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LEVEL OF APPLICATION OF THE SITUATIONAL APPROACH AMONG MATHEMATICS TEACHERS IN THE FINAL CYCLE OF BASIC EDUCATION. THE CASE OF THE SCHOOLS OF KISANGANI, ISIRO AND FARADJE

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ABSTRACT

This study assesses the actual implementation level of the Situation-Based Approach (SBA) among mathematics teachers within the final cycle of basic education in Kisangani, Isiro, and Faradje. We analyzed this implementation by observing a sample of 39 teachers, including 21 in Kisangani, 9 in Faradje, and 9 in Isiro. Data were collected through direct observations of instructional sequences. Based on a maximum score of 5 points, the findings reveal that the overall implementation level of the SBA among these teachers is low, yielding an average of 1.87/5. At the institutional level, Kisangani recorded a mean score of 2.15/5, followed by Isiro with 1.7/5, and Faradje with 1.4/5. Out of all the surveyed schools, Collège Maele in Kisangani was the sole establishment to achieve a sufficient implementation level of the SBA, with an average score of 2.74/5. These results demonstrate that government directives mandating the SBA as the exclusive method for teaching mathematics struggle to be applied in practice. We argue that the choice of a pedagogical framework should not be dogmatically imposed. It is urgent to equip teachers with the necessary knowledge to use this approach effectively, while also rapidly reinforcing in-service teacher training to rescue this curricular transition.

Keywords: Situation-based approach, Basic education, Curriculum evaluation, DRC.

1.0 INTRODUCTION

This article is a reflection on the level of application of the situational approach in the teaching of mathematics in the final cycle of basic education in our country. Indeed, for several years, the DRC has been committed to reforms to improve the quality of its learners' achievements.

To achieve this objective, he has adopted and generalized situational approaches as the only way to teach different school disciplines, particularly mathematics. According to the decreeof the Ministryof Primary and Secondary Education (2018), the teaching of subjectscontained in this field should be focused on the resolutionof problem situations. In other words, adidactic sequence should encourage pupils to solve problem situationsthey encounter in life, which makes school learning more contextual than theoretical.

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Since this generalization of the APS, teachers have been torn between the old and the new. They have to choose whether to stay in the APO or apply all the government's directives. Indeed, the choice of pedagogical practicesduring adidactic sequence is a question of the teacher's search for efficiency. In order to choose his pedagogical practices,he is confrontedwith a multitude of information of varying quality. Some are based on traditions or opinions, while others are based on field research, which has demonstrated their effectiveness (Bocquillon et al., 2024).

It should be noted that this choice by teachersdepends on several factors and is based on various approaches such astransmissive,demonstrative or active methods. Teachers choose their methodsaccording to the classroom context, their learning objectives, the motivation of the students and their own teaching attitudes. The goal is to createan environment conducive to learning, which promotes cognitive engagement andstudent success.

Several authors, including Pintrich and De Groot (1990), argue that the use ofdiversifiedpedagogical strategiesis motivating for students and has a positive effect on their academic success and perseverance.

It should also be noted that this choice is often dictated by the general policyof an educational system, which adopts thetheoretic prerequisitesof a pedagogical paradigm. Cyr, Savard and Braham (2016) note that this initiative by the DRC is part of an intention to improve the quality of mathematics teaching for all classes in general but also in the final cycle of basic education. This initiative to adopt new pedagogical practices is rooted in an African reform movement promoting skills development. It is generally argued that there is a need to move from a knowledge-based approach to learning to competency-based approaches. For African countries, it is a question of promoting Skills Development (CBA).

Since this shift, it has become clear from discussions with certain educational actors and from the results of certain studies (Buve, 2026) that the application of APS in its entirety is still a problem. In concrete terms, many teachers remain either attached to the old pedagogical modality. Others are trying to put into practice the government's directives, i.e. to transmit maths via the APS.

Our reflection aims to shed light on the effective implementation of APS in the classroom. The aim is to see to what extent, when developing a didactic sequence in the field of learning science, especially mathematics, teachers manage to fully apply this approach, as recommended by the hierarchy. In fact, even if the government imposes APS as the only pedagogical approach to be used in the classroom, which would solve the problem of the decline in the level of science learning among its students, but in practice, teachers continue in many cases to simply present the lesson and close the presentation by doing application exercises without pushing the students to solve problem situations through sub-groups and work outside of the classroom. school.

