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MOTIVATION TO LEARN AMONG GRADE 12 STUDENTS, MAVILA SECONDARY SCHOOL, MOZAMBIQUE

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Summary. The present research focuses on motivation, which is fundamental in influencing better student learning. Thus, the objective is to analyze the learning motivation of 2nd cycle students at Mavila Secondary School, Mozambique. This is a mixed; described; field and cross-sectional study research with a sample of 145 grade 12 students. As variables we have VI: motivation, VD: better learning; The measurement instruments and techniques: document analysis; participant observation, Neves and Boruchovitch's (2007) MAS and interview, as for the procedures, we must emphasize that the data were collected collectively in the classroom from the application of Neves and Boruchovitch's (2007) MAS. Statistical analysis performed by the program SPSS version 23 for Mac OS, enabled descriptive, factorial and inferential analysis. The factorial analysis was possible from the Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) test, the Bartlett's Test of Sphericity evidenced a correlation between the items and the measure of sample adequacy demonstrated by the Kaiser-Meyer-Olkin (KMO) index was 0.772; the total variance explained of the EMA was 29.380 and Cronbach's alpha was 0.853 for n=145; the correlations showed a significant relationship between high scores with intrinsic motivation and profession of the caregiver, and not with gender and age of the students. From the study it is concluded that the EMA was adequate to gauge motivation and influence on better learning, proving the hypothesis raised.

Keywords: Education; psycho-pedagogical intervention; Motivational factors; Improved Learning; Motivation.

MOTIVAÇÃO PARA APRENDER DOS ALUNOS DA 12ª CLASSE, ESCOLA SECUNDÁRIA DE MAVILA, MOÇAMBIQUE

Resumo. A presente pesquisa debruça-se sobre a motivação que é fundamental na influencia da melhor aprendizagem dos alunos. Assim, o objetivo é analisar a motivação para aprendizagem dos alunos do IIº Ciclo na Escola Secundária de Mavila, Moçambique. Trata-se de uma pesquisa mista; descrita; de estudo de campo e transversal, com uma amostra de 145 alunos da 12ª classe. Como variáveis temos VI: motivação, VD: melhor aprendizagem; Os instrumentos de medição e técnicas: analise documental; observação participante, EMA de Neves e Boruchovitch (2007) e entrevista, quanto aos procedimentos, de frisar que os dados foram colectados de forma colectiva na sala de aulas a partir da aplicação da EMA de Neves e Boruchovitch (2007). Análise estatística feita pelo programa SPSS versão 23 para Mac OS, possibilitou a análise descritiva, factorial e inferencial. A análise factorial foi possível a partir do Teste de Esfericidade de Bartlett e o Teste de Kaiser-Meyer-Olkin (KMO), o Teste de Esferecidade de Bartlett evidenciou uma correlação entre os itens e a medida de adequação de amostra demostrada pelo índice de Kaiser-Meyer-Olkin (KMO) foi de 0,772; a variância total explica da EMA foi de 29,380 e o alfa de Cronbach de 0,853 para n=145; as correlações demonstraram uma relação significativa entre as altas notas com a motivação intrínseca e profissão do encarregado de educação, e não com sexo e idade dos alunos. Do estudo conclui-se que a EMA foi adequada para aferir a motivação e influência na melhor aprendizagem, comprovando a hipótese levantada.

Palavras-chave: Educação; intervenção psicopedagógica; Factores motivacionais; Melhor Aprendizagem; Motivação.

Introduction

Several studies by psychologists and others prove that motivation is indeed fundamental for better learning, so it is necessary to take into account the two motivational factors, intrinsic and extrinsic, which act in a complementary way. In this way, motivation constitutes the *input* for better student learning. Let's see, in Mavila Secondary School there is a problem related to motivation that concerns the school performance of the students, although there are those who perform better than others, depending, therefore, on external or internal motivation. In view of the above, the following research problem is presented: *how does motivation influence better learning among^{2nd} cycle students at Mavila Secondary School, Mozambique?*

The problem raised is answered by the following hypotheses:$_{ho}$ - There is no significant relationship between motivation and improved student learning;$_{h1}$ - There is a significant relationship between motivation and improved student learning.

