BILINGUAL EDUCATION IN MALI: AN ANALYSIS OF THE TYPES AND FUNCTIONS OF CODESWITCHING USED IN THE CLASSROOM CONTEXT

Dr KADIDIATOU TOURE

Université des Lettres et des Sciences Humaines de Bamako (ULSHB) / Research Scholar at Michigan State University (MSU)

kadidiatoutoure@ymail.com / toureka2@msu.edu

ABSTRACT

The bilingual education in Mali refers to the use of the pupils' mother concomitantly with French in the first grades of schooling. Eleven of the thirteen national languages of Mali have been experienced at school with the aim of improving the Malian educational system because the use of French as the only medium of instruction was considered a contributing factor to the significant number of student dropouts and the high rate of repetition. Depending on the grades, an average have been established for each of the involved languages. This theoretical organization of languages does not prevent from the important use of codeswitching (hereafter CS). the use of CS in the classroom context create debates in many research works. Therefore, one may be curious to know how CS is used in Malian bilingual classes and the functions they may fulfill. The present work is looked at how CS is used in the classroom domain and what pedagogical functions it may fulfill.

KEY WORDS: Bilingual education, Codeswitching, Mother tongue, Pedagogical functions.

I. NTRODUCTION

There are thirteen national languages in Mali, eleven of which have been experienced at school concomitantly with French in the first cycle of fundamental education. The aim was to improve the Malian educational system because the use of French as the only medium of instruction was considered a contributing factor to the significant number of student dropouts and the high rate of repetition [15], [11]. This is how the multiple educational reforms and innovations undertaken by the educational authorities resulted in the introduction of national languages into formal education.

One of the challenges of the Malian bilingual education resides on the practicality of the effective management of the languages involved in a bilingual classroom. Theoretically, depending on the classrooms, an average have been established for each of the involved languages. This theoretical organization of languages does not prevent from the important use of CS. Therefore, teachers make use of CS differently and sometimes, instead of helping pupils in their learning, CS contributes to the development of some linguistic gap.

Therefore, one may be curious to know how CS is used in Malian bilingual classes and the functions they may fulfill. There are several works in CS dealing with Malian languages and

French, but those work treat CS in ordinary setting like the street, workplace or at home. The present work is interested in the use of CS in classroom domain and the pedagogical functions it may fulfill. The specific objectives are:

➢ to identify the types of CS used during classroom activities

➢ to present the role of CS for the teachers as well as the pupils.

➢ To identify the pedagogical functions it fulfills

II. HISTORICAL REVIEW OF THE BILINGUAL EDUCATION IN MALI

From a historical point of view, the educational reform of 1962 mentioned the use of the national languages at school. Since the languages were not ready at that time, it is in 1978 during the second national seminary on education that the use of national languages at school have been concretized. In 1979, the teaching of Bamanankan was tested in the regions of Segou and Koulikoro. A year after, three other languages: Fulfulde, Songhay and Tamasheq will also begin experimentation at school, and that will continue till 1986. The first years of experimentation were successful as mentioned in the report of [15], but quickly after those schools failed due to an absence of appropriate methodology and monitoring according to the same source.

We then had to wait 1987 to witness the development of the convergent pedagogy (CP) (the use of national languages in teaching concomitantly with French using the active method) in the city of Segou with the Bambara language only. That mark the beginning of the second generation of experimentation of the bilingual education. In 1994, the convergent pedagogy will become widespread, and seven other national languages will begin to be used at school (Dogoso, Bozo, Bomu, Soninke, Syenara, Mamara and Xaasongaxanŋo). The total number of national languages becomes eleven and was introduced successively as followed: 1994 (Bambara, Fulfulde, Songhay), 1995 (Tamasheq, Dogoso, Soninké), 1998 (Bomu, Syenara), 2000 (Bozo, Mamara), 2001 (Xaasongaxanŋo).

In order to improve the learning with the CP, the Malian authorities elaborated the bilingual curriculum through the PRODEC (ProgrammeDecennal de Development de l'Education). The third generation of bilingual education in Mali started in 2005 with a bilingual curriculum (competence based curriculum approach). This curriculum emphasizes on the learners environment and the multiplicity of the learning activities so that to foster the pupils' classroom participation.

