers and alphabet characters; Writing some numbers and alphabet characters upside down; Unable to compare, sort or rank numbers; Inept to count progressively or regressively numbers up to 50; Bungling to perform basic addition and subtraction operations within the numerical interval 1 to 50;
Grade 2, School level (3)	Inept to combine syllables to compose words; Incapable of spotting syllables in simple words; Unable to split words into syllables; Mistakes the use of addition and subtraction operations in problem solving situations.

As it can be noted, some of the "at risk" pupils do present peculiar characteristics that should have been identified earlier in the course of their familiarization with the school, that is, at the outset of their Grade 1 school attendance.

#### 4.2. Intervention Results and Monitoring

The outcomes of the assessment reported above paved the

way for the actual intervention (Group Intervention – Level 3 on the proposed model), as well as for the monitoring of the progress of the targeted group. Those complex processes are succinctly presented in this section.

Table 7 presents the number of "at risk" pupils that took part in the intervention and their respective levels of performance.

**Table 7.** Pupils on the intervention by Level of Performance.

Levels of Performance	Nr of students submitted to the intervention
Below Pre-School Level	31
Pre-School Level	14
Grade 1 School Level	25
Grade 2 School Level	2
TOTAL	72

The intervention consisted essentially of planned remedial teaching, alongside with close monitoring of pupils' progress. The result of monitoring process, at mid-way of the intervention, showed pupils' performance as follow: All but one (1) of the 31 Below Pre-School Level pupils responded

positively; the entire group of the 14 Pre-School Level also responded positively, while all of those belonging to Grade 1 Level failed to respond positively and those of Grade 2 Level responded in a way consistent with that level.

Afterwards, and since no more pupils were found

performing at Pre-School Level, the intervention proceeded with the participating pupils re-grouped as follows: Below Pre-school Level, 1 pupil; Grade 1 Level, 69 pupils, and

Grade 2 Level, 2 pupils.

At the end of all 20 sessions of intervention, pupils' responses could be classified as shown in Table 8.

*Table 8. Pupils Levels of performance after the whole intervention (20 sessions).*

Levels of Performance	Positive Performance	Negative Performance	Total
Below Pre-School	0.0	1	1
School Grade 1	7	62	69
School Grade 2	2	0.0	2
Total	9	63	72

Data on Table 8 tells that at the end of the intervention, definitely 1 (one) pupil had not responded positively to the intervention provided, thus remaining at the Below Pre-School level. Alongside, having responded positively to the 10 sessions intervention directed to Pre-School level performers, 30 pupils merged with the Grade 1 level performers, forming a group of 69 that proceeded with the intervention. Seven (7) of them responded positively to the new intervention, while 62 were unsuccessful. The 2 Grade 2 level pupils also responded positively to the intervention.

As a final result of the RTI-based intervention, 9 pupils had responded positively to the intervention, while 63 failed to do so, supposedly for having some kind of intellectual and developmental Special Educational Need, therefore deserving further special attention.

## 5. Discussion

Drawing upon the philosophy of the RTI-model, it may be sustained that in responding positively to the intervention, the 9 pupils had thrived to catch up, thus found ready to join the main class with no need of further special support. The non-respondent ones may need intensive individualized intervention for a longer period, as well as supplementary materials to fulfill their learning needs. As for the pupil that, absolutely, failed to respond to the intervention, thus remaining at the Below Pre-School Level, what is to be learnt and emphasized is that under RTI approaches, struggling students can actually be identified in their classes, and that may happen even earlier. That is to say that it makes no sense to wait for long time watching them fail before start helping them to overcome their difficulties through planned, appropriate and scientifically based interventions.

Noteworthy in this study is that making use of pupils' responses to regular assignments as a means of identifying those "at risk" reveals that evaluation plays a role in the whole process of supporting pupils, in general, and those with Special Educational Needs, in particular.

Currently, evaluation, chiefly pupils' marks on assignments is mostly used for summative purposes and, thenceforth, to provide statistical information rather than for providing a feedback to the teaching and learning process. Based on that, the proponents of the RTI model [14] have sustained that evaluation is a component that plays a key role in this approach, contributing for its scientific validity.

As reported, although the present study had targeted Grade 2 pupils, their responses to the respective

assignments disclosed that their actual levels of performance ranged from Below Pre-School Level to School Grade 2 Level. The occurrence of such a range of performance amongst pupils supposed to be at the same school Grade suggests two possible underlying causes: inadequate teaching or Special Educational Needs amongst the pupils. Then, the question is: how can schools or teachers ascertain if a pupils' low performance is due to poor teaching or to underlying learning needs? A search for an answer to this question requires, firstly, the use of empirical and scientifically validated tools, being RTI based approaches those that this study endorses.

In this study the outcomes from group interventions across levels of performance allowed pupils re-grouping for further interventions. As an example, those pupils that were initially positioned within the Below Pre-School Level ended up revealing their potential in the course of the intervention in such a way that, after 10 sessions of intervention, the composition of each Level of Performance group had to be revised. Decisions for re-grouping learners across the levels of performance were founded on the evaluation and monitoring processes, which are part and parcel of the whole intervention in each level [27].

