

Motivational Dynamics and Cognitive Engagement Among Undergraduate Students at the University of Douala



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Abstract

Aim: Completing a course of study at university is what entitles students to a degree. However, the phenomenon of cognitive drop-out has been on the rise in our campuses. Students are preferring to avoid class time and not taking notes when they are in the lecture hall, *let alone* doing a TPE or TD, or even the CC. This research aims to examine the extent to which motivational dynamics of learning influence the cognitive engagement of undergraduate students at the University of Douala.

Methods: This study was guided by the self-determination theory developed by (Deci and Ryan 2000). The study employed a structured quantitative questionnaire administered to 135 undergraduate students across two campuses of the University of Douala who are not regularly active in teaching. They voluntarily agreed to take part in the study. The data collected was analysed using SPSS software and verified using Chi-square.

Results: Findings revealed statistically significant relationships between different forms of motivational dynamics and students' levels of cognitive engagement, suggesting that internal and external motivational factors play a key role in learning behavior.

Conclusion: These results indicate the importance of promoting motivational strategies to enhance students' cognitive engagement, with implications for teaching practices and academic policy at the University of Douala.

Recommendations: It is recommended that university instructors and administrators integrate motivation-enhancing interventions to reduce cognitive disengagement among undergraduates.

Keywords: *Motivational dynamics, cognitive engagement, undergraduate students, higher education.*

BACKGROUND TO THE STUDY

The end of secondary education is generally marked by the award of a baccalaureate, which opens the doors to higher education in Cameroon. This marks the beginning of a very sensitive period in student life. The thought of university orientation is a major preoccupation for new students and their parents alike. In the best of cases, the choice is made based on the learner's aspirations or their parents'/guardians' decision, and in the worst of cases is the result of "non-autonomous decision-making due to peer or societal influence." After that, the enthusiasm of the first few weeks is almost always marked by the presence of almost all the students enrolled in the course. However, by the time the first two months of classes have passed and the trial gallops have begun, some students have lost interest. Others have already dropped out; some arrive on campus at class time but are absent from the lecture halls. And even among those who are in the lecture halls, some are not interested in the lessons being taught. There is a gradual decline in the number of students enrolled after the results of each assessment are published. Losses, drop-outs, and/or repeats can be considered consequences of cognitive disengagement of learners in the undergraduate course.

Statement of the Problem

Many teachers make syllabi and course materials available to students at the start of the semester. This is done to clearly define course objectives and enable students to follow the progress of their lessons with confidence. It also enables students to anticipate, through their personal research, the content of course concepts/notions even before they are addressed by the teacher. Progressive teaching in the Skinnerian sense is thus given priority in the semester-long curriculum. As a result, students feel obliged to regularly deploy cognitive strategies to grasp the lessons. From the start of the semester, they must adopt the attitudes that will enable them to evolve at the same level as the teacher. This is made possible through several activities, such as attending lectures, practising personal work (TPE), actively attending tutorials (TD), and practising practical work (TP). To achieve this, the student needs to develop motivation, which is one of the most important factors for success at school.

According to Dörnyei (2001), motivation is a phenomenon that explains why people decide to do something, how much they are willing to invest to achieve the goal, and how much time people are willing to devote to the activity. To maintain this motivational state, the student needs to develop numerous adaptive strategies, given that the stimuli present in his or her environment vary. Hence the need to develop a motivational dynamic, defined by Viau (1997) as the perceptions that a student has of himself and his environment, and which prompt him to choose an activity, commit to it, and persevere in carrying it out to achieve a goal. This definition makes it clear that achieving the goals a learner has set for him/herself requires a certain amount of determination. Motivation therefore occupies a central place in the skills acquisition process. So students who want to succeed must constantly find reasons within themselves and around them to keep the learning flame burning. In this way, students should be ready to face the end-of-semester assessments. However, we've noticed that it's only when the timetable for the semester assessments is known that some students look for the course materials made available to them at the beginning of the year, and want to know the content of the TPE, TD, TP.