III. THEORETICAL FRAMEWORK

The theoretical framework is based on theories of CS [12], bilingual education [3], [4], [2] and Pedagogical interaction. Both CS and pedagogical interaction functions are applied to the concept of bilingualism which, according to [16], has broadened since the beginning of the 20th century. The extent of bilingualism ranges from the point where a speaker of one language can produce meaningful utterances in another language [6] to the point where a speaker has equal

ability in using his/her languages in all domains. For reference [10] '' *"Being bilingual" doesn't imply complete mastery of two languages. Further, speakers are rarely equally fluent in two languages''* (p. 03). For the context of this research, the three theoretical approaches applied to the classroom context.

III.1. CODE SWITCHING

Code switching used to be the interest of few researchers in the 1950s and 1960s. It was only considered as an ability of a bilingual to move from one language to another according to situations [14]. In the recent years, it is the type of contact phenomenon which interested most researchers in Sociolinguistics, Psycholinguistics, and Language Didactic. The most general definition of code switching is the use of two language varieties in the same conversation.

As for the use of CS in classroom context, for a long time, there had been an insistence on separating the languages in educational contexts since some teachers indicated their disapproval of CS in the classroom [17]. Reference [13], in her study, described attitudes toward CS in the classroom as negative, noting that bilinguals themselves *"may feel embarrassed about their code switching and attribute it to careless language habits"* (p. 18). Reference [8], describing classroom CS in Malaysia, shows how the use of a local language alongside the ''*official*" language of the lesson is a well-known phenomenon and yet, for a variety of reasons, it is often lambasted as *"bad practice"* blamed on teachers' lack of English-language competence (p. 88).

For the present research work, it is the typology of [12] which will be considered for the classification of CS utterances. Reference [12] mentions three types of code switching namely: extra-sentential, inter-sentential, and intra-sentential. Extra-sentential code switching involves the use of an interjections or a tag in a language different from the language of the rest of the sentence. Inter-sentential code switching concerns the switch at clause/sentence boundary. It means that one clause in one language and the other is in other language. Intra-sentential code switching refers to switches of different types occurring inside the same clause.

III.2. BILINGUAL EDUCATION THEORY

Bilingual education is commonly defined as the use of two languages as a medium of instruction in a formal education system. Reference [4] defined bilingual education as *"the use of two (or more) languages of instruction at some point in a student's school career"* (p. 12). There are many types of bilingual education according to [2]: Submersion which is divided in two parts, structured immersion and withdrawal or pulling out programs, transitional bilingual program, segregationist bilingual program, separatist bilingual program and mainstream or English as a second language bilingual program, Immersion bilingual program, Maintenance/ heritage language program, Two way/Dual way bilingual program and Mainstream bilingual educational programs. The Malian bilingual curriculum is a transitional one with the instruction beginning with the native language and a gradual shift to French as the only medium of instruction.

III.3. PEDAGOGICAL INTERACTION FUNCTIONS

Pedagogical interaction refers to the interaction between teacher and student during their teaching and learning activities. Pedagogical interaction exists between a child and his/her environment, including the curriculum, peers, educators, family, and community. It takes place in different forms, such as direct instruction, questioning, demonstration, oral response, participation and guidance.

Among the pedagogical interaction functions we have: pragmatic, dialog and didactic functions. This research emphasizes on the didactic function. The classroom discourse is built through interactions and interpersonal relations between the teacher and the learners. The competences are acquired through teacher's explanations and, in the case of bilingual education specifically, the comparison of linguistic elements which reinforce the learning and the transfer of competences in both languages. Interlanguage comparison, correction, and explanation are essential for bilingual learners in their classroom practices. It is through interlanguage (between L1and L2) explanation and comparison that classroom and learning activities are organized. It is based on the interactionist perspective that the different functions of the CS utterances have been identified and listed.

IV. METHODOLOGICAL

The methodology adopted is a qualitative one. The study is based on recorded videos of primary school classroom in Gao and Fana for the project '*Transfert des apprentissages (Mali, Niger, Burkina Faso)'*.