It is on the strength of these considerations that we observe some didactic sequences for the teaching of mathematics in the final cycle of Basic Education. From the above, the following questions guide our research.

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How do maths teachers at the terminal level of basic education apply APS? Specifically, the questions we ask ourselves are:

- Do math teachers in the city of Kisangani apply APS by fully following the steps proposed by the authors?
- What are the steps that are best followed by these teachers?
- Does the application of this pedagogical approach vary according to the characteristics of the teacher (schools, gender, type of diploma, to teach maths) and according to the novelty of the task being taught?

Based on the literature, we believe that APS is not satisfactorily applied to teach maths in the final cycle of basic education in Kisangani. Specifically, the tentative answers we give to our research questions are as follows:

- Mathematics teachers in the final cycle of basic education do not satisfactorily apply all the steps prescribed by the authors.
- Of all the steps, only the opening of the sequence is satisfactorily applied. The other stages, namely: the work in sub-groups and the closure of the didactic sequence, do not reach the threshold of acceptability of the APS, i.e. 50% of return.
- Teacher characteristics (gender, students' level of education, their training on APS) do not have a significant impact on the level of application of APS to teach maths in the basic education cycle. On the other hand, the novelty of the subject as well as the length of time I have been a math teacher significantly explain the level of application of the APS.

Our overall objective is to determine the level of application of APS by teachers of mathematics in the basic education cycle. For us, it is a question of contributing to the debate around the use of pedagogical approaches for the teaching of mathematics in the basic education cycle. Specifically, through this study, we aim to achieve the following objectives:

- Determine the level of application of APS during a didactic sequence of mathematics in the final cycle of basic education.
- To shed light on the level of use of each of the stages of APS by teachers from maths to the basic education cycle.
- To establish the link between the level of application of this pedagogical practice and the socio-demographic characteristics of the teachers (gender, level of study of the students, seniority in teaching maths) on the one hand and the level of complexity of the subject (novelty of the task) on the other.

2.0 METHODOLOGY

2.1 The method

To achieve our objectives, we have opted for the survey method with observation as an investigative technique. We have observed some didactic sequences where teachers are supposed to implement the situational approach to teaching mathematics.

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To do this, we have designed an observation sheet inspired by the model of Metre and Idenge (2023). This grid allowed us to analyze and measure the professional gestures that teachers have set up to teach maths. In concrete terms, we appreciated how the teacher introduces his or her subject (motivation, presentation of the objective, treatment of the situation). The sheet then allowed us to see how the teacher divides his students into groups, how they work among themselves; how the teacher goes through the classroom to help the groups complete the task. We have also observed how the students return to the plenary to synthesize and objectify the subject taught.

The last stage of observation is given to the phase where the teacher proposes to his students other similar situations, which exploit the student's environment. They can do it in class but also as homework outside the school walls.

Each professional gesture is rated on a maximum of 5 points. The sequence is divided into three parts: the opening of the sequence, the work in sub-groups and the closing of the didactic sequence. The sum of the scores obtained in relation to these parts gives an idea of the application of the APS. Half of the points are considered to be sufficient application of the APS. Below this score, we consider that the teacher did not use APS to teach math. He remained attached to the APO.

Given the nature of the scores assigned, it is possible to calculate the different statistical indices around central tendency and dispersion. The final grade obtained shows that, overall, the teacher who either applied the APS or did not and, therefore, we consider that he remained in the APO. In concrete terms, grades varying between 0 and 2.5 out of 5 are a sign that the teacher did not teach at all according to the APS but remained in the APO.

2.2 Study population and sample

What guides the process oféSelection of éléelements that must be part of the'éSample, c'is the population of'éstudy. Our study population are the mathematics teachers of the final cycle of basic education in Kisangani (Tshopo), Isiro and Faradje (Haut-Uélé). The écoles ayant accepté that we can observe their math teachers were considered a study sample.