This research from a social point of view aims to make a study to try to understand the influence of society itself (external factor) on the motivation of the learning process in the student (internal factor), something that is not rarely neglected by all agents that act in this process. The study serves as a catalyst for awareness of the importance of everyone's involvement in creating the conditions for learning from the affection of parents, teachers (student-teacher relationship, vice versa), the conditions of the school itself; teacher training, the curriculum itself; relationships as a whole, as well as the learning environment itself.

This research when discussing motivation, contrasts with the reality of the school, starting from the assumption of the existence of many cases of school failure, which our point of view is the problem of motivation, taking into account the external factors that somehow condition the internal factors, as stressed Chiavenato (2005), as well as could also solve in a practical way the problem at Mavila High School, with

feasible proposals. Therefore, motivation can explain both the observed learning problems and the school failure.

This research has a great theoretical and practical contribution. Thus, it makes a very important contribution, in that it seeks to analyze and discuss motivation as fundamental to the academic success of students, but also as a key element of the teaching and learning process as a whole, since motivation generates expectations of achieving the desired goals, both by the institution and individually, as we can read in the main motivational theories selected: maslow's hierarchy of values; Herzberg's two-factor; Mcclelland's socially acquired needs and Victor Vroom's expectation, and others, which relate success in its general sense to individual and/or collective motivation. Thus, the objective of this research is to analyze the motivation to learn of grade 12 students in Mavila Secondary School, Mozambique.

Regarding the theoretical framework, stress that Martins (2007, p.35) says that the word motivation comes from the Latin "*motivus*", which refers to movement and describes the desire to achieve high performances.

For Chiavenato (2005) motivation is the desire to exert high levels of effort toward certain organizational goals, conditioned by the ability to satisfy individual goals. Motivation depends on the direction (goals), strength and intensity of the behavior (effort), duration and persistence, i.e., expectancy which is grounded in Victor Vroom's Expectancy Theory (1932).

From these perspectives, we conclude that motivation is a set of internal forces that mobilize and guide an individual's behavior toward certain goals, giving rise to a certain type of action or behavior. Motivation involves a complex interaction of the individual's conditions and the total environment, that is, it concerns internal and external factors, which we can base on Maslow's Hierarchy of Needs theory (1954) cited by Cardoso, Fróis & Fachada (1993); Herzberg's two-factor theory (1960), as well as Meclelland's theory of socially acquired needs (1960).

As an empirical framework to refer that Mozambican education in public schools, particularly in the last 15 years, faces difficulties related to the quality of teaching, because of the semi-automatic passages, which lead students to pass from one class to another carrying with them difficulties in the initial classes (reading, writing, and math), which later turn into learning difficulties, which in a way condition the student's motivation to learn.

In public schools, 90% of pedagogical achievement is charged per year, in addition to the precarious conditions of the classrooms, as well as the existence of students studying outdoors for lack of classrooms.

In the district of Zavala, where the school is located, and which also characterizes the school itself, besides the precarious conditions of the classrooms, the existence of students studying under the open air; the level of education of the population is another element to be considered. Until 2017 in the whole country, it was estimated the average illiteracy rate among the adult population of 44.9 %, whose higher incidence was in women with 57.8% against 30.1% of men according to data revealed by Eduardo Mondlane University (2017), and in 2021 estimated about 39 % of the population illiterate, being higher in rural areas.

These data contradict the objectives of the SNE, both the resolution of 8/95, whose objective was the massification of education with the introduction of compulsory basic education up to 7^{th} grade, in order to make Mozambicans literate, and the law 18/2018 of December 8 that extended compulsory education from 7^{th} to 9^{th}grade, this because the

programs are not adjusted to the real problems and national requirements, as Feliciano (1988), Castiano and Ngoenha (2013) and Muhache (2015) stress.

The rural areas, in this sense, are the most affected by illiteracy, for example in the village of Mavila where the Mavila High School is located, most of the population is illiterate and mostly peasants without the level of education up to the second grade of elementary school. Thus, many parents and guardians are peasants who cannot afford to support their children's basic expenses for better learning.

Method

The present study as to the nature of the research is mixed. This research is mixed because it combines both quantitative and qualitative methods. According to Prodanov and Freitas (2013) this study deals in depth with the phenomenon studied, because qualitative studies, through coding, provide important, in-depth information, thoughts and feelings, and also provide information that makes it possible to adapt the methodology of a quantitative study, as well as relevant information to interpret the quantitative data. With a mixed quantitative (QUAN-qual) approach.