IV.1. DATA FOR THE STUDY

The study had concerned two languages of Mali: Bambara and Songhoy, and the level II and level III of the bilingual curriculum. At the level II, the research was conducted in the grade four of primary school and at the level III, it is the grade five which was concerned. Both linguistic and non linguistic courses have been included. The linguistic courses are grammar and reading. The non linguistic courses are calculation and biology. The below table represents the recorded videos concerned by the present research. The courses, the languages and the grade in which they were taught during the data collection are specified.

Table 1: languages, grades and courses in the data

Languages	Courses	Grade	Duration
Songhay	Reading	Four	28min33sec
	Grammar	Four	33min18sec
	Calculation	Five	30min43sec
Bambara	Biology	Four	34min24sec

	Reading	Five	08min17sec

IV.2. DATA TRANSCRIPTION AND DATA ANALYSIS TOOL

CLAN (Computerized Language ANalysis) is the software used for the transcription and analysis of the recorded data. It is a cross-platform program designed by Brian MacWhinney and Leonid Spektor. Clan has two parts: the editor part and the analysis part. The editor part allows the transcription of the files and its coding. In the analysis part, it is possible to extract results using commands. The recorded videos of the present research have been transcribed directly on the software CLAN. That allows to simultaneously have the transcription and the video in one single place, as mentioned by [9], ''*… unlike Word, it allows the researcher to link individual segments of the transcript directly to the audio or video media. This form of linkage to the media is crucial in terms of allowing users to playback transcriptions to verify their accuracy''* (p. 155).

Before dealing with the real transcription, the different elements have been coded. The code for the languages are *son* (Songhoy) and *bam* (Bambara). The different courses have been coded as followed: *gram* (grammar), *cal*(calculation), *bio* (biology), *lec*(reading). The codes for grade are *A4* (grade four) and *A5* (grade five). To identify the main teaching language for each course, *L1* has been used as the code for the mother tongue and *L2* for French.

Then, each of the recorded videos has been named as followed: language-grade-course-teaching language for the course. The different videos named are: *son-A4-gram-L2* ; s*on-A5-cal-L2 ; son-A4-lec-L1 ; bam-A4-bio-L1 ; bam-A5-lec-L2*. Following that, the participants in the videos have been identifies: the code *MTR* is used for the teacher and *ELV* for the pupils.

After transcribing the videos on CLAN, the instances of CS have been coded on the software following Poplack's typology of CS. The codes are the followings:

Inter ----------- inter-sentential CS

Intra ----------- intra-sentential CS

Tag ------------ extra-sentential CS

Those different codes allow the automatization of extraction of the different utterances for analysis.

V. ANALYSIS AND RESULT

Thanks to CLAN, it was possible to extract the instances of CS based on our theoretical framework, and according to the speaker (teacher or students). For example, for the grammar course in Songhoy (*son-A4-gram-L2*), there was a total of 100 instances of inter sentential CS produced by the teacher as shown in the below figure.

Fig. 1: example of CLAN Output sheet


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------------------------------
*** File "son-A4-gram-L2.cha": line 1101.
*MTR:   voilà wa tamba wa tamba@s:son %snd:"son-A4-gram-L2"_1601012_1608898
%gls:   quickly
%cs:    (1)inter|emph|MTR
------------------------------
*** File "son-A4-gram-L2.cha": line 1128.
*MTR:   il faut voir la maison désormais a ma si koy daray mane@s:son maison %snd:"son-A4-gram-
L2"_1711493_1716082
%gls:   look at how we write home and pay attention to it next time
%cs:    (1)inter|emph|MTR
------------------------------
*** File "son-A4-gram-L2.cha": line 1160.
*MTR:   oui lis ta phrase il faut lire ta phrase <ni jindo jer ir ma maa !@s:son %snd:"son-A4-gram-
L2"_1768761_1778530
%gls:   yes read your sentence  loudly so that we can hear
%cs:    (1)inter|reqt|MTR