A total of 39 teachers were observed. These make up our study sample. They are divided into 11 schools, including six schools operating in Kisangani; two schools in Isiro and three in Faradje. We observed 7 teachers, or 17.95% at the Chololo Institute. At the Mapendano, Maele and Saint Kizito technical high schools, we observed 4 teachers in each school, i.e. 10.26%. At the Monseigneur Uma Institute in Isiro and President Mobutu, we observed 5 teachers in each of the two schools, i.e. 12.82%. The other schools, namely: the Testimony of God school complex in Faradje, the Motobha Institute in Faradje, the New Home and Okapi school complex as well as the Kisangani 2 institute, we observed, in each of them, two teachers.

2.3 Conduct of the investigation

The subjects observed appear on thesubject forecastsof the teachers whose classes have beenselected. We observed in 1didactic sequence per teacher. This makes a total of 39didactic sequences for the seventhand eighthyearEB classes.

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Table 2. Lessons observed by branch and level of education

	Science Learning Areas				
	Statistics	Geometry	Algebra	Arithmetic	Total
Seventh year of basic education	1	5	8	5	19
Eighth year of basic education	2	3	10	5	20
Total	3	8	18	10	39

If we take into account the two levels of education, the table above informs us that in the seventh year, we observed 19 didactic sequences. They are distributed as follows: 8 in algebra, 5 in arithmetic, 5 in geometry and only 1 observation for the statistics course. In the eighth round, the distribution of observations is as follows: 10 observations for algebra, 5 in arithmetic, 3 in geometry and 2 in statistics.

2.4 Data analysis

The information collected from the respondentswillbe analysedusingthe S.P.S.S. version 20 software. This is theresult of the observations on the basis of which it has been possible to establish the level of integration of the APS stages into the didactic sequences of mathematics in the final cycle of basic education.

For the differentstatistical analyses, we startby identifying the differentvariables that we will involve in the analyses as well as the roleof each. Indeed, the fundamental principle is to know how to identify an explained (dependent) variable and explanatory (independent) variables.

The table belowsummarizes thevariables to be involved in the analyses of our data.

Table 3. Variables under study

Independent variables	Indicators
Teacher and hischaracteristics	Seniorityin teaching math
	Diploma
	Formation en APS
	New in the subject
Educational environments and their characteristics	Administrative entities
	School
	Class level (7th or 8th EB)
Variable	Level of implementation of the DPA

For the analyses, we have one variabledependent, namely: the level of application of the APS by teachers. With the marks obtained at the end of the observation, it is concluded that the application of the APS was sufficient if the teacher had at least 3 out of 5. Below this score, the application of the APS is mediocre and therefore, he has rather resorted to the APS given the novelty of the subject or the level of the students.

We then have two independent variables below: 1) the level of difficulty of the subjectand 2) the level of the students. The other variables are moderating variables: these are variables that

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fall between the independent variablesand the dependent variable. The modative variables are: 1) Teachers' qualifications, 2) Seniorityin teaching maths, 3) 4) APS training and, on the other hand, pupils and their characteristics (age, sex, repetition). There are also educational environments and their characteristics. They are also moderating variables. We have: the administrative entity, the school and the level of study (7th or 8th).

3.0 RESULTS

3.1 Level of applicationof the principles of the APS (Overall Results)

The following table presents the results of teacher performance without taking into account the various variables considered in this study.

3.2 Overall level of application of the DPA and in relation to each of the stages

	Activation of prior knowledge	Group work of the students	Closing of the didactic sequence	Grand Total
N	39	39	39	39
Medium	2,46	1,10	2,05	1,87
Median	2,33	1,33	2,00	1,94
Mode	1	0	2	1,44
Standard deviation	1,04	1,01	1,21	0,76
Minimum	1	0	0	0,44
Maximum	4	3	5	3,44
CV	42,09	92,10	59,13	40,42
Rdt	49,30	22,03	41,03	37,45

Overall, no teacher has satisfactorily applied APS to teach math. The overall average observed is 1.87, or 37.5% return. This is also true at the stage level. Overall, no teacher, either at all stages or in each of them, has reached the sufficient level of application of APS for the teaching of mathematics.

This observation is confirmed by the fact that the majority of teachers have 1 in 5. This means that they remain in the pedagogy by objective, especially since, since its adoption, the APS is still struggling to take root. Many teachers remain confined to the old pedagogy, the PPO. This is inspired by the paradigm of the teacher where the teacher is at the center of everything.