Research design is descriptive and case study. In this sense, the data analysis is a descriptive analysis of the phenomena based on a case study, which is the Mavila High School.

As for time, it should be noted that this is cross-sectional research. This is because, this type of study aims to collect data at a single moment and/or single time as well as its central objective is to describe and analyze the variables, their incidence and interrelationship at a particular point in time (Liu, 2008, Tucker, 2004 cited by Sampieri, Collado and Lucio (2014).

The sample consists of 145 students, characterized by motivated students, that is, students with higher academic performance, and by students with lower performance (unmotivated).

With regard to Measurement instruments and techniquesmeasurement tools, that is, resources and/or material means to approach phenomena: documentary analysis. As information collection techniques we have: participant observation and Neves and Boruchovitch's (2007) Motivation to Learn Scale (MAS).

The data collection procedures, resulted from the collective collection in the classroom, from the application of the learning motivation scale (MAS) of Neves and Boruchovitch (2007), where the instructor gave instructions to the students for the correct completion of the scale, and lasted 20 minutes.

In the data analysis the statistical package SPSS version 23 for Mac OS was used, through which the variables were crossed and the frequencies and respective percentages were extracted.

Results

In this part, the results are presented and analyzed in a logical way, based on the study's objectives.

Psychometric analyses of the EMA

The examination of the consistency of the MPE was done using the *Statistical Package for the Social Sciences* (SPSS) version 23 for Mac OS. In order to verify the factorability (adequacy of the sample for factorial analysis) of the scale, the Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin Test (KMO) were performed.

Bartlett's Test of Sphericity with n=145 evidenced a correlation between the items [^{X2} (561) = 1682.916; $p < 0.000$]. The measure of sample adequacy, demonstrated by the Kaiser-Meyer-Olkin (KMO) index was 0.772.

The data obtained by these two procedures clearly elucidate that there is an adequate level of probability for the correlation between the variables and that the sample is conducive to conducting Factorial Analysis, as illustrated in table 1 below.

Table 1

KMO and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy.		,772
Bartlett's test of sphericity	Approx. Chi-square	1682,916
	Gl	561
	Sig.	,000

Therefore, exploratory factorial analysis was used in order to obtain the factorial structure of measurement. Furthermore, the principal components method *eignvalue* greater than 2.0 and *Varimax* with Kaiser Normalization (Rotation converged in 3 iterations) were employed. To analyze and evaluate the appropriateness of the stipulated number of factors the *Scree Test*was used.

It should be noted that the result of the principal components analysis was based on a two-factor scale (intrinsic and extrinsic). A bifactor structure was used, where Factor 1 refers to Extrinsic Motivation (EM) and Factor 2, Intrinsic Motivation (IM). Factor 1, Extrinsic Motivation (EM) is composed of the sum of 15 even items (2,4,8,10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 34). Factor 2, which is Intrinsic Motivation (IM) was composed from 13 odd items, from the sum of the variables (7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31).

It should be noted that some items were eliminated for not reaching a sufficient factorial load, being below 0.30. Therefore, items 1 (I study because studying is important to me); 3 (I am eager to know and learn new subjects); 5 (I like to study challenging subjects); 6 (I study to have a job in the future); 32 (I study out of obligation) and 33 (I get interested when the teacher starts a new lesson) do not contribute to the intrinsic and extrinsic motivation factor. Therefore, Some items did not score, and others scored highly on the opposite factor.

Thus the scale built in a first phase with 34 items was reduced to 28 items after the principal component analysis. As table 2 below illustrates.