    Strings matched 100 times


>
26Oct23[E][CHAT] 484
```

This figure is a screenshot of the CLAN Output sheet. The command: *combo +t* +t%gls: +t%cs: 8son-A4-gram-L2*.cha +sinter*MTR* has been used to extract all inter-sentential CS produced by the teacher during that course. The first line of each utterance provides with information about the file name and line number. In this case, the file name is '*son-A4-gram-L2.cha*'. The second line gives the utterance produced. In this example, the line start with *MTR* which is the code for the teacher. All the utterances in this output are produced by the teacher as requested through the command used. The following line is an English translation of the utterance and start with *%gls*. The next line starting with *%cs* give information about the type of CS, the function and the participant who produced it. The last line of the CLAN Output sheet shows the number of occurrence for the typology of CS identifies in the command. In the above example the teacher make use of 100 inter-sentential CS. A quantitative analysis of CS was then possible for each course, each speaker and each type of CS.

V.1. QUANTITATIVE ANALYSIS OF THE CS UTTERANCES

The data analyzed for the present paper is composed of three courses in Songhoy and two courses in Bambara as mentioned previously. The below tables present the quantitative results for both the teacher and pupils for each of the recorded courses.

Table 2: CS average during son-A4-gram-L2

Type CS\Participant	Teacher	Pupils
Inter-sentential	100 (21.14%)	4 (7.84%)
Intra-sentential	63 (13.31%)	2 (3.92%)

Extra-sentential	3 (0.63%)	0 (0%)
Total	166 (35.09%)	6 (11.76%)

For this grammar course, we had a total of 524 produced utterances (473 produced by the teacher and 51 produced by the pupils). The inter-sentential CS is the most produced type in this course with an average of 21.14% for the teacher and 7.84% for the pupils.

Table 3: CS average during son-A5-cal-L2

Type CS\Participant	Teacher	Pupils
Inter-sentential	22 (11.82%)	3 (3.52%)
Intra-sentential	93 (50%)	5 (5.88%)
Extra-sentential	8 (4.30%)	0 (0%)
Total	123 (66.12%)	8 (9.41%)

When it comes to the course of calculation, out of 271 utterances produced, 186 was done by the teacher and 85 by the pupils. As opposed to the *son-A4-gram-L2 course*, here it is the intra-sentential CS which appears to be the most used one with an average of 50% of the teacher's produced utterances and 5.88% of the pupils'ones.

Table 4: CS average during son-A4-lec-L1

Type CS\Participant	Teacher	Pupils
Inter-sentential	9 (2.91%)	14 (8.28%)
Intra-sentential	24 (7.76%)	0 (0%)
Extra-sentential	14 (4.53%)	0 (0%)
Total	47 (15.21%)	14 (8.28%)

The total number of utterances produces during *son-A4-lec-L*1 course is 478 (169 of which was done by the pupils and 309 by the teacher). Although the text was in French, the teacher tend to explain it in Songhoy, and then make use of a higher number of intra-sentential CS. The pupils on the other hand used more inter-sentential CS instead.

Table 5: CS average during bam-A4-bio-L1

Type CS\Participant	Teacher	Pupils
Inter-sentential	13 (4.71%)	32 (25.39%)
Intra-sentential	55 (19.92%)	4 (3.17%)
Extra-sentential	11 (3.98%)	0 (0%)
Total	79 (28.62%)	36 (28.57%)

The biology course was composed of 402 utterances, 126 of which was produced by the pupils and 276 by the teacher. The most produced type of CS is different for both speakers: the teacher produced more intra-sentential CS (19.92%), whereas the pupils produced more inter-sentential CS (25.39%).

Table 6: CS average during bam-A5-lec-L2

Type CS\Participant	Teacher	Pupils
Inter-sentential	19 (25.33%)	1 (4.76%)
Intra-sentential	13 (17.33%)	0 (0%)
Extra-sentential	5 (6.66%)	1 (4.76%)
Total	37 (49.33 %)	2 (9.52%)

For this last video which is relatively short, there was a total number of 96 utterances (21 of which was done by the pupils and 75 by the teacher). Here too, the inter-sentential CS is the most produced type of CS with 25.33% done by the teacher and 4.76% by the pupils.

The quantitative analysis shows that CS occupies an important part of teachers interaction in 4th and 5th grade with the total averages ranging from 28.62% to 66.12%. In addition, the non

linguistic courses among the recorded videos show a higher number of CS compare to the recorded linguistic courses. That may be due to the need of constantly make use of reformulation or explanation in the L1 for the understanding of L2 key terms for pupils. Inversely, L2 terms are constantly inserted during non linguistic courses in L1 because of the lack of appropriate terminology, unawareness of the terminology in L1 or unfamiliarity with the L1 terminology.

V.2 QUALITATIVE ANALYSIS OF THE TEACHERS CS UTTERANCES

The qualitative analysis reveals the use of CS for didactic purposes. The functions of each instance of CS has been identified based on the pedagogical interaction functions. The different functions identified and their codes are the following:

Table 7: pedagogical interaction functions

Request	reqt
Explanation	exp
Emphasis	emph
Instruction	inst
Filler	fill
Example	exa
Feedback	feedb
Approve	approv
Order	ord

Throughout the different recorded videos analyzed, the teachers switch from L1 to L2 or from L2 to L1 to make requests, give orders or instructions for a particular task. In addition, the research also reveals the use of CS when the teacher tend to clarify the course through explanation or emphasis on a particular aspect. Moreover, CS also appears when dealing with examples, feedback or approval of a students comment.