After applying the mean comparison test for a single sample, it turned out that the observed average, i.e. 1.87 out of 5 at the theoretical value taken as a reference for correctly applying the PSA, is significantly different. The probability associated with the t-value (-9.303) is below the threshold (0.000 less than 0.05). This means that what teachers have produced in terms of the application of APS in didactic sequences is much lower than acceptable. In concrete terms, they remain generally in the old method, i.e. the PPA.

3.3 Teachers' performance according to the different variables

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We then present the results of the application of APS in the didactic sequences by all teachers according to different variables taken into account in this study. We take into account the level of education of the students, the gender of the teachers, the teachers' qualifications, their seniority in teaching maths, their professional experience, their training on the APS, the novelty of the subject as well as the level of the students.

3.4 Teachers' services according to the level of study

We first present the results of the application of APS by teachers according to the level of study of the students. Indeed, some didactic sequences were animated in the seventh year while others were animated in the eighth year of basic education. The objective is to see if the teaching by the APS has varied according to the level of study of the students.

Level of education	Medium	N	Median	Standard deviation	Min	Max	CV	Rdt
7th EB	1,91	19	2	0,62	0,44	2,89	32	38,28
8th EB	1,83	20	1,89	0,88	0,44	3,44	48	36,66
Total	1,87	39	1,94	0,76	0,44	3,44	40	37,45

This table shows that, in each of the classes, teachers applied APS poorly. The average performance for both levels is below 3 out of 5, i.e. 1.91 in the seventh grade and 1.83 in the eighth. Applying the independent sample t-test to these two means, it appears that they do not differ significantly from each other. Indeed, since the p-value associated with the test value ($t = 0.33$) is greater than the threshold of 0.05, i.e. $p = 0.743$, we say that the two means do not differ significantly. This means that in both levels of study, the teachers applied the same methods. Based on the observed average, we affirm that they have remained in the old method, i.e. APO, which is focused on the transmission of knowledge.

In both groups, the last grade is 1 and the highest grade is 4. And in these groups, the data is very dispersed around the center of distribution. The calculated PUCs are above the 30% threshold. The graph below shows the situation.

3.5 Results by Administrative Entity

We also present the results of the application of the DPA by administrative entity. Indeed, we observed didactic sequences in Kisangani (Tshopo province), Isiro and Faradje (Haut-Uele province). The table below tells us something about this.

City	Medium	N	Standard deviation	Median	Min	Max	CV	Rdt
Kisangani	2,15	21	2,06	0,60	0,89	3,28	95,77	43,02
Calculus	1,70	9	1,56	0,99	0,44	3,44	92,01	33,91
Faradje	1,40	9	1,44	0,59	0,44	2,39	102,86	28,00
Total	1,87	39	1,94	0,76	0,44	3,44	103,6	37,45

A reading of this table shows that, compared to the administrative entities, none has applied the DPA satisfactorily. The overall average for the application of this pedagogical approach in Kisangani is 2.15 out of a maximum of 5. Then comes the city of Isiro where the overall average of the application of the APS is 1.7, i.e. 33.91% of efficiency. At the bottom of the list, there is the city of Faradje where the overall average use of APS is 1.4, or 28.00% efficiency.

We can say that in none of these administrative entities have teachers taught according to the government's recommendation. Teachers have remained in the Objective Approach.

1° The variance homogeneity test

Since the groups are not the same size, we proceeded to compare the variances of our three samples in order to choose the appropriate test for comparing the means. Thus, the Levene test was applied to test the homogeneous variance hypothesis. Since the probability associated with the Levene statistic of 2.111 is above the 0.05 threshold (p = 0.136), we state that the variances of these three data samples are homogeneous. Hence, we continue to make the comparison from the classical analysis of variance.

2° Analysis of variance

The analysis of variance applied to compare the three means shows that the groups differ significantly from each other. Indeed, since the probability associated with the F value (3.952) is below the threshold of 0.05, i.e. p = 0.028, we state that the means of these three administrative entities differ significantly from each other. For this reason, we applied the Tukey test to identify homogeneous groups. The test classifies the provinces into two groups. On the one hand, we have the schools of Tshopo (Kisangani) and, on the other side, there are the schools of Haut Uélé (Faradje and Isiro).