Table 2
Distribution of Items by Factor with the Factorial Load Presented

Scale Items	Factorial loadings	
	Factor 1	Factor 2
ME2. I study for fear of my parents fighting with me	,471	
ME4. i do my homework out of obligation	,415	,314
MI7.I like to study difficult subjects		,402
ME8.I study because my parents promise to give me presents if my grades are good	,644	
MI9I put a lot of effort into my homework, even though I know it won't count as a grade		,426
ME10. I study because my teacher thinks it is important	,709	
MI11I study even if my parents don't ask me to		,510
ME12I study because I am worried that people will not think I am intelligent	,713	
I try hard in class, even though I know it won't count as a grade		,545
ME14I study for fear of my parents grounding me	,620	
MI15I study because studying gives me pleasure and joy		,575
ME16I only study so I won't do badly in school	,677	
MI17I keep trying to solve a task, even when it is difficult for me		,391
ME18I study so my parents will let me go and play with my friends or do the things I like	,640	
MI19I prefer to learn in school subjects that increase my skills or knowledge		,406
ME20I only study to please my teachers	,480	,339
MI21.I do my homework at home, even if my parents don't ask me to		,378
ME22. I prefer to study easy subjects	,346	
MI23.I study because I like to gain new knowledge		,590
ME24: I study only what the teacher tells me will be on the test	,651	
MI25I like to study		,459
ME26I only do my homework because my parents think it is important	,726	
MI27I try to know more about the subjects I like, even without my teacher askingme		,422
ME28. I only study because I want to get high grades	,572	
MI29.I like going to school because I learn interesting things there		,521
ME30I only study because my parents tell me to	,497	,474

MI31I study because I want to learn more and more	,585
ME34I give up on a task when I encounter difficulty	,433

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Converged rotation in 3 iterations.

In the analysis performed it was concluded that there is a coincidence between the number of factors identified from the *Scree Test* analysis with the number of factors determined. Thus, the accuracy of the total scale reached a satisfactory index since the Cronbach's alpha coefficient was equal to 0.853. The Mean of the scale is 38.03; and the Standard Deviation is 7.25, which demonstrates the accuracy of the scale.

The final 28 items, by grouping into two factors, demonstrated the congruence of the scale with the theoretical aspects it intends to measure.

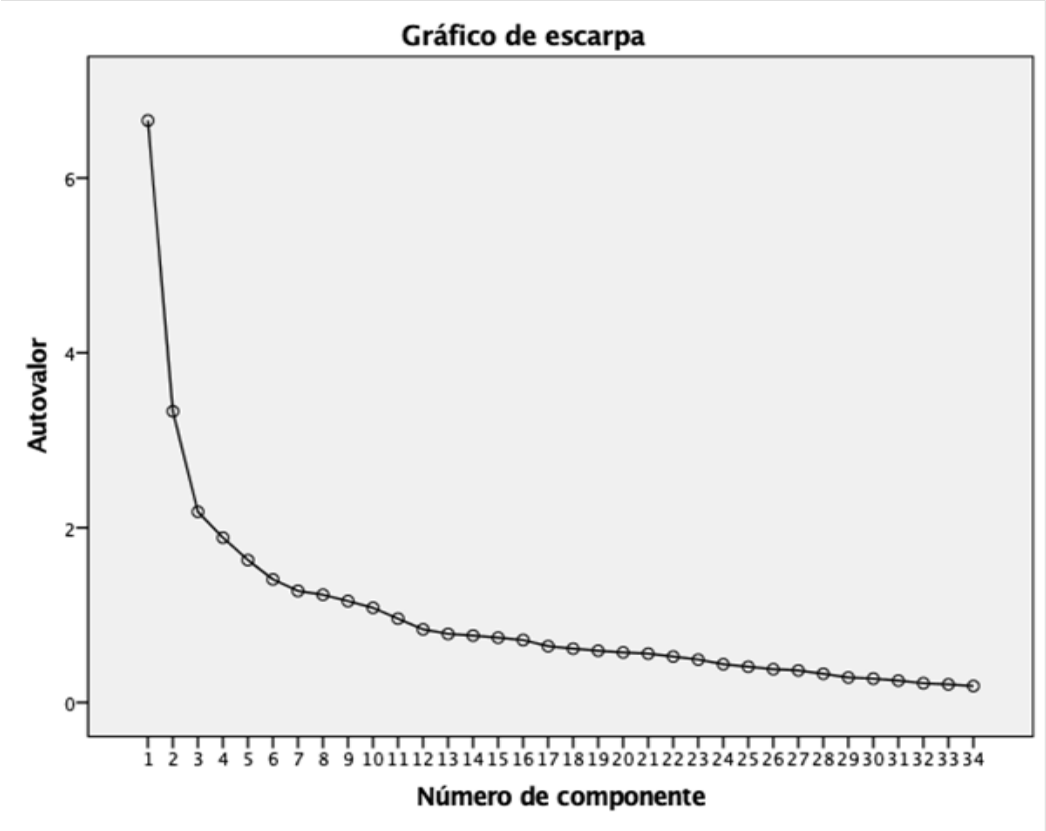
It should be noted that the items grouped in a bifactorial structure: Factor 1- Extrinsic Motivation (EM) and Factor 2- Intrinsic Motivation (IM), the 15 items of Factor 1 present the main characteristics of extrinsic motivation and the 13 items of Factor 2, contain the main characteristics of Intrinsic motivation.