Some of the CS utterances which were not able to be categorized under the above pedagogical interaction function, and some of which seem to not convey didactic functions have been codified as follow:
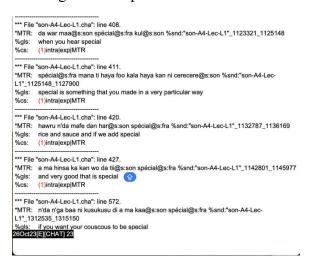
Table 8: other switching functions

Meta-term	mterm
Familiarity	fam
Solidarity	soli

Conjunction	conj

Considering the reading course in songhoy, it is based on a text in French and shows how the teacher makes use of CS to make the content accessible to pupils. The course is supposed to be in French, but because the teacher is going to pay attention to the pupils understanding and needs, the course may end up in the L1 as seen in the below example.

Fig. 2: an output of son-A4-lec-L1

During that reading course in Songhoy, both the teacher and the pupils have read the text in French. Following that, the teacher deals with an explanation of the text and possible difficult words in L1 through reformulations and explanations. As we can see in the picture above, the teacher is trying to explain, through the use of intra-sentential CS, what is meant by '*spécial*'. The different lines (line 408, 411, 420, 427) are intra-sentential CS utterances in Songhay which tend to give an explanation and picture of how couscous can be special. The focus being on the understanding of the term '*spécial*'.

In the last utterance of the screenshot (line 572), the teacher inserted the word '*spécial*' in an utterance in Songhoy not for the seek of explanation, but to call for the pupils metalinguistic awareness. Throughout the whole course, the teacher continues to insert the term '*spécial*' in Songhoy utterances as a key term. It is through explanation in L1, reformulation in L1 and pupils metalinguistic awareness activities of L2 terms that the switch was mostly done.

The reading course in Bambara shows different functions for the inserted items as opposed to the one in Songhoy. In fact, that second reading course have been recorded during an assessment day. Therefore, functions such as instruction, request or feedback were mostly used.

Fig. 3: an output of bam-A5-lec-L2

As mentioned above, this assessment day permits to capture other function different from reformulation or explanation. The teacher has been approving the answers or giving feedback in the L1. This signal the teacher intention to encourage and to motivate the pupils through the used of the mother tongue.

Another important element analyzed during this research is the use of meta-terms. The meta-terms refers here to specific terms used to talk or identify an element of language. When it comes to non linguistic courses, the meta-terms refers to key concept of the domain.

Fig. 4: an output of *son-A4-gram-L2*

The above figure is a screenshot of the grammar course in Songhoy. The course was dealing with the declarative, affirmative and negative sentences. Here too, the teacher makes use of explanation function to make clear the difference between the three types of sentences. The

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metalinguistic activities were also used. In addition, there was an important number of insertion of some meta-terms (*phrase, affirmative, negative, declarative*). Throughout the whole course, the teacher did not name the types of sentences in Songhoy. Even when he was explaining in L1, he always inserts the French terms into Songhoy utterances. These are maybe the most accessible terms compare to those in Songhoy or an unawareness of the terminology in L1. It is important to note that in bilingual classes, the L2 is acquired through comparison and reformulations between the two languages. Therefore, a mastery of the L1 meta-terms is essential for the fluidity of explanation and understanding of L2 meta-terms.

Similarly, during the course of calculation in Songhoy, the word '*nombre'* (number) have been used everywhere instead of the Songhoy based word as illustrated by the figure below.

Fig. 5: an output of son-A5-cal-L2

This illustration emphasis that the use of meta-terms does not only apply to linguistic courses, but also to non linguistic ones. Still the functions may be to make a request, reformulation or emphasis as shown in figure 4. The use of those meta-terms in L2 while speaking in L1 may then fulfill a didactic function when it applies to metalinguistic activities, or denote unfamiliarity with the L1 terminology. It the latest situation, such intra-sentential CS may lead to some linguistic gap in the L1.

Despite the pedagogical functions that may fulfill CS in bilingual classes, the study also reveals the use of some inserted items due to familiarity. For example, it appears that French conjunctions are largely used while speaking in L1.

Fig. 6: an output of bam-A4-bio-L1

These French conjunctions have there equivalence in the L1 but because people are familiar with their usage, they tend to replace the L1 based words. There is no didactic functions behind such intra-sentential CS items. There insertion is more a question of habit than anything else. The conjunctions are not the only category of word used in such CS context. During the biology course, the teacher inserted many times the French verb '*presser*' into Bambara utterances.
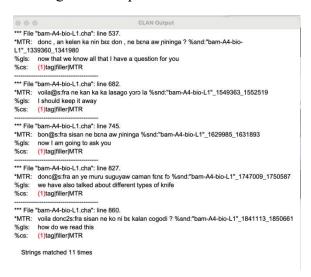
Fig. 7: an output of *bam-A4-bio-L1*

