



Thematic Approach of the Competition for Entrance to the First Year of the Secondary Level in the Cameroonian Education System

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The purpose of this thinking was to put at the service of the Cameroonian educational community an approach to the entrance examination to secondary school seen from an interdisciplinary angle. To do this, we carried out in turn a bibliographic work, data collection in the field, then data processing followed by the drafting of the final document. It appears that the Cameroonian education system is organized into two Subsystems. Regardless of the Subsystem, entry to secondary school is by competitive examination. Helping students to experience school on a daily

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basis is today a major challenge. The solution proposed here recommends a completely original approach, the thematic approach. It eliminates 'autarky' in favour of 'synergy' between events. The themes selected are as follows: Climate change, Fight against pandemics (case of HIV-AIDS), and Waste management. These themes relate to carefully chosen areas, in particular the climate, health, and the environment. The production of the tests to be offered to the candidates here must be based on the following requirements: Interdisciplinary approach for the solution of the situational problem, Strong implication of cultural elements in the content of the situations, Content of the situation modeled on the daily experience of the children of an age corresponding to that of the candidates, Possibility for the candidate to carry out completely original approaches, Clearly bring out the facts of everyday life which are perfectly in line with the themes, Giving the possibility to the candidates to establish plausible links between the plagues targeted for the occasion. This vision is revealed as a platform that gives the opportunity for scientific data and contextual data to travel together.

Keywords: Cameroon; education; secondary school; competition exam; Interdisciplinary; themes; 'Autarky'.

1. INTRODUCTION

'Autarky' is a reality that has always characterized the Cameroonian education system. Thus, the student evolves in a system where each subject counts for itself [1 and 2]. Thus, for the student, interdisciplinary thinking [3] is a completely unknown reality. As a result, we will notice on a daily basis that for the child, establishing links between school and the activities that mark his everyday life is a perilous activity. Consequently, it is illusory in such an environment to think about integrating and succeeding with entrepreneurial approaches. Indeed, leading an entrepreneurial approach requires perfect ease in interdisciplinary approaches [1]. This applies not only to the bringing together of the different disciplines in the teaching program, but also in teamwork. In the details of the subjects that furnish the school life of a pupil, it is important for him to be able from the outset to find the particularity of each of the subjects taken individually, the common points between these different subjects, then the place of each subject in the other. Thus, it will now be easy for him to solve with great ease various types of problems because, at this time, knowledge, whatever their degree of difference, are simply tools of a varied nature which, judiciously selected according to the context, allow you to find the doors outings regardless of the challenge [1]. In terms of the detail of teamwork, we find ourselves once again in the world of difference, even antagonism. As a result, the interdisciplinary approach presents itself as the best exit for young people to succeed in their life in the world of collaboration. Indeed, [4] show that in this universe, differences must be visualized as strengths. In this sense,

actors from various sides just have to be able to value the others as they are, and then to prepare themselves to associate harmoniously with them to form a perfectly regulated mosaic.

Therefore, the need of a more adequate school system in Cameroon made [5] to carry out studies on the possibility of readjusting the Cameroonian education system in order to allow easy integration of the young person into the professional world. Further, it proposes an interdisciplinary evaluation system, conducted by themes previously designed by the actors of the different Pedagogical Departments in force in secondary education institutions in Cameroon. For better monitoring of each student, [6] proposed a matrix to visualize the message conveyed implicitly by each mark obtained by the student at the end of an evaluation [2], in evaluating the impact of the interdisciplinary evaluative approach, discovered many advantages at the level of the different actors in academic life. All this being completely new for the student who finishes his primary course, it is quite logical to place this concept at the entrance to the secondary level which awaits him so that he can get an overview of the new reality which will furnish his academic life henceforth; This will be the entrance examination for the first year for Technical Education and the entrance examination for the first year of General Education for the French-speaking Subsystem, then the entrance examination for Form 1 General and Form 1 Technical for the Anglophone Subsystem. This is therefore the reason that justifies the establishment of this study.

2. MATERIALS AND METHODS

2.1 Materials

The Cameroonian education system is characterized by the juxtaposition of two Subsystems. These are the Anglophone Subsystem and the Francophone Subsystem [5]. In the two Subsystems, a distinction is made between general education and technical education [7]. Overall, the course highlights Kindergarten, Primary, Secondary, and Superior. Each of these levels is organized into levels. Thus, in the particular case of secondary school, the first level will be the first year in Technical Education, but the first year in General Education, as far as the Francophone Subsystem is concerned. Regarding the Anglophone Subsystem, the first level will be Form 1 (F1) Technical in Technical Education, but Form 1 General in General Education. To move from one level to another, the candidate is subject to a very specific examination (competition, certification examination or not).

Nursery education is reserved for children under the age of six. Primary education is for its part reserved for children whose age varies between 6 and 12 years. As for secondary education, children aged between 13 and 20 are welcomed there [8].

As part of the competition, which gives access to the first level of secondary school as a whole, candidates are submitted to the following tests: Mathematics, French and General Knowledge for the Francophone Subsystem, and Mathematics, English Language, and General Knowledge for the Anglophone Subsystem [9 and 10].

2.2 Methods

To achieve the target, field and laboratory works were carried out. Field work dealt with the interview of the different actors of primary education in Cameroon.

In detail, teachers interview helped to understand the different subjects as far as their specificities and their common points are concerned. For more details, laws governing the primary academic activities in Cameroon have been read. In addition, it was also a question here of investigating how evaluations are carried out until today in the primary academic system of

education in Cameroon. For this purpose, a visit was made to many schools across the country in order to learn about their different evaluation practices. From here, rose up also their impressions about their students.

Students interview help to gauge the reaction of learners in front of simulated situations in the event of integration activities and evaluation respectively. In the same vein, it helped also to see how they use they knowledge in real life situations.

Parents interview helped to know what they think about the reactions of their children in daily life situation in response to the various knowledge received.

Further, activities dealing with the development of a more relevant means of bringing closer the different subjects about which tests are proposed to students during their competitive entrance exams in the secondary level were performed. In this sense, according to the domains of life concerned by the different programs, three main themes were developed. Such orientations had the purpose of concretizing interdisciplinary in the competitive entrance exam in the secondary school.

Finally, teachers have been selected to produce the tests to which the candidates for the entrance examination to secondary school will be subjected, all Sub-systems combined.

3. RESULTS AND DISCUSSION

3.1 Description and Themes

3.1.1 Description

The vision proposed in the context of this study advocates a completely original approach. Indeed, it is no longer a question of subjecting the candidates to the entrance examination to secondary school, all sub-sections and specialties combined, to tests designed in an environment where autarky between the disciplines reigns completely as master, as underlined Fopoussi [1], and where the orientations are completely independent. It is in fact a question of putting this event in a context within which the groups of tests are led respectively by a breadcrumb trail as suggested by Plane [11]. In other words, it is one way among many to give the young student who knocks at the door of secondary school a glimpse of the reality that would henceforth make up his daily life.

3.1.2 Themes

A series of themes was then developed so that, intertwined on the one hand, then distributed on the other hand in the tests, the candidates could live in an interdisciplinary spirit, the analysis of the scourges highlighted. It should be noted that if these scourges seem different from each other at first glance, a more in-depth analysis could reveal many links between them. One of the challenges to be met with the tests in the context of a project like this is therefore to prepare young people entering secondary school to be able not only to carry out interdisciplinary reasoning, but also to be able to establish with ease the connections between facts which at first glance seem disjointed. This is linked to the findings of Fopoussi [6, 5,1, 2,12].

These themes relate to judiciously chosen areas. Indeed, these areas are: climate, health, and the environment. These are very sensitive sectors, the impact of which on other sectors no longer needs to be demonstrated according to Bertoldo [13]; these other sectors are, among others, nutrition, respiration, reproduction, housing, transport, safeguarding biodiversity, etc.

3.1.2.1 Climate change

We are here in the presence of the dysfunction of the century of the Earth's atmosphere. As Sergent [14] shows, this is one of the major consequences of human actions on the environment. From primary school, pupils are instructed in human activities; they are also informed about the positive and negative aspects of each group of actions that man carries out on a daily basis for the satisfaction of his basic needs. Further on, the manifestations of climate change are regularly presented to them, whether in a classroom situation by teachers, or outside the classroom by any other person who, according to the context, can take the responsibility of dragging the attention of children, passing through or present in a given place and at a specific time, on a few specific atmospheric facts.

Here, children applying for entry into first year General and 1st year technical education will have to produce work respectively in "Etude de texte", General Knowledge, then Mathematics (activity around a contextualized situation: "problème 1" and "problème 2"). As for students applying for entry into Form 1, they will be offered work in English language paper 2 (for English speakers), then in General Knowledge

(Table 1). In the case of the Anglophone Subsystem, the English Language Paper 2 test refers to activities related to Grammar and Vocabulary, then to Reading Comprehension.

3.1.2.2 Fighting against pandemics: case of HIV-AIDS

As before, health education is also a major part of the curriculum at the primary level. In response to the rise of what one might be tempted to call new diseases, particular emphasis is placed on pandemics. Here, the still worrying statistics about HIV-AIDS infection, according to WHO [15], has oriented the choice on this case among other pandemics. The work expected from students applying for entry into the 1st year of both Technical and General Education is related here to the production of text, General Knowledge, and "problème 3". In the detail of the production of a text, two topics are offered to choose from. For English speakers, it is Mathematics paper 2, English Language paper 1, and General Knowledge. In the details of English language Paper 1, candidates are offered activities around Composition writing. As for the Mathematic Paper 2 test, it is work that looks a little bit like work around a contextualized situation as experienced by Francophone (Table 1).

3.1.2.3 Waste management

Since the dawn of time, the functioning of human communities has always generated wastes. Their nature and quantity have evolved over the ages with technological advances. The differentiation of waste has greatly contributed to the evolution of ecosystems. In this sense, many research results on water [16], air [17], and soil [18] pollution are available.

Here, the work to be proposed to candidates for the entrance examination into the 1st year of Technical and General education concerns dictation, General Knowledge, "problème 4", and "problème 5". As for candidates for the competitive entrance exam into Form 1 General and Form 1 Technical, the activities offered to them are: English Language paper 1 and General Knowledge. In the detail of English Language paper 1, these are the Dictation and guided writing tests (Table 1).

3.2 Synthesis

In the Francophone Subsystem, the competitive entrance exam into the basic level of secondary

education concerns the First year of Technical and General Education. Here, mathematics test has two parts, namely the first part and the second part. The first part deals with fast calculation; As for the second part, it concerns the analysis of a situational problem or a series of situational problems. In the case of the second part, the candidate must develop logical reasoning in order to solve the problem or problems posed. This organization is a little bit comparable to that observed in the context of the entrance exam into Form 1 General and Form 1 Technical with regard to the Anglophone Subsystem. Indeed, we have here Mathematics Paper 1 (which reminds a little bit of fast calculation) and Mathematics Paper 2 (which reminds a little bit of situational problem solving). Looking at Table 1, we will see for the mathematics test that the second part is made up of five entities, in particular “problème 1”, “problème 2”, “problème 3”, “problème 4”, and “problème 5”. These different entities can be based on respective themes. But rarely, it can also happen that this part of the mathematics test is formed from a single entity at the base, but which branches out later.

The facts observed in the organization and in the packing of the mathematics test proposed as part

of the entrance examination to the basic level of secondary education are in accordance with the cohabitation of the two education subsystems in force in Cameroon as [5] points out. Indeed, these two subsystems of education which animate the educational environment of Cameroon are characterized by many particularities on the one hand, then by local similarities on the other hand, as underlined by Ekomo [19] and Fopoussi [12].

The work that is offered here to candidates as part of the language assessment (Text study, Dictation, written production on the one hand, then English Language Paper 2 and English Language paper 1 on the other hand) has to enable them to discuss the various phenomena identified by the themes selected for this project. In detail, it is a question of seeing their ability to manipulate the technical terms specific to the areas targeted. It is also a question of getting them to try their hand at proposing means of combating the scourges highlighted. It is further a question of seeing how they can establish connections between the different scourges carried by the themes developed. Such an approach is in line with the concept of Competence Base Approach (CBA) as presented by Etienne and Gutnik [20].

Table 1. Summary of the various inputs necessary for the success of the project

Guiding themes	Tests	Targets	Examiner
Climate change	« Etude de Texte »	Candidates for competitive entrance examination into 1st year technical education and 1 st year General Education (Francophone Subsystem)	Teacher 1
	English Language paper 2	Candidates for competitive entrance exam into Form 1 General and Form 1 Technical (Anglophone Subsystem)	Teacher 2 and Teacher 3
	« Problème 1 »	Candidates for competitive entrance exam into 1st year technical education and 1 st year General education (Francophone Subsystem)	Teacher 4
	« Problème 2 »	Candidates for competitive entrance exam into 1st year technical education and 1 st year General education (Francophone Subsystem)	Teacher 5
	General knowledge	Candidate for competitive entrance exam into Form 1 (General and Technical) (Anglophone Subsystem), 1st year technical education and 1 st	Teacher 6, Teacher 7, and Teacher 8

Guiding themes	Tests	Targets	Examiner
		year General education (Francophone Subsystem)	
Fighting against HIV-AIDS pandemy	« Production d'écrit sujet 1 »	Candidates for competitive entrance examination into 1st year technical education and 1 st year General Education (Francophone Subsystem)	Teacher 9
	« Production d'écrit sujet 2 »	Candidates for competitive entrance examination into 1st year technical education and 1 st year General Education (Francophone Subsystem)	Teacher 10
	English language paper1	Candidates for competitive entrance exam into Form 1 General and Form 1 Technical	Teacher 11
	« Problème 3 »	Candidates for competitive entrance examination into 1st year technical education and 1 st year General Education (Francophone Subsystem)	Teacher 12
	Mathematics paper 2	Candidates for competitive entrance exam into Form 1 General and Form 1 Technical	Teacher 13 and Teacher 14
	General knowledge	Candidate for competitive entrance exam into Form 1 (General and Technical) (Anglophone Subsystem), 1st year technical education and 1 st year General education (Francophone Subsystem)	Teacher 15, Teacher 16 and Teacher 17
Waste management	“Dictée”	Candidates for competitive entrance examination into 1st year technical education and 1 st year General Education (Francophone Subsystem)	Teacher 18
	English Language Paper 1	Candidates for competitive entrance exam into Form 1 General and Form 1 Technical	Teacher 19
	« Problème 4”	Candidats au concours d'entrée en 1 ^{ère} Année enseignement technique et 6 ^e	Teacher 20
	« Problème 5 »	Candidats au concours d'entrée en 1 ^{ère} Année enseignement technique et 6 ^e	Teacher 21
	General knowledge	Candidate for competitive entrance exam into Form 1 (General and Technical) (Anglophone Subsystem), 1st year technical education and 1 st year General education (Francophone Subsystem)	Teacher 22, Teacher 23 and Teacher 24

With regard to General Knowledge, it is a question of verifying how far the candidates would have acquired knowledge around the fields indexed by the themes selected for this purpose. This is what one might be tempted to consider as an evaluation of knowledge if one refers to the analyzes of Jurado [21].

Concerning the work to be done in mathematics ("problème 1", "problème 2", "problème 3", "problème 4", and "problème 5"), it aims to highlight the ability of children to use their mathematical knowledge in order to determine the magnitudes related to the causes and the consequences of plagues indexed over a given period. These include, among other things, the percentages of the elements responsible for the problems, the rate of the elements affected, the speed of propagation on a given surface, the size of the populations exposed, the quantities of products necessary at a given time and in a precise place, quantities of money necessary to face the difficulties; this include also the aptitude to make projections on the intensity of the problems which can be induced by the phenomena targeted here. It is then a question of gradually guiding the child towards the exit door from the context where the idea of doing mathematics for mathematics has always reigned supreme, and this for the benefit of universes where we do mathematics for life. This approach is consistent with the core of the Skills Approach as highlighted by Blanquer [22], Fopoussi [1], among others.

3.3 Contribution of Colleagues

In each of the two subsystems, duly chosen teachers were each given the responsibility of building a piece of the work to be offered to the students as showed in Table 1. To do this, a list of requirements was made available to said teachers. These requirements are as follows :

- **Interdisciplinary approach for the solution of the situation.** Indeed, the candidate will be called upon to always handle a set of knowledge which may be very different, but which, put together harmoniously, can help him in life to overcome difficulties of various kinds. This is the basis of the analyzes of Leleu-Galland [23];
- **Strong involvement of cultural elements in the content of the situations.** Nowadays, Cameroonian youth is

increasingly losing its bearings as far as culture is concerned, as Fopoussi [24-26] point out. Therefore, to remedy this, all opportunities to make young people think about issues related to culture should be judiciously exploited for this purpose;

- **Content of the situation modeled on the daily experience of children of the age corresponding to that of the candidates.** Life in Cameroon is sufficiently rich in events of all kinds which always require to be explained on scientific and logical bases. It is therefore important to make the candidates relive some of these life situations through the tests, then to give them the opportunity to try to manipulate these facts with the help of their different knowledge. This then verifies the concept of school for life as advocated by Baatouche [27] in his analysis of the skills-based approach;
- **Possibility for the candidate to carry out completely original approaches.** It is a question here of giving the opportunity to these young people to show originality. It is in doing so that everyone learns to mark their time by developing a label as noted by Toniolo [28];
- **Clearly highlight everyday facts that fit perfectly with the themes.** The purpose of this requirement is to allow the candidate to see the clear link that exists between everyday life and school. In fact, according to Fopoussi [5], it is not always easy, even for adults, to establish this bridge, which should nevertheless be obvious, between the actions that are commonly performed and the scientific reasons that justify their occurrence. [29] then justifies this state of affairs by brandishing the academic culture imposed by the colonists;
- **Give candidates the opportunity to establish plausible links between the scourges targeted for the occasion.** In our daily lives, the links of cause and effect are legion. Thus, in the concept of the school for the economic emergence of Cameroon as developed by Fopoussi [25], it is important that each young person is able to develop a networked reasoning system, allowing him to establish solid links and logic between different facts that can follow one another at a given time in a specific place.

4. CONCLUSION

The Cameroonian education system is organized into two subsystems. Regardless of the Subsystem, entry to secondary school is by competitive exam. Helping students to experience school on a daily basis is today a major challenge. The solution proposed here recommends a completely original approach, known here as thematic approach. It eliminates autarky in favor of synergy between events. The themes selected are as follows: Climate change, Fight against pandemics (case of HIV-AIDS), and Waste management. These themes relate to carefully chosen areas, in particular the climate, health, and the environment. The production of the tests to be offered to the candidates here must be based on the following requirements: Interdisciplinary approach for the solution of the situational problem, Strong implication of cultural elements in the content of the situations, Content of the situation modeled on the daily experience of the children of an age corresponding to that of the candidates, Possibility for the candidate to carry out completely original approaches, Clearly bring out the daily facts which are perfectly in line with the themes, Giving the possibility to the candidates to establish plausible links between the targeted scourges for the occasion. This vision is revealed itself as a platform that gives the opportunity for scientific data and contextual data to travel together.

5. RECOMMENDATION

To evolve easily in this new logic, the preparation of the various actors of education in Cameroon is unconditional (parents, teaching and support staff, students, etc.). The ideal level for the beginning of this preparation in terms of students is the language initiation section in the Francophone Subsystem; In the Anglophone Subsystem, this level corresponds to Class one.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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