As far as variance is concerned, it should be noted that the total variance explained is 29.380. This shows that the questions assess motivation, as can be seen in tables 3 and 4 below.

This factorial structure is also verified from the Scree Plot, with a remarkable curvature from the score of*eigenvalues*greater than 2.0, as seen in Chart 1 below.

Figure 1

Scarp Chart



The Cronbach's alpha was calculated for the total sample of n= 145, based on reliability statistics, and an alpha of 0.853 was obtained, which shows that the scale has an internal consistency index, as shown in table 5 below.

Table 3

Reliability Statistics

Cronbach's Alpha	Number of items
,853	28

Cronbach's alpha if item[#7] is deleted would be 0.86. However, it was not excluded despite favoring the increase in alpha because it was a small increase.

Exploratory Analysis and Testing

For exploratory analysis, normality tests were performed for the main variables of our study (student grades, intrinsic motivation and extrinsic motivation). Considering the sample size of 145 students we focused on the Shapiro-Wilk test and found that all variables do not exhibit normal distributions (the distributions of the data are different from those of a normal distribution), and all p-values are less than 0.05.

Doing an exploratory analysis of the scores, Extrinsic and Intrinsic Motivation and age, the results pointed out: Grades, Mean (8.70), Variance (7.2), Standard Deviation (2.683); Extrinsic Motivation, Mean (21.71), Variance (32.5), Standard Deviation (5.70); Intrinsic Motivation, Mean (16.32), Variance (9.8), Standard Deviation (3.124); Age, Mean (18.9), Variance (12.2), and Standard Deviation (3.497).

From the data it is found that students exhibit Extrinsic motivation 21.71 and Standard Deviation of 5.70; and Intrinsic Motivation 16.32 and Standard Deviation 3.124. This was calculated on a summation basis. Because there are differences in the number of items, no absolute comparison was made between the motivational orientations.

The other no less important data is the variable age that when presenting a Mean of 18.9 and Standard Deviation of 3.497, does not present significant correlation with the Intrinsic motivation of the students.this suggests that students with low levels of Intrinsic motivation may have a lower level of motivation than students with low levels of Extrinsic motivation ($r = - 0.191$; $p < 0.05$), suggesting that students with low extrinsic motivation tend to have higher grades. Additionally, it seems to consolidate the finding of several studies that intrinsic motivation and extrinsic motivation correlate positively (Cardoso, Fróis & Fachada, 1993), and in this study, the relationship presents the following parameters: $r = 0.197$; $p < 0.05$. These results refer to non-parametric correlations (due to the fact that there is no normality) of 4 variables, namely: Quarter I final grades, Extrinsic Motivation (EM), Intrinsic Motivation (IM), and Age, as illustrated in Table 4 below.

Table 4

Non-parametric correlations

		2	3	4
	Sig. (bilateral)	,022	,535	,651
	N	145	145	145
Extrinsic Motivation (2)	Correlation Coefficient		,197*	,064
	Sig. (bilateral)		,017	,444
	N		145	145
Intrinsic Motivation (3)	Correlation Coefficient			-,161
	Sig. (bilateral)			,053

	N		145
AGE (4)	Correlation Coefficient		
	Sig. (bilateral)		
	N		

*. The correlation is significant at the 0.05 level (two-sided).

In the hypothesis tests (comparison of scores of the variables final grades of Q1, intrinsic motivation and extrinsic motivation as a function of sociodemographic variables) we follow with table 5 and analysis below.