```
-----------------------------------------
From file <bam-A4-bio-L1.cha>
-----------------------------------------
*** File "bam-A4-bio-L1.cha": line 77.
*MTR:   aw bɛɛ bɛ ka perese@s:fra ko seli bɛna se yɔrɔ %snd:"bam-A4-bio-L1"_305936_311961
%gls:   you are all excited because soon it will be the feast
%cs:    (1)intra|fam|MTR
-----------------------------------------
*** File "bam-A4-bio-L1.cha": line 84.
*MTR:   mɔgɔw bɛ ka perese@s:fra munna seli kola ? %snd:"bam-A4-bio-L1"_315247_318498
%gls:   why is everyone excited about he feast
%cs:    (1)intra|fam|MTR
-----------------------------------------
*** File "bam-A4-bio-L1.cha": line 90.
*MTR:   mɔgo bɛ peresé@s:fra seliba la sogo de kama %snd:"bam-A4-bio-L1"_320251_326368
%gls:   people are excited for the Tabaski feast because of the meat
%cs:    (1)intra|fam|MTR
-----------------------------------------
*** File "bam-A4-bio-L1.cha": line 93.
*MTR:   mɔgo bɛ perese@s:fra seliba la sogo de kama %snd:"bam-A4-bio-L1"_326368_328758
%gls:   people are excited for the Tabaski feast because of the meat
%cs:    (1)intra|fam|MTR
```

Here too the insertion of such term in the context of the course has no didactic function. It is rather a question of familiarity. The use of the French expression '*estce que*' for request seems to be another instance. As a normal result of languages in contact, the functions attributed to CS in casual settings seem to be present in the classroom environment.

The extra-sentential CS composed of fillers and interjections also marked the speech of teachers. Those fillers are sometimes French conjunctions like *donc*, adverbs *voilà*, or French adjectives *bon*.

Fig. 8: an output of bam-A4-bio-L1

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                              CLAN Output
*** File "bam-A4-bio-L1.cha": line 537.
*MTR:   donc , an kelen ka nin bɛɛ don , ne bɛna aw ɲininga ? %snd:"bam-A4-bio-
L1"_1339360_1341980
%gls:   now that we know all that I have a question for you
%cs:    (1)tag|filler|MTR
-----------------------------------------
*** File "bam-A4-bio-L1.cha": line 682.
*MTR:   voila@s:fra ne kan ka ka lasago yɔrɔ la %snd:"bam-A4-bio-L1"_1549363_1552519
%gls:   I should keep it away
%cs:    (1)tag|filler|MTR
-----------------------------------------
*** File "bam-A4-bio-L1.cha": line 745.
*MTR:   bon@s:fra sisan ne bɛna aw ɲininga %snd:"bam-A4-bio-L1"_1629985_1631893
%gls:   now I am going to ask you
%cs:    (1)tag|filler|MTR
-----------------------------------------
*** File "bam-A4-bio-L1.cha": line 827.
*MTR:   donc@s:fra an ye muru suguyaw caman fɛnɛ fɔ %snd:"bam-A4-bio-L1"_1747009_1750587
%gls:   we have also talked about different types of knife
%cs:    (1)tag|filler|MTR
-----------------------------------------
*** File "bam-A4-bio-L1.cha": line 860.
*MTR:   voila donc2s:fra ne ko ni bɛ kalan cogodi ? %snd:"bam-A4-bio-L1"_1841113_1850661
%gls:   how do we read this
%cs:    (1)tag|filler|MTR

        Strings matched 11 times
```
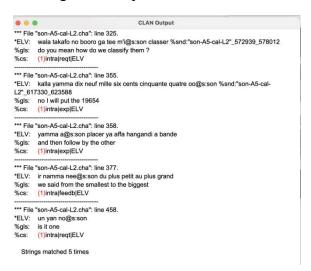
Those extra-sentential CS mostly occurs when the course is in the L1. Whereas, when the course is in L2, the extra-sentential CS items are mostly composed of interjections.