In general terms, the outcomes of the study presented in this paper resemble those reported by Machado and Almeida [20], who found that an intervention based on evaluation and monitoring across a certain time span has the potential of improving the identification process and the comparisons between competences at the beginning, and those acquired in the course of the intervention.

Furthermore, this study's results corroborate one of the key RTI assumptions which upholds that in order to be identified as being "at risk" and, thus, benefit from the necessary special support, a needy pupil has not to be kept pending (and failing) for long time. Otherwise, as Compton et al. [28] have argued, 2nd level intervention results are not necessarily needed for identifying "non-respondent" learners, once those may benefit from special support right from the screening stage. In the Mozambican context, that would happen after the earliest assignments, which, in the framework of this study, were actually taken as a reference point. Such procedure avoids long periods of unsuccessful school attendance. In the same line, Van Der Heyden [29] has argued that a universal screening evaluation is not of necessity as long as the *a priori* students' risk is correctly foreseen through the use of handy yet reliable evaluation procedures. That stand point has been corroborated by Rosal

[23], who found that the RTI approach, when properly combined with 'teacher indication criterion', was effective for an earlier identification of "at risk" pupils.

Concerning the pupil that, in this study, failed to respond positively to both the Screening and Group interventions, it would have been avoided to take such a long time for him to be declared an "at risk" pupil, if 'teacher indication criterion', combined with adequate general learning conditions (e.g., class size, working load, learning materials), were provided at the Structural level, to facilitate pupils' learning, in general, and for meeting the needs of those "at risk", in particular. Importantly, applying RTI procedures earlier would have been of help. So, maintaining that pupil in Grade 2 class without any kind of special support was a kind of an "inclusion that excluded" him from a legitimately deserved fruition of a quality education.

The outcomes of the present study bear particular and "just in time" pedagogical relevance in Mozambique, specifically at the planning and support providing levels, for the benefit of pupils with SEN. As a matter of fact, currently, Education Authorities have been advocating for tutorships to be introduced in regular schools [5]. Under a provision of more time and short, but rather fair training activities, tutoring can be handled by the class teacher himself, being the one supposed to know well his pupils' needs. The RTI model here proposed is likely to be successful used for organizing those tutorials, as long as the cycle Evaluation – Identification – Intervention – Monitoring – Evaluation is taken into account. This cycle reinforces the assumption that evaluation is a pivotal process in RTI approaches as, through it, the extent to which learners' performance (or behavior) is or not changing as a result of the intervention can be assessed, thenceforth, adjust and dose the interventions accordingly. In that sense, tutorship, as advocated by the Ministry of Education and Human Development [5] is likely to play a fundamental role in what concerns the provision of support to pupils with Special Educational Needs.

The success of RTI models depends on schools' capacity to develop and implement intervention programs and stick to its key principles. However, as Berkeley et al. and Noll [30, 31] have observed, working under those models is a complex, continuous and dynamic process, which cannot be expected to be finished at a pre-established time.

Working out educational statistics on pupils with special educational needs for administrative purposes without actually caring for those pupils' needs is neglecting their right to a good quality education. That can be avoided if comprehensive approaches, such as RTI models, are put into practice. Otherwise, this approach appears to be appropriate for facilitating the implementation of the Mozambican National Education System Act [12], specifically on what concerns inclusion, equity and equal opportunities for pupils with Special Educational Needs.

## 6. Conclusion

Response-to-Intervention or RTI-inspired models may

promote organized, efficient and effective ways under which regular schools can handle pupils with a variety of learning needs in an inclusive school environment. The RTI model adapted for this study has the particular feature of being one of the few that propose a level of intervention below the Level 1 of the original RTI model. While in the original model Level 1 has to do with an instructional intervention, handling entire classes of pupils in their classroom settings, in the proposed model, Level 1 is meant to care for school organizational aspects, the reason why it has been termed Structural. This level is crucial for the success of the subsequent levels of intervention, particularly in contexts that are disadvantaged, both in resources and on organizational aspects.

This study has revealed that through non-bureaucratic, handy and less expensive, nonetheless reliable procedures, students "at risk" may be timely identified and their specific leaning needs met in regular schools, thus promoting inclusive education. Furthermore, the study highlights the need and usefulness of assigning to the teacher the prime responsibility of evaluating and identifying struggling students in class, at the initial stages of an academic year. It should also be a teachers' responsibility to ensure that further interventions are well monitored and documented, be them conducted by himself - provided that he/she is properly trained, or by other education practitioners. Given its flexible characteristics, RTI models turn to be a kind of primary preventive program, as they allow an earlier identification of learners at risk of failure, apart from promoting appropriate and quality learning experiences for all students in class. Obviously, being an exploratory one, this study has its limitations and opens up issues and research paths to be explored further in forthcoming similar studies.

## Statement of Competing Interests

The authors declare that they have no competing interests.

## Acknowledgements

The authors would like to thank the school head and deputy-head teachers, as well as the municipal authorities, for understanding and hosting the study; the pupil's parents, for their consent to the participations of their children in the study. Special gratitude goes to the participating pupils and teachers, who made this study feasible.

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