Table 5

Test Statistics Mann-Whitney: Quarter I Final Scores, Extrinsic Motivation, and Intrinsic Motivation Versus Gender

[Test]statistics

	Quarter I Final Notes	Extrinsic Motivation	Intrinsic Motivation
Mann-Whitney U	2264,000	2141,000	2075,000
Wilcoxon W	6920,000	3366,000	6731,000
Z	-,370	-,885	-1,174
Significance Assint. (Bilateral)	,711	,376	,240

a. Grouping Variable: SEX

From the data presented in the comparison of means presented in the tables above it was found that there are no significant differences in achievement by gender (U=2264; p.>0.05); no significant differences in extrinsic motivation by gender (U=2141; p> 0.05); no significant difference in intrinsic motivation by gender (U=2075; p> 0.05). Thus, the significance is 0.711 for Quarter I final grades; 0.376 for Extrinsic Motivation and 0, 240 for Intrinsic Motivation.

Regarding the comparison on the basis of the variable Academic level of the Parents, the data presented showed that there are no significant differences in scores,

Extrinsic and Intrinsic Motivation in relation to the Academic level of the Parents, this is because the significance is greater than 0.05, with the following evidence:

- Notes [^{X2} (4) =1.655; p>0.05];
- Extrinsic motivation [^{X2} (4) =8.066; p>0.05];
- Intrinsic motivation [^{X2} (4) = 15.059; p> 0, 05].

On the basis of the data from the comparison between the Academic Level of the Parent, the grades of the 1st Quarter, as well as the Extrinsic and Intrinsic Motivation, there is no significant difference between the Academic Level of the Parent and the grades of the students, which means that both for students with high grades and students with low grades there is no connection with the level of their parents.

In relation to the Parent's Profession and the final grades of the 1st Quarter, it should be noted that there are differences in the grades according to the parents' professions, that is, the profession has a significant relationship with the student's grades.

From the analysis done on the comparison of the students' final grades according to the Academic level of their Parents, it was found that there are significant differences, this is because the significance is 0.000, less than 0.05 [^{X2} (132) = 279.311, p <0.05].

Regarding the subgroups of the Parents' Professions, it is concluded that there is no significant difference in Extrinsic Motivation [^{X2} (242) = 187.469; p> 0.05].

When comparing Intrinsic Motivation according to the subgroups of the parents' occupations, the analysis concluded that there are significant differences [(^{X2} (132)=199.186, p<0.05].

The analysis showed that the foreman's profession has a significant relationship with Internal Motivation and grades, which demonstrates that motivation improves the learning and pedagogical performance of the students.

Thus, the lack of external motivation can lead to school failure, which can be related to the low academic performance observed in some students, that is, with low grades, because it determines in a certain way the intrinsic motivation. Therefore, the two extrinsic and intrinsic factors have a correlation in learning motivation.

Discussion and conclusions

This chapter discusses the results and the main conclusions of the work in comparison with other similar research.

Discussion of results from psychometric analyses of the EMA

The MPE, which was examined using the statistical program SPSS version 23, was crucial to verify the factorability of the scale, the Bartlett's Test of Sphericity and the Kaiser-Meyer- Olkin Test (KMO) were performed. Thus the Bartlett's test of sphericity showed that there is a correlation between the motivation items, where (^{X2} [561, N=145]= 1682.916; p<0.000). The measure of sample adequacy, demonstrated by the Kaiser-Meyer-Olkin (KMO) index was 0.772, approaching the studies done by Pereira (2001) cited by Neves and Boruchovitch (2007), where (X2 [561, N=461]= 4061.609; p<0.000) evidencing that there is a level of correlation between the variables and that the sample is adequate for factorial analysis. The measure of sample adequacy, demonstrated by the Kaiser-Meyer-Olkin (KMO) index of 0.854.

Cronbach's alpha was calculated for a total sample, n=145, and an alpha of 0.853 was obtained. This shows that the scale has an internal consistency index (Prieto & Muñiz cited by Neves & Boruchovitch, 2007), which is not far from the alpha obtained in the study by Neves and Boruchovitch (2007), which was 0.82.

These results, obtained on the basis of the two factors clearly demonstrated the correlation. Furthermore, the exploratory factor analysis was fundamental to determine the factorial structure of the measure, relating to the study by Neves and Boruchovitch (2007), who, when elaborating the EMA, was effective in the factorial analysis, in the same way with respect to the principal components method, where the *eigenvalue* is higher than 2.0 and the *Viramax*rotation was applied.