3.6 Results by Teacher Diploma

The results around the general application of APS in the didactic sequences of mathematics are presented in the following table according to the type of diploma of the teacher. The objective is to see how the use of the situational approach would depend on whether one has basic training in pedagogy or in another discipline.

Table 5.5 Average Teacher Performance by Educational Qualification

Respondents' diplomas	Medium	N	Median	Standard deviation	Min	Max	CV	Rdt
Diploma in Pedagogical Sciences	1,77	19	1,89	0,83	0,44	3,44	47,16	35,41
Degree in a science other than pedagogical sciences	1,97	20	2,06	0,68	0,83	3,22	34,62	39,39
Total	1,87	39	1,94	0,76	0,44	3,44	40,42	37,45

This table shows that no group of teachers in the modalities of the variable in question applied the APS satisfactorily. Those with a degree in educational sciences achieved a slightly lower average than those without. Those with a basic basis in pedagogy obtained an average of 1.77

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out of a maximum of 5. Those with degrees in a field other than pedagogical sciences have 1.97 out of 5, or 39.39% of returns. This means that all teachers, regardless of the type of diploma obtained, remain attached to the objective-based approach, a pedagogical practice focused on the transmission of knowledge by the teacher.

We applied the mean comparison test for independent samples and found that the two did not differ significantly from each other. Since the probability associated with the t-value (-0.817) is greater than the threshold of 0.05, i.e. p = 0.419, we conclude that teachers remained in the objective approach. The diplomas have not had a satisfactory impact on the satisfactory application of the new pedagogical approach in force in the various classes in the DRC.

3.7 Results by mathematics teaching experience

Table 5.6 Average Teacher Performance by Experience Teaching Mathematics

Level of education	Medium	N	Median	Standard deviation	Min	Max	CV	Rdt
7th EB	1,91	19	2	0,62	0,44	2,89	32	38,28
8th EB	1,83	20	1,89	0,88	0,44	3,44	48	36,66
Total	1,87	39	1,94	0,76	0,44	3,44	40	37,45

This table shows that no category of teachers with experience in teaching math has applied APS satisfactorily. Among all the respondents, teachers whose experience in teaching maths varies between the ages of 11 and 15 have 2.01 out of 5, i.e. a return of 40.20%. All other categories (0 to 5 years, 6 to 10 years, 26 years and over) are below 40% return. Their averages varied between 1.73 and 1.98 out of a maximum of 5 points. If we can use frequency, we conclude that all 39 teachers observed remained in the APO, regardless of the mathematics teaching experience. APO is an approach where the teacher is at the center and is focused on the transmission of knowledge. It is this approach that has always been applied by teachers before the generalization of APS.

By applying the Levene test for comparing variances, it appears that our variances are homogeneous. Indeed, the probability associated with the statistic thus calculated, i.e. 0.928, being greater than 0.05 (p = 0.438), we confirm the hypothesis of equality of variances. Since the variances are equal, we used the analysis of variances to assess the equality of the means. After calculation, it turned out that the averages are not significantly different from each other. Indeed, since the probability associated with the F statistic (0.085) is greater than 0.05, i.e. p = 0.968, we confirm the hypothesis that the groups are not significantly different. In concrete terms, it must be believed that experience in teaching maths is not an asset to better apply the principles of APS. Indeed, teachers, regardless of the number of years of experience teaching

3.8 Results by DPA Training

The following table presents the results of the application of the situational approach according to the training they have received in DPA. Indeed, the objective of the training given by the Government and education partners on the use of the new method is to equip those who implement it with theoretical and practical knowledge likely to improve their performance.

Table 5.7 Outcomes by PSA Training

Formation en APS	Medium	N	Median	Standard deviation	Min	Max	CV	Rdt
Yes, I have completed the PSA training	1,83	26	1,92	0,78	0,44	47,64	42,78	36,65
No, I have never taken the PSA training	1,95	13	2,06	0,72	0,89	25,39	37,05	39,06
Total	1,87	39	1,94	0,76	0,44	73,03	40,42	37,45

The information in this table shows that despite the training received on PSA, teachers did a poor job of applying the steps of the new approach to imparting knowledge to students. Those who have taken at least one PSA training have an average of 1.83 out of a maximum of 5 points. This represents a return of 36.65%. Those who did not take the situational approach training have an average of 1.95 out of 5, which corresponds to a mediocre performance of 39.06%. This means that both groups of teachers have remained teaching according to the old method, namely: the situational approach.