Research Objectives

The main objective is: to verify whether motivational dynamics influence the cognitive engagement of undergraduate students at the University of Douala.

Specific Objectives

1. To verify whether the value given to the task influences the cognitive engagement of undergraduate students at the University of Douala.
2. To verify whether the feeling of competence influences the cognitive engagement of undergraduate students at the University of Douala.
3. To verify whether the feeling of controllability influences the cognitive engagement of undergraduate students at the University of Douala.

LITERATURE REVIEW

According to Dörnyei (2001), motivation is a phenomenon that explains why people decide to do something, how much they are willing to invest in achieving the goal, and how much time people are willing to devote to the activity. The degree of motivation towards a situation varies according to how we analyze the situation at hand. Environmental stimuli contribute to the fluctuation of motivational dynamics. According to Viau (2009), there are four categories of factors that influence students' motivational dynamics:

Factors relating to the student's life include the learner's family and peers. In addition to the school environment, learners come from a family background and may also frequent peer groups. Each of these environments has an impact on the learner's commitment to school. The family environment has a positive or negative influence on a child's motivational dynamics. A child from a family where school is perceived as a real opportunity to learn and develop as an adult will certainly be more motivated Sinoir (2017). The demands of different families will also have an influence in that if these are too high, the child won't be able to achieve them, will become frustrated and demotivated. Demands are beneficial if they are realistic, adapted to the child's abilities (Viau, 2009).

Social factors are the values promoted in the learner's environment, laws and culture. If the people society presents as models of success have not been educated, learners will be disinterested in school (Douanla, 2021). School-related factors include school regulations and even class timetables. The school is an institution with its own operating rules. It is responsible for providing learners with a complete education. This training requires the institution to use strict measures to ensure order and discipline. These measures may be judged too strict by the student, and therefore constitute obstacles to his or her personal development.

Classroom factors are made up of the teacher's attitude. This is one of the key factors influencing motivational dynamics in students. The teacher must develop a set of attitudes that can act as sources of motivation for the learner. For example, they need to master the lesson they're teaching and value their students by showing gratitude for their efforts. They must also encourage learners to work in groups. His teaching must be adapted to the needs of students and the world of employment. How he assesses students, and even rewards and sanctions, are all sources of motivation that come from the teacher. We mustn't forget to mention the classroom climate, which is also an important factor in motivating learners. Pedagogical activities must enable students to take an active role in their learning.

They must have clear goals and instructions, be meaningful for students: it must be of value to the student, lead to the realization of an authentic product, be diversified and integrated with other activities, represent a challenge, require cognitive engagement, empower the student by making choices, enable the student to interact and collaborate with others, be interdisciplinary in nature, take place over a sufficient period Sinoir (2017). The classroom climate: several

conditions are desirable to make the climate favorable to motivation; good discipline management, organization of space, sense of justice, relationships with and between students accentuated, etc. Sinoir (2017). Pupils who feel part of a school, a class, or a group will be more easily motivated, because they will probably feel more easily helped if they encounter difficulties, they will take more pleasure in working, and they will collaborate more.

Academic motivation is a phenomenon rooted in students' perceptions of themselves and their environment, which results in their choosing to engage in and persevere with a proposed learning activity, with the aim of learning (Viau 2009). When we engage in an activity, we often encounter difficulties that can hinder completion. But these moments of low attention are followed by moments of high commitment, and it is in this that we can observe perseverance in its realization. It is for this reason that motivation is seen as a dynamic process that is changing, evolving and complex: hence the new term "motivational dynamics" (Eccles and Wigfield, 2000). Motivational dynamics in learning depend on the interaction of three main determinants. According to Viau (1994), these determinants are directly influenced by the student's context. As such, they correspond to how the student perceives the teaching and learning activities he or she has to perform:

