



Educational Use of Digital Learning Modules and the Development of Primary School Students' Skills in the Bénoué Department

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ABSTRACT : Does the educational use of digital capsules impact the development of primary school pupils' skills in the Bénoué Department ? This is the central question underpinning this study. It is situated within the context of the effectiveness of the digital component of the Project for the Improvement of the Quality of Basic Education (PAQUEB) in this priority education zone. The connectivism of George Siemens (2005) and Stephen Downes (2008) provides the theoretical framework for this study. The methodological approach is hypothetical-deductive. The field survey was conducted between April 2021 and January 2024. Specifically, four (04) areas guided this open-ended questionnaire survey : the use of XO computers, the use of smartphones, the use of video projectors, and formative assessment using digital tools. 85 teachers, selected using snowball sampling from 15 primary schools, were asked to complete this questionnaire. The data collected were analysed using SPSS. The results confirm that the hypothesis that the educational use of digital capsules influences the development of primary school pupils' skills in the Bénoué department has been verified and validated.

KEYWORDS : Capsule, Skills, Digital, Educational, Use.

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1. INTRODUCTION

For UNESCO and many development stakeholders, the integration of ICT into education can be a solution to various contemporary challenges in the Global South : bridging the digital divide, improving the quality of education, and developing the skills valued by our knowledge society (autonomy, initiative, collaboration, creativity, etc.) (Dahmani, 2004 ; Unwin, 2009; Karsenti and Tchameni Ngamo 2009). In this context, governments worldwide are expressing an interest in strengthening the use of information and communication technologies (ICT) in schools, both to develop skills in their use and for the added value they would bring to teaching and learning situations. In Cameroon, the Ministry of Basic Education (MINEDUB) has launched a project to improve the quality of basic education (PAQUEB). This project includes a component to equip schools with computers. Some primary schools in the Bénoué region have benefited from this initiative (PAQUEB, 2009).

The Bénoué department, located in the North Region of Cameroon, is one of the priority education zones (ZEPs) identified by the Cameroonian government due to its poor educational indicators, comparable to those of the Adamaoua, East and Far North regions (MINEDUB, 2023; UNESCO, 2024). Persistent structural challenges include overcrowded classrooms, often with a pupil-teacher ratio exceeding 60:1 in rural areas, a glaring shortage of school infrastructure (under-equipped classrooms or those housed in makeshift shelters), and a lack of suitable teaching materials, exacerbated by high population pressure and widespread poverty. Limited access to electricity and the internet reinforces digital inequalities, making it difficult to integrate modern tools such as digital learning modules, whilst continuing professional development for teachers remains insufficient, contributing to uneven teaching quality. Added to these constraints are socio-cultural and gender-related factors that particularly affect girls: early marriage, teenage pregnancy and domestic or agricultural chores result in a lower primary school completion rate for them (around 66% compared to 73% for boys at national level, with more marked disparities in the North) (UNICEF, 2024; World Bank, 2023).

Although the region is not directly affected by the Anglophone crisis or the main Boko Haram attacks (concentrated in the Far North), regional insecurity linked to cross-border banditry and population displacement indirectly influences school attendance. These challenges, combined with high dropout rates and low transition rates to secondary school, highlight the need for targeted interventions to promote the inclusive and equitable skills development of primary school pupils. In short, in this context, primary schools face persistent structural challenges, such as overcrowded classrooms, a severe lack of suitable teaching materials and

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limited teacher training in digital tools, in an environment where access to electricity and the internet remains uneven, particularly in rural areas (MINEDUB, 2022; UNESCO, 2023).

At the same time, national and international initiatives to digitise education, notably through the production and dissemination of digital learning modules, are multiplying in order to address these shortcomings and diversify teaching methods. However, although these resources are increasingly being integrated into teaching practices, their actual impact on the effective development of pupils' skills (cognitive, cross-curricular and subject-specific skills) remains poorly documented in this specific context. It is within this tension between the innovative potential of digital clips and uncertainties regarding their effectiveness that the following main research question arises: Does the educational use of digital clips impact the development of skills among primary school pupils in the Bénoué Department? The objective here is to assess the influence of activities facilitated by digital capsules on the development of skills among primary school pupils in the Bénoué Department. The study's hypothesis is as follows: the educational use of digital capsules influences the development of skills among primary school pupils in the Bénoué Department.

2. THEORETICAL FRAMEWORK OF THE STUDY

The phrase 'educational use of digital technology' has become something of a given, the meaning of which is rarely questioned (*Damecour-Finel; 2019*). And yet this category encompasses a wide range of activities, leading some to argue that it is not really an educational. The use of computers, for example, has been common in primary schools in Cameroon for around two decades. In most cases, this use is limited to an introduction to the technology through IT or educational technology lessons, but above all to administrative tasks. However, computers are increasingly moving beyond the IT room or the headteacher's office to find their way into classrooms. This study posits that the use of digital technology in learning situations can contribute to the development of pupils' skills. The etymology of 'developing skills' suggests the idea of deploying and strengthening the capacities and aptitudes needed to carry out tasks and achieve objectives. According to Philippe Perrenoud (1997) and Lafortune et al. (2008), skills development is a process. It involves acquiring and applying knowledge, know-how and attitudes to solve problems or carry out tasks in a variety of situations.

In the teaching-learning process, teachers use educational tools and resources to deliver lessons more effectively and facilitate learning. Thus, digital clips, like other resources, enable teachers to make their lessons interactive, engaging and even dynamic. In their book *The Digitalisation of Teaching through Video*, authors Shmitz and Escobar – specialists in educational solutions using new technologies – demonstrate how educational needs are evolving through teaching practices that incorporate digital tools. According to these two authors, the use of digital tools in the teaching-learning process improves working conditions for teachers and increases pupils' chances of academic success. For Le Jeune (2016), digital technology has given a boost to this practice by enabling lectures to be shared on a collaborative platform, most often in the form of a video slideshow with a voice-over commentary or a brief filmed explanation by the teacher known as a 'video capsule'. In his view, video clips make knowledge accessible anywhere and at any time. For Nizet and Meyer (2015), the creation of self-study clips (planning, scripting, development of visual and audio materials) relies on rigorous pedagogical planning, as content delivered digitally must be structured in a clear and educational manner. In this type of classroom, the teacher prepares before the lesson, for example by reading up on the subject or watching YouTube videos on the material to be covered in class.

In his article 'Educational video clips: added value for learning', Fabiano (2022) presents a review of the research on video clips and their integration into teaching practices. He defines video clips as short video segments lasting 2 to 15 minutes, which sometimes feature a teacher being filmed whilst commenting on a presentation aid or in front of a class to capture the atmosphere of a face-to-face lesson, and sometimes in the style of what is commonly found. Despeaux et al. (2021) highlight in their work, 'Smartphones and Teaching: How to Use a Smartphone as a Learning Aid', the importance of smartphones in student learning. According to these authors, the use of smartphones 'demystifies the lesson and breaks down psychological barriers'. It thus offers learners and teachers a wide range of online resources that facilitate understanding of the lecture. This use enables classroom participants to interact between teacher and pupils, and amongst learners within the class. Similarly, it helps to move towards a continuum, or even pedagogical connectivism, both within and outside the school. The theory of connectivism therefore helps to understand the phenomenon under study.

Indeed, the constant advancement of new technologies in our daily lives is changing the way we learn. It was to take these changes into account that George Siemens (2005) and Stephen Downes (2008) developed a new theory of learning, known as 'connectivism'. This theory focuses primarily on the challenges posed by the emergence of new digital technologies in learning. It is presented as the necessary evolution of classical learning theories (behaviourism, cognitivism, constructivism and social constructivism), adapted to the new realities of the knowledge and digital society. This model of learning is based on the idea that knowledge is distributed through a network of connections (both individual and organisational). Hence, the challenge of learning today lies in knowing how to harness the potential of these networks to build knowledge. According to its proponents, applying the principles of connectivism amounts to promoting a form of learning through experience and practice, which is conceptually quite close to social constructivism. The main challenge therefore remains to make judicious use of new technologies to facilitate this

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learning. Another question raised by proponents of connectivism is that of the exponential growth of knowledge, and the tools and techniques needed to manage this growth, so as not to end up with masses of information that would be impossible to make use of (Siemens, 2005; Downes, 2008).

This approach, described as a learning theory for the digital age, emphasises key principles such as diversity of opinion, learner autonomy, open connectivity and the ability to discern relevant information within a constant flow of data. In the context of the educational use of digital capsules, connectivism offers a relevant analytical framework, as these resources embody precisely the distribution of knowledge via accessible technological tools, fostering the construction of personal learning networks. Applied to the issue of developing the skills of primary school pupils in the Bénoué department of Cameroon, where access to digital technology remains limited in rural areas but where digitalisation initiatives are emerging (for example, through national programmes providing equipment and online resources), the theory of connectivism highlights the importance of transforming digital capsules into connecting nodes rather than mere one-way transmissions. These capsules enable pupils to develop cross-curricular skills such as independent information retrieval, source evaluation and the creation of interdisciplinary links, by encouraging practices such as repeated viewing, classroom discussion or exploration of other online resources (Siemens, 2005). Thus, in a context where teachers often face overcrowded classrooms and a lack of resources, connectivism justifies the integration of these tools to promote active and connected learning, suited to the digital age, whilst reducing inequalities in access to distributed knowledge.

The introduction of ICT in primary education has unlocked new educational potential, with more playful teaching approaches and methods where interactivity plays a major role, enabling a diversification of the digital tools used and greater adaptation to the learner's learning process (Laroussi, 2021). In this regard, the very implementation of MOOCs (Massive Open Online Courses) is a practical example of connectivity pedagogy. Furthermore, in this approach, the concept of a network is used to illustrate learning mechanisms, whereby learners teach and motivate themselves within a dynamic environment (Duplâa and Talaat, 2011).

Furthermore, this theory builds on the innovative pedagogical approaches used by teachers in recent years with the integration of educational technologies into primary school curricula. When applied to teaching practices, this approach encourages a greater focus on the use of digital tools in the teaching-learning process. For example, it challenges the media's monopoly on information control, as digital tools enable every teacher to produce and share information; it also encourages a structured reflection on personal learning environments, personal learning networks and learning organisations.

3. METHODOLOGICAL FRAMEWORK OF THE STUDY

The scope of this study is limited to the North Region of Cameroon. This area is one of Cameroon's four Priority Education Zones and is situated in the north of the country. The North Region has nineteen (19) schools operating in partnership with the Islamic Bank. It is situated between the Water Tower Region and the Far North Region. This region comprises four departments and twelve districts: the Mayo-Louti Department, the Mayo-Rey Department, the Faro Department and, finally, the target department of our study, namely the Bénoué Department. The field survey was conducted between April 2021 and January 2024 in selected primary schools within this department. It focused broadly on the educational use of digital tools to develop pupils' skills. Specifically, four (04) areas guided this open-ended questionnaire survey: the use of XO computers, the use of smartphones, the use of video projectors, and formative assessment using digital tools.

The target population for this study consists of Level 3 teachers selected using a snowball sampling method from 15 schools. The sample comprises a total of 84 teachers. It should be noted that a distinctive feature of these schools is that they have digital tools (XO and Infinity computers). These are seven (07) primary schools in the Garoua 1st district (EP Garoua 1a, EP Garoua 1b, EP Djamboutou 1a, EP Djamboutou 1b, EP Djamboutou 1C, EP Djamboutou 2a, EP Djamboutou 2b, EP Champion 1a, EP Champion 1b) and six schools in the Garoua 2 district, namely (EP Ngouroré 1a; EP Ngouroré 1b, EP Ngalbidjé 1a, EP Ngalbidjé 1b) and finally 2 in the Garoua 3 district (EP Boklé 1a, EP Boklé 1b) are presented in the table (10 mainstream schools using digital tools and 5 schools equipped with XO and Infinity computers). The data collected were analysed using SPSS. This analysis yielded the following results.

4. STUDY RESULTS AND INTERPRETATION

The results of this article are structured around four themes relating to the use of digital tools in teaching activities. The first is the frequency of use of XO computers. The second is the frequency of use of smartphones. The third is the frequency of use of video projectors, and the last concerns formative assessments using ICT. Our results are analysed using descriptive statistics, followed by inferential statistics.

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4.1. Descriptive analysis of the study results

4.1.1. The use of XO computers during educational activities

Unlike desktop computers, which are generally used in a computer lab outside the classroom, laptops can be used in the classroom, within the usual learning environment, and can also serve as a portable tool allowing children to move around. They also offer greater connectivity as well as multimedia capabilities (video and audio recording, etc.). This figure shows the frequency with which the teachers targeted in our study use XO computers during their teaching activities.