V.3. QUALITATIVE ANALYSIS OF PUPILS CS UTTERANCES

In all of the recorded videos analyzed for the present research, the teachers produced the number of utterances. They are the participants who interacted the most in the recorded videos under analysis. The pupils were only speaking when they were asked questions or requested to answer on the board.

Fig. 9: an output of son-A5-cal-L2

During the course of calculation, the pupils make use of intra-sentential CS to request for clarification (see line 325 above) and to give feedback (line 377) when they were asked a question. While on the board, they also give explanation of the procedure they follow to obtain a particular result as shown in line 355 and line 358 above.

When it comes to request to speak, in all of the analyses videos, the pupils made use of the French expression 'moi monsieur' regardless the language of the course. Only few of them have been using the L1 equivalences. The below figure shows an example.

Fig. 10: an output of bam-A4-bio-L1

The biology course was in Bambara, but the pupils asked for speaking using the French expression '*moi monsieur*'. That denote of their familiarity with that expression. Even when in

the line 482 the pupil asked for speech in Bambara '*ne*', he/she immediately switch to the French expression as well. Some of the pupils switching items also denote of a solidarity to the language used by the teacher.

VI. DISCUSSION

The analysis of the recorded videos shows that the teachers switch from L1 to L2 or from L2 to L1 to make requests, give orders or instructions. It is a good way to motivate and get pupils' involvements as mentioned in [5]: *''Les AC intraphrastiques et cellesinterphrastiques sous forme de questions sontemployées pour déclencher la participation des élèves à l'interaction[1]''* (p. 168).

In addition, the research also reveals that CS is used the for clarification of the course through explanation or emphasis on a particular aspect. Reference [7] found this function specifically when the teacher engaged in reformulation from L2 to L1. He states: *''Les reformulations interlingues, autrementditd'une langue à l'autre, sontrécurrentes dans la séquence, maisellessontexclusivement de la L2 vers la L1. Pour la plupart, ellesjouentunefonction de clarification du sens et d'explication[2]''* (p. 42). Moreover, CS also appears when dealing with examples, feedback or approval of a pupils' comment.

The pupils on there part tend to use CS during their feedback or when showing solidarity to the language used by the teacher to interact with them. Reference [5] says about pupils used of CS: *''Au niveau des élèves, les quelques AC produites constituent des réponses aux sollicitations de l'enseignant[3]''* (p. 169)

VII. CONCLUSION

Different types of CS are used in the classroom such as inter-sentential CS, intra-sentential CS and extra-sentential CS. It conveys different functions as well like: explanation, request, emphasis, feedback, reformulation. CS is an important element of bilingual education which usage need to be constrained to didactic purposes in the classroom context. It is to be used in a way to facilitate the learning and make the content more accessible to pupils. Some usages of CS which is not related to didactic functions need to be avoided.

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[1]Intra-sentential and inter-sentential CS as request are used to trigger pupils' participation
[2]Inter-sentential reformulations, in other words from one language to another, are recurrent in the sequence, but they are exclusively from L2 to L1. Most of them have the functions of clarification and explanation
[3] At the student level, the few CS produced constitute responses to requests from the teacher

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