The data is usually scattered around the distribution center. While for the first group the CV is 42.78%, the second group made up of teachers trained on the approach have data also scattered around the centre, i.e. 37.05%, if we compare them to the 30% threshold. The following figure shows this well.

We applied the t-test to compare the means of the two independent samples. It appears that the two groups of teachers do not differ significantly. Indeed, the probability associated with the value of the test ($t = 0.465$) being higher than the threshold of 0.05, i.e. $p = 0.645$ proves that the training has almost no impact on their performance. Overall, teachers taught according to the principles of the objective-based approach regardless of their training on the new method.

3.9 Overall results according to the novelty of the subject taught

Through the table below, we put the results of the analyses on the level of application of the situational approach according to the novelty of the material. In concrete terms, it is a question of examining the extent to which teachers have chosen to be on the side of the APS given the age of the concept taught.

Table 5.8 Results by novelty of subject matter

Novelty of the material	Medium	N	Median	Standard deviation	Min	Max	CV	Rdt
Yes, the lesson of the day is purely new.	1,72	33	1,78	0,7	0,44	56,81	40,58	34,43
No, the concepts acquired are not new	2,7	6	2,67	0,5	2,06	16,22	18,55	54,07
Total	1,87	39	1,94	0,76	0,44	73,03	40,42	37,45

The content of this table shows that it is those whose subject matter is old who have applied the APS satisfactorily. Their average is 2.7 out of 5. This equates to 54.07% return. The data for the distribution are also homogeneous if we take into account the 30% threshold. For the

other group of teachers, whose subjects are generally new, they did not succeed in applying the situational approach sufficiently. Also, the data of the distribution are scattered around the average.

This observation confirms the theory around the choice of a more socio-constructivist education or a more instructionist education. Indeed, for some authors, if the subject is new and the students have little knowledge for the subject to be taught, it is important to have recourse to a more instructional teaching. If the subject is not new and students generally have knowledge of the subject to be taught, more socio-constructivist teaching is recommended. This is what has been observed. The 6 or so subjects of the lessons considered as old, were taught according to the principles of the APS, which is not the case for the new subjects where the teachers remained in the objective-based approach. The following graph tells us a lot.

Applying the mean comparison test for two independent samples, it appears that the two groups differ significantly. Indeed, the probability associated with the t-value (i.e. 3.276 being below the threshold of 0.05 p = 0.002) shows that when the material is already known, it is possible to sufficiently apply the steps of the DPA.

3.10 Analysis of the regression on the application by teachers of the APS

We close this section on the general application of the APS steps with classical regression analysis. We are trying to find out the level of contribution of each of the variables to the explanation of the score obtained at the end of the observation.

1° Summary of the model

R	R-two
0,646	0,417

This table shows that overall, the characteristics of the teacher (administrative entity, school, level of education, gender, experience as a maths teacher, diploma, training in APS, novelty of the subject taught and the level of the students) explain 41.7% of their performance overall. This share is not negligible because the regression model applied in this analysis is significant. Indeed, the probability associated with F (3.174) in the model is below the threshold of 0.05, i.e. p = 0.012.

2° The coefficients

Table 5.11 Regression coefficients with the overall mean of the level of application of the DPA as a predicted variable

	Non-standardized coefficients		Standardized coefficients	t	Say.
	A	Standard error	Beta		
(Constant)	1,405	0,687		2,046	0,049
Administrative entity	-0,389	0,151	-0,428	-2,569	0,015

School of Respondents	0,035	0,039	0,143	0,9	0,375
Students' level of education	-0,064	0,214	-0,043	-0,297	0,769
Seniority in teaching maths	-0,111	0,095	-0,183	-1,167	0,252
Type of degree	0,337	0,23	0,225	1,463	0,154
PSA Training	-0,132	0,272	-0,083	-0,486	0,631
Novelty of the material	0,779	0,301	0,376	2,588	0,015

This table shows that the city and the novelty of the subject have a significant impact on the results around the application of APS by teachers. The other variables have an impact, of course, but this impact is not significant. This means that we cannot say that the level of application of the APS depends on the school where one teaches. It is not also a function of how long he has been a maths teacher or the type of diploma he holds. It is not also dependent on the training followed on the PSA.