The rotated matrix was found from the minimum factorial loading of 0.30, for the inclusion of the items, this factorial loading, therefore, coincides with that used in the studies of Crocker and Algina (1986); Kine (1994) cited by Neves and Boruchovitch (2007).

For analysis and evaluation of the desirability of the number of factors the Scree Test was used, as in the study by Neves and Boruchovitch (2007).

As can be seen from the principal component analysis, a two-factor scale was acquired, according to the study by Neves and Boruchovitch (2007). The same bifactorial scale is composed in: Factor 1- Extrinsic Motivation (EM) and Factor 2- Intrinsic Motivation (IM). Unlike the Study of Neves and Boruchovitch (2007) that in Factor 1 has Intrinsic Motivation and Factor 2, Extrinsic Motivation. Furthermore, the other difference concerns the items. While Intrinsic Motivation, which corresponds to Factor 1, in Neves and Boruchovitch's (2007) study had 17 odd items, the present study had 13 odd items. Extrinsic Motivation (Factor 1 in this study), which corresponds to Factor 2 in Neves and Boruchovitch's (2007) study, had 15 even items versus 14.

These differences were due to the fact that some items were eliminated because they did not reach sufficient factorial loading, being below 0.3. Therefore, items 1 (I study because studying is important to me); 3 (I am eager to know and learn new subjects); 5 (I like to study challenging subjects); 6 (I study to have a job in the future); 32 (I study out of obligation) and 33 (I get interested when the teacher starts a new lesson) do not contribute to the intrinsic and extrinsic motivation factor. Therefore, some items did not score, and others scored highly on the opposite factor. So in total 6 items were eliminated.

In the study of Neves and Boruchovitch (2007) 3 items were eliminated, for different reasons, i.e., item 6 (I study to have a job in the future), which did not reach the desired factorial load recommended by the literature, relating to the reason why it was excluded in the present study, this is because, in Mozambican education, there is no motivational basis in this sense, which forms cadres or competent people as in the period of colonial education and after independence, where the great current problem lies in the quality of education, as illustrated by the studies of Feliciano (1988), Castiano and Ngoenha (2013), Muhache (2015); the items 22 (I prefer to study difficult subjects) and 34 (I give up doing a task when I find it difficult), which load on both factors, with a greater factorial load on Factor 1 and not on Factor 2. Although there was something similar in the present study, these items were not eliminated because they had a recommended factorial loading.

These differences in the elimination of items were due to the application of the EMA made in different contexts, the Brazilian and the Mozambican.

Discussion of Exploratory Analysis and Testing Results

Exploratory analysis of grades, Extrinsic and Intrinsic Motivation and age, the results pointed out: Grades, Mean (8.70), Variance (7.2), Standard Deviation (2.683); Extrinsic Motivation, Mean (21.71), Variance (32.5), Standard Deviation (5.70); Intrinsic Motivation, Mean (16.32), Variance (9.8), Standard Deviation (3.124); Age, Mean (18.9), Variance (12.2), and Standard Deviation (3.497).

Thus, in this analysis it was concluded based on the grades the students' learning presents more the Extrinsic Motivation (Mean 21, 71 and Standard Deviation of 5.70) in relation to the Mean (16.32) and Standard Deviation (3.124) of the Intrinsic Motivation, this because many items were eliminated in relation to the Extrinsic Motivation and the was calculated based on the sum. Hence the comparison was not absolute.

From these results it was shown that motivation is indeed fundamental for better student learning, since it creates the desire to achieve high performances (Martins, 2007). Moreover, he also points out that external/extrinsic motivation influences the achievement of individual goals, and the very ability to achieve these goals (intrinsic motivation) which, in a way, brings satisfaction, self-esteem, self-actualization, self-efficacy, expectations, as described by the theories of Maslow (1908-1970); Herzberg (1923-2000), MacClelland (1917-1998), Bandura (1977); Victor Vroom (1932), respectively.