The first component refers to the value placed on the task. It's a judgment that the student makes about the usefulness of the task to be carried out to achieve the goals he or she is pursuing. This perception has its origins in the goals pursued by the student: social goals, academic goals, and distant goals. Academic goals are made up of learning goals and/or performance goals. Optimal motivation consists of learning and performance goals, insofar as these two types of goals lead the student to engage in an activity rather than try to avoid it (Brophy, 2004). To increase the perceived value of an activity, the teacher must present the main and secondary objectives of the teaching unit at the start of each lesson. This is done to enable the student to perceive the importance of the course. The aim is to motivate a learner to become deeply involved in the activities that will lead to the development of skills. By being convinced that a teaching unit is useful, the learner's motivation is greater and deeper. Perception will be influenced by the interest and usefulness of the activity (Viau, 1999). Interest will be fully linked to the student's intrinsic pleasure, what interests him or her, what he or she enjoys doing, while utility will highlight the potential benefits to be derived from the activity.

The second component refers to the feeling of competence to perform an activity. Here, the student will assess personal sense of self-efficacy, which Bandura (2003) refers to as individuals' beliefs about their ability to perform a particular task. The feeling of competence influences the choice of activity and environment, the subject's investment in the pursuit of the set goals, the persistence of personal effort, and the emotional reactions experienced when encountering obstacles. Perceived competence is an important source of motivation. If it is positive, the student will be much more willing to engage in the activity and persevere in its achievement. It's not enough for students to assess their skills before embarking on an activity. They must also analyze the contribution of external support, such as that provided by peers, parents, elders and even teachers, before embarking on an activity. Perceptions of competence determine, in particular, the quality of motivation as well as the individual's level of commitment and perseverance in the face of difficulty (Leroy *et al.*, 2013). It is influenced by several factors. Bandura distinguishes factors relating to previous experiences (successes and failures), observations of other students, physiological and emotional states, and verbal persuasion.

The third determinant refers to the feeling of controllability of the activity, which Viau (1994) considers to be a student's perception of the degree of control over the course and consequences of an activity proposed to him or her. When students are given a task, they evaluate their ability to control it. If they feel they have mastered the process, or even just a part of it, they can embark on solving it. Students must have a certain amount of freedom in their learning. They can organize their study schedule to suit their individual needs. They must be able to make certain choices, which will increase their perception of the controllability of educational situations. For example, to have a documentary analysis, the teacher can allow the student to choose a theme to work with, but this theme must be related to the chapter being studied. Offering students the choice between four documentary research themes that they immediately consider useless or uninteresting will have less effect on their cognitive engagement than the possibility of choosing a theme that appeals to them while respecting rigorous requirements (Viau, 2009).

It's important to specify that there is intrinsic motivation and extrinsic motivation. The former is linked to the learner's predispositions. It is characterized by the learner's curiosity to discover and understand the world around them through learning. Everything depends on the learner, who can adapt to the demands of school at any time. Intrinsic motivation is that which lasts over time. It resists all difficulties and persists until the learner achieves his or her objective. This is because achieving the goal the student has set is seen as a fine reward for the efforts made. It's for this reason that (Meirieu, 2014) asserts that it's the student who holds the power, because no one can force him or her to mobilize on knowledge. In other words, learners who develop internal motivation don't need external factors to stay focused on their learning. But the presence of external factors can fuel the learner's commitment, even if only slightly.

The second type of external motivation. Here we understand that learners don't motivate themselves; they need external forces to motivate them to engage in learning. What's needed is a source external to the learner that will compel him or her to commit to learning. This could be parents, who insist that the learner concentrates. Or the teacher may use motivational methods to compel the learner to commit to learning. In this case, the phenomenon of reward is very important in nurturing this type of motivation. This is why extrinsically-motivated learners will seek to succeed to please the motivational source. Extrinsic motivation can only be envisaged in the short term, because once there is no longer an external goal, it disappears, (Fenouillet and Lieury, 2012). From the above, we can recognize that motivation is a source of energy that fuels learners' cognitive engagement.

Cognitive engagement refers to the student's responsibility for the success of his or her studies, the extent of his or her investment and the effort devoted to his or her work as a student (Conseil supérieur de l'éducation, 2008). Miller *et al*, (1996) define cognitive engagement as a construct that measures the cognitive strategies deployed to learn, reflections on how best to learn, and the mental effort mobilized to order strategies and reflections for learning. Engagement is the systematic and regular use of learning strategies. Levels of cognitive engagement are classified according to the cognitive effort required by the student. Cognitive engagement is correlated with students' desire for mastery while low cognitive engagement is correlated with surface learning resulting from a desire to perform (Dinsmore and Alexander, 2012). The cognitive dimension of engagement is defined by the degree of intellectual investment as the use of cognitive and metacognitive strategies by the student during learning (Greene, 2015). Cognitive engagement is therefore characterized by the decision to engage (their degree of interest in their courses), the intensity of this engagement

(for example, the number of hours they spend studying), and persistence in the task (such as their good study habits). When faced with school activities, students can choose to engage or not. The first behavior of a motivated student when faced with school activities is to choose to do these activities even if the tasks are difficult; they persist in completing them (Venturini 2006).

Theoretical framework: Self-determination Theory

For Deci and Ryan (1985), self-determination is an innate tendency expressed in every human being, regardless of their characteristics. For these authors, the need for self-determination is linked to the need for competence (feeling capable, effective) and social belonging (being accepted, loved). Meeting these needs can then be facilitated or hindered by the social context. Different studies in various fields have described the benefits of adequately meeting the need for self-determination. Self-determination theory suggests that satisfying the needs for autonomy, competence, and relatedness leads to increased intrinsic motivation, which is associated with high levels of performance and job satisfaction (Deci and Ryan, 2000). Self-determination is a key element in students' educational success. For Ryan and Deci (2017), it is a combination of skills, knowledge, and beliefs that allows them to meet their needs, identify and achieve their goals, and make choices uninfluenced by those around them. For teachers, encouraging self-determination is a long-term development goal that should inform their pedagogical decisions (Bergeron, 2012). It also provides a better understanding of the links between student motivation and teaching practices (Guay *et al.* 2012). Autonomy involves students in decisions about how the classroom operates. If students can draw on everyday situations to model problem-solving. Competence is making students feel that you believe in them. It's important to consider everyone's strengths and interests. Valuing collective success is equally beneficial for the group.

STUDY METHODOLOGY

The study was conducted at the University of Douala. The research design used here is a cause-and-consequence study. The research aims to establish a cause-and-consequence link between motivational dynamics and learners' cognitive engagement. It adopted a quantitative questionnaire approach. The questionnaire consists of three parts. The first part measures the respondents' socio-demographic characteristics. It is made up of four items ; age, gender, level of study and grade repetition. The second part, which measures motivational dynamics, is made up of 8 items measuring the value placed on the task, 9 items measuring the feeling of competence in carrying out an activity and 9 items measuring the feeling of controllability of the activity. The third part consists of 7 items measuring students' cognitive engagement.

The study population was undergraduate students who are most often absent and have already had to repeat at least one class since their enrolment at the University of Douala. Purposive sampling was employed to target students with a history of academic disengagement. To make contact with these students, class delegates and the teachers responsible for each level were called upon. Participants were recruited via class delegates and teachers responsible for student records. The students were summoned, but some did not respond. For those who did attend, we explained the purpose of the study and obtained their consent to participate, before providing them with our questionnaire to complete. Once the data had been collected, we processed it using SPSS software. Hypotheses will be tested using chi-square.

Presentation of data on respondents' socio-demographic characteristics

Socio-demographic data are presented in Table 1. It provide information on five items, namely ; the respondent's gender, age, grade repetition and level of education.

Table 1: Presentation of Socio-demographic Data

Items	Modalities	Number	Total
Sex of respondent	Male	84	135
	Female	51	
Age of respondent	18 - 20 years old	21	135
	21 - 23 years old	22	
	24 - 26 years old	42	
	27 - 30 years old	34	
	30 and over	16	
Repeat	1	38	135
	2	63	
	3	34	
Study level	L1	26	135
	L2	56	
	L3	54	

Out of 135 students, 62% were male. The largest age group was 24–26 years (31%), followed by 27–30 years (25%). The item measuring the level of study reveals that levels 2 and 3 are more represented in our sample, with 56 and 54 students respectively. Level 1 students number 26. Having presented the data on socio-demographic characteristics, we will now calculate the validity and reliability of our data collection instrument, using the KMO index, Bartlett's test and Cronbach's Alpha.

Calculating the validity and reliability of our survey instrument

Calculation of KMO index and Bartlett's test is shown in the Table 2.

Table 2: KMO index and Bartlett test

Test	Value
Precision measurement of Kaiser-Meyer-Olkin sampling.	0.634
Bartlett sphericity test	Approximate chi-square
	Ddl
	Bartlett's significance
	6364.930
	3003
	0.000

Source: SPSS Version 21.

Data were collected on a 37-item questionnaire assessing the motivational dynamics and cognitive engagement of students at the University of Douala. Overall analysis of the scale gave us a KMO index of 0.634 and Bartlett's test of sphericity was significant with $p = 0.000$. This is an indicator of average validity in terms of quality.

Calculation of Questionnaire Reliability

The overall reliability of our data collection instrument is calculated using Cronbach's Alpha.

Table 3: Overall reliability of the questionnaire

Cronbach's Alpha	Cronbach's Alpha based on standardized items	Number of items
0.842	0.805	37

Source: SPSS Version 21.

Reading the above table gives us the value of Cronbach's Alpha, which is 0.842, well above the acceptable threshold of 0.5 defined by Pédhazur (1997).

STUDY RESULTS

This section presents the results of the three research hypotheses using chi-square analysis.

Verification of the Results of Research Question 1

HR1: The value assigned to the task influences the cognitive engagement of undergraduate students at the University of Douala.

Calculation of the number of degrees of freedom (ddl) and chi-square reading

Ddl = 14 for RH1. According to the chi-square table, this corresponds to an $X^2_{(read)}$ of 23.68.

Compilation of statistical data and calculation of X^2 (Chi-square). Presentation of the cross-tabulation table for Hypothesis 1

Table 4: Cross-tabulation of the Education Received can Contribute to your Future Professional Development Against Always Putting in the Extra Effort by the Student to Solve a Teaching Exercise

		Always put in the extra effort by the student to solve a pedagogical exercise.			Total
		NR	Yes	No	
The teaching you received can contribute to your future professional development.	NR	2	0	1	3
	Strongly disagree	1	8	10	19
	Strongly disagree	0	4	9	13
	Agree	1	8	10	19
	Agree	0	3	9	12
	Agree	0	6	8	14
	Strongly agree	1	3	11	15
	Strongly agree	2	21	17	40
Total		7	53	75	135

Source: SPSS Version 25

About the above table, we note that 19 students stated that they neither strongly nor slightly agree that the education they received can contribute to their future professional development. 13 on the other hand agree very little that the teaching they have received can contribute to their future professional development. 40% strongly agree that the education they received can contribute to their future professional development. In the same sample of subjects, 7 participants did not answer this item. 53 said they always put in the extra effort to solve a teaching exercise. Finally, 75 students said they never put in the extra effort to solve a pedagogical exercise. Table 5 shows the calculated chi-square values.

Calculation of the chi-square test for research hypothesis 1

We present the results of the calculated chi-square test in Table 5.

Table 5: Chi-square Tests for Hypothesis 1

	Value	Ddl	Asymptotic significance (two-tailed)
Pearson chi-square	32,991 ^a	14	,003
Likelihood ratio	21,056	14	,100
Linear by linear association	,019	1	,890
Number of valid observations	135		

a. 11 cells (45.8%) have a theoretical size of less than 5. The minimum theoretical size is .16.

Source: SPSS version 25

The chi-square index between the variables in this hypothesis is 32.99. This indicates a calculated chi-square: $X^2_{cal} = 32.99$ between these variables. We have: $X^{(2)}_{(cal)} = 32.99 > X^{(2)}_{(lu)} = 23.68$. This confirms our research hypothesis. The results show that students who agreed that their education contributes to their professional development were more likely to report making extra effort in pedagogical tasks.

Verification of the Results of Research Question N°2

HR2: The feeling of competence influences the cognitive engagement of undergraduate students at the University of Douala. Calculation of the number of degrees of freedom (ddl) and chi-square reading. The ddl = 14 for HR2. According to the chi-square table, this corresponds to 23.68. Below is cross-tabulation of Hypothesis 2.

Table 6: Crosstabulation: Being Able to Adapt to Different Teaching Methods Used by the Teacher Against Always Put in Extra Effort by the Student to Solve a Teaching Exercise.

		Always make the extra effort required by the student to solve a pedagogical exercise.			Total
		NR	Yes	No	
Be able to adapt to the different teaching methods used by the teacher.	NR	2	1	1	4
	Strongly disagree	2	28	32	62
	Strongly disagree	0	1	4	5
	Agree	0	1	5	6

Agree	0	3	10	13
Agree	0	4	4	8
Strongly agree	1	6	12	19
Strongly agree	2	9	7	18
Total	7	53	75	135

Source: SPSS Version 25

About the above table, we note that 4 out of 135 participants did not take a position here, 62 respondents strongly disagreed about being able to adapt to the different teaching methods used by the teacher, 5 respondents strongly disagreed, 6 respondents somewhat agreed, 13 respondents moderately agreed, 8 somewhat agreed, 19 respondents strongly agreed and finally, 18 respondents strongly agreed. In the same sample of subjects, 7 participants did not answer this item. 53 students always made the extra effort to solve a pedagogical exercise and 75 respondents did not. In the following, we present the calculated chi-square results of the second research hypothesis.

Table 7: Chi-square Tests for Hypothesis 2

	Value	Ddl	Asymptotic (two-tailed)	significance
Pearson chi-square	27,184 ^a	14	,018	
Likelihood ratio	19,024	14	,164	
Linear by linear association	,007	1	,932	
Number of valid observations	135			

a. 16 cells (66.7%) have a theoretical size of less than 5. The minimum theoretical size is .21.

Source: SPSS Version 21.

The chi-square index between the variables of this hypothesis is 27.18. This indicates a calculated Chi-square: $X^2_{cal} = 27.18$ between these variables. We have: $X^{(2)}_{(cal)} = 27.18 > X^{(2)}_{(lu)} = 23.68$. On the basis of these results, we can say that research hypothesis two is confirmed. We conclude that the feeling of competence influences the cognitive engagement of undergraduate students at the University of Douala. We will now present the results of the third research hypothesis.

Verification of the Results of Research Hypothesis N⁰3 :

HR3: The feeling of controllability influences the cognitive engagement of undergraduate students at the University of Douala. With a ddl = 14 for HR3. The Chi-square reading therefore corresponds to $X^{(2)}_{(lu)}$ of 23.68. Cross-tabulation of hypothesis 3 is presented below.

Cross-tabulation 8: The strategies I use to solve a problem enable me to control the course of this activity * Always deploy the extra effort by the student to solve a pedagogical exercise.

		<u>Always deploy the extra effort by the student to solve a pedagogical exercise.</u>			Total
		NR	Yes	No	
The strategies I use to solve a problem allow me to control the progress of the activity.	NR	2	0	2	4
	Strongly disagree	0	7	12	19
	Strongly disagree	1	3	8	12
	Agree	0	1	7	8
	Agree	1	9	6	16
	Agree	0	10	11	21
	Strongly agree	1	5	7	13
	Strongly agree	2	18	22	42
Total		7	53	75	135

Source: SPSS Version 21.

About the above table, we note that 4 participants out of 135 did not take a position here, 19 of our respondents strongly disagreed that the strategies they use to solve a problem enable them to control the course of this activity, 12 participants strongly disagreed, 8 somewhat agreed, 16 participants moderately agreed, 21 participants somewhat agreed, 13 participants strongly agreed and finally, 42 participants strongly agreed. In the same sample of subjects, 7 participants did not answer this item. 53 students always made the extra effort to solve a pedagogical exercise and 75 respondents did not. The calculated chi-square test for Research Hypothesis 3 is presented in the following table. In Table 9, the results of the calculated chi-square test is presented.

Table 9: Chi-square Tests

	Value	Ddl	Asymptotic significance (two-tailed)
Pearson Chi-square	26.805 ^a	14	0.020
Likelihood ratio	21.130	14	0.098
Linear by linear association	0.270	1	0.603
Number of valid observations	135		

a. 13 cells (54.2%) have a theoretical size of less than 5. The minimum theoretical size is .21.

Source: SPSS Version

The chi-square index between the variables of this hypothesis is 26.80. This indicates a calculated chi-square: $X^2_{cal} = 26.80$ between these variables. $X^{(2)}_{cal} = 26.80 > X^{(2)}_{lu} = 23.68$. The results suggest that research hypothesis three is confirmed. We can conclude that the feeling of controllability influences the cognitive engagement of undergraduate students at the University of Douala. After presenting the results of our study, we will now discuss the findings.

DISCUSSION OF RESULTS

Analysis shows that the perception of the value of an activity influences the cognitive engagement of undergraduate learners at the University of Douala. This result can be explained by the fact that perception is an individual process of information processing. During this process, the individual assesses the need to perform an activity. If it proves useful, he or she will engage in it. This result is in line with that of Neuville *et al.* (2004) who demonstrated that a learner who perceives the task as having value in terms of usefulness, interest and importance will be more committed. Intrinsic motivation is an internal state or condition that activates, directs or maintains behavior (Pronovost *et al.*, 2017). For this reason, the value the student places on learning will determine his or her degree of cognitive commitment to his or her studies. This is why the need for self-determination is also strongly linked to human motivation (Deci *et al.*, 1985). This self-determined motivation means that students act deliberately, according to their interests, values and goals.

The analysis also led to the conclusion that students' sense of personal competence influences their cognitive engagement. The feeling of a greater degree of control over tasks is a personal resource that fuels the desire to carry out a task, whatever its nature. This result corroborates the work of Bandura (1986), who believes that active mastery experience, vicarious experience, verbal persuasion, physiological and emotional states are factors that contribute to the development of a sense of personal efficacy. It should be noted that if the feeling of competence is associated with other facets of school motivation, such as school attractiveness or willingness to learn, it gradually and significantly decreases (Genoud *et al.*, 2009).

Analysis of the results also showed that the ability to control influences the cognitive engagement of Douala University learners. Being able to control a situation reinforces one's determination to face it. When a student feels that he or she has total or partial control over a situation, he or she is able to persist in completing a task regardless of the obstacles he or she may encounter along the way. When a student feels in control of academic activities such as TPE, TD, TP, he or she shows a high level of cognitive engagement, even if he or she encounters certain difficulties. This result is in line with those of Viau and Bouchard (2000), who define the perception of controllability as the degree of control a student has over the course and consequences of an educational activity. All three research hypotheses were supported, indicating that task value, perceived competence, and controllability are significant predictors of cognitive engagement among undergraduate students. These findings are discussed in the next section in light of self-determination theory.

Institutions such as the University of Douala should make lecture activities contextually relevant. This addresses the low perceived task value among some students, which was found to limit their cognitive engagement. Integrating real-life examples and culturally relevant materials may enhance task meaning.

CONCLUSION

This research aimed to verify whether motivational dynamics influence learners' cognitive engagement. The decline in students' cognitive engagement, which is reflected in regular absenteeism, poor grades, dropping out and academic attrition, has led to a gradual decline in the number of students enrolled in the bachelor's degree cycle. The study confirmed all three research hypotheses, showing statistically significant associations between task value, perceived competence, and controllability with cognitive engagement. The perception of an activity carried out in class as being important for the acquisition of skills that will help in the short, medium and long term will constitute a non-negligible stimulus to maintain the

learner's cognitive engagement. Another important source of motivation is the student's feeling that he or she is capable of completing a school task, no matter how small. A sense of control over one's academic tasks enhances students' agency and integration into the learning process.

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