It can be said that it is by examining whether or not the subject is new that the teacher applies the APS or that he or she remains in the APO. It is for this reason that those who have chosen the APS on the basis of the novelty of the subject have applied it satisfactorily.

4.0 DISCUSSION CONCLUSIVE

The above analyses confirm our general hypothesis as well as our first three specific hypotheses. It was found that the teachers observed do not apply APS satisfactorily to lead mathematics lessons in the final cycle of basic education. Also, of all the stages, none was carried out according to the principles of the APS. The second hypothesis is partially confirmed. Given that the characteristics of teachers do not significantly explain their performance in terms of the level of application of the APS, we say that our third hypothesis is also confirmed.

These results prompt us to discuss the following aspects of these results. The first thing that gives us pause for thought is why, despite the imposition of the organizing authority, teachers do not always apply the APS satisfactorily? Indeed, we have just verified that in three different administrative entities, two of which are in Haut-Uélé and the largest number of schools that operate in Tshopo, teachers remain attached to the APO? Can we say that they are only acting in bad faith? Do they have problems with didactic knowledge of the APS?

In any case, the problem is much deeper. What is true is that the principles on which pedagogical transformations are based, principles that call on the notions of pedocentrism, activity, experience, competence, complex tasks, etc. are not used in complete intellectual or scientific neutrality. For Boudon (1986), cited by Bulle (2001), it is the a priori on which all reasoning is based that can, in a very insidious way, very difficult to perceive, deceive their true scope by obscuring their conditions of validity. It is this concealment that explains the rhetorical force of the arguments deployed and the general agreement they arouse with regard to child-centred pedagogical approaches.

Bulle (2001) considers that each actor interprets these principles as if they were defined in complete intellectual neutrality and therefore has good reason to believe them. The illusion

developed in this way by the notion of activity helps to explain the credibility of the new educational principles that put the child at the centre.

The Congolese State's decision to embrace pedagogical approaches that exploit the achievements of the new school is good in itself but has more of an ideological aspect because those who campaign for the situation-based approach (APS) do not do so in complete scientific neutrality. It is not so much the student and his learning that is being promoted, but rather to fight the place of the teacher, which is wrongly assimilated to a "dictatorship".

This leads us to support the idea that as long as we do not put the teacher in his place, as the driving force of the class, we risk continuing to sing a requiem for the child's learning. Instead of imposing on him the way of doing things, we suggest that he be trained to identify the situations that are suitable for this or that other pedagogical modality. Indeed, the objective for which he is in front of his class is to take his class out of the state of ignorance to that of knowledge.

Rejecting a priori instructionist approaches as incapable of developing skills is not enough. Since, according to Gauthier, Bissonnette and Richard (2013), it is possible that several pedagogical approaches facilitate student learning and this is indeed the case. However, this does not mean that all approaches are equal. For these researchers, the principle of openness to approaches must be established a posteriori, i.e. that only pedagogical approaches that have previously demonstrated their effectiveness should be encouraged and can be part of the knowledge shared by members of a profession through initial or continuing education.

In the conclusion of an article on effective pedagogical approaches, Tagne and Bissonnette (2014) make it clear that, far from being a new dogma, instructional approaches are now those with a greater body of evidence, which confirm their effectiveness in helping several categories of students develop their skills. However, they point out that, in cases where learners already have some expertise, where the content and the teaching context lend themselves to it, discovery approaches may be indicated. However, they draw attention to the fact that the classes of the vast majority of teachers generally do not belong to this category or hardly belong to this category, especially in Africa.

Let us conclude our reflection on the level of application of APS to teach math by stating the following: Change in teaching practices must never be dictated from above. The teacher should be given the opportunity to choose the appropriate pedagogical approach taking into account his or her objectives, the structure of the subject to be taught and the characteristics of his or her learners.

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