External motivation as that which relates to the learning context, the relationship between student-teacher, family, student-student, shows that interpersonal relationship (Goleman, 2006) is necessary for motivation. Furthermore, as far as social or external factors are concerned, it should be emphasized that the social environment in which the person or student finds him/herself is a determining factor in his/her academic success. In the external factors we can highlight: interpersonal qualities, that is, empathy, human relations (Goleman, 2006), affection (Maslow & McClelland cited by Chiavenato, 2005); the climate in the classroom, that is, student-student and student-teacher relationship (Cobrera & La Nasa, 2002); institutional, which concern, educational policies, teaching programs, curriculum, assessment, etc.

In Goleman's interpersonal qualities we find a relationship with the theories of Maslow (social needs) and Mac Clelland (need for affiliation), in that both are unanimous in stating that the associative life of the individual with other people: love, affection, participation, lead the individual to social adaptation or not. Let's see, both Maslow and Mac Clelland Goleman's affection, empathy, human relations, lead people to relate cordially and affectionately, which can create a harmonious and favorable environment for the learning process, and therefore lead to good academic achievement or better learning.

In addition to interpersonal relationships, which determines a healthy environment for better learning, or for good academic achievement, we find the institutional factors, which correspond to what Herzberg (1960) cited by Chiavenato (2005), calls hygienic factors or extrinsic factors, those that are related to the environment in which the student performs his activities; to the organization and that are part of the culture of the institution, that is, they are not under the control of the individual, depend directly on the administration of the institution: the policies, the organizational climate, the trained teaching staff; the educational conditions, the curriculum, etc. therefore, this set of elements is preponderant to motivate the student to better learning.

Regarding the correlation of extrinsic and intrinsic motivation with the variables: Grades, Age and Gender, Academic Level of the Head of Household and Head of Household Profession, it was made from Spearman's rô where it was observed that

students with high grades have less extrinsic motivation with a significance of 0.022, below 0.05, and intrinsic motivation with 0.535.

The correlation between gender and age: extrinsic motivation, intrinsic motivation, and grades, showed that there is no relationship of achievement to gender or age. Nor is there a relationship between the level of education of the Parent and the grades, but there is a correlation between the grades and the profession of the Parent, which shows extrinsic motivation.

Overall it was concluded that motivation has an influence on better student learning. Moreover, motivation as a push or lever that stimulates people to achieve goals, it becomes the key to quality performance in any situation, whether at work, leisure activities, learning, as well as personal and/or social activities (Chiavenato, 2005).

It is true that authors such as Chiavenato (2005), Junior and Oliveira (2009), Morino Jr (2005) highlight intrinsic motivation, as that which drives the individual to achieve his or her objectives or goals. However, one cannot ignore the fact that extrinsic motivation is also necessary for motivation, and it involves the educational context in its whole community, the school, the classroom (the class climate, methodological strategies used in teaching), teacher-student relationship, student-student relationship, the family, educational policies, as highlighted in the studies by Salvari and Dias (2006), Carvalho (2001), Torre and Moraes (2006), Cobrera and La Nasa (2002) as well as interpersonal qualities (Goleman, 2006), affection. Thus, the lack of external motivation can lead to school failure, which may be related to the low academic performance observed in some students at the school under study, that is, with low grades, this is because it determines in some way the intrinsic motivation. Therefore, the two extrinsic and intrinsic factors have a correlation in learning motivation.

Authors such as Cardoso, Fróis, and Fachada (1993) highlight the complementarity between the two factors, that is, the external/ extrinsic factors influence the internal/ intrinsic ones.

The study reached important conclusions, because it demonstrated that motivation influences better learning, because the EMA applied to students through factorial analysis, Cronbach's alpha normality test, proved to be applicable to both the sample and the issue raised, which resulted in the creation of two factors: intrinsic and extrinsic. The correlational analysis indicated the existence of the relationship between high grades and intrinsic motivation, as well as profession of the caregiver.

The reality of the students demonstrated the need for psycho-pedagogical intervention to create more motivation, this because, some for having learning difficulties loaded from the early grades, which concern reading, writing and accounts, influence learning. In addition, the state should give incentives and/or reinforcement to students to motivate them, such as after-school work, where students who finish grade 12 should have; as well as eliminating automatic passages in the initial classes, thus making an early intervention, which would eliminate the difficulties that then become demotivating elements and school failure of the same.

Given the results it is concluded that the hypothesis that guided the present study "There is a significant relationship between motivation and improved student learning" was proven, although more studies are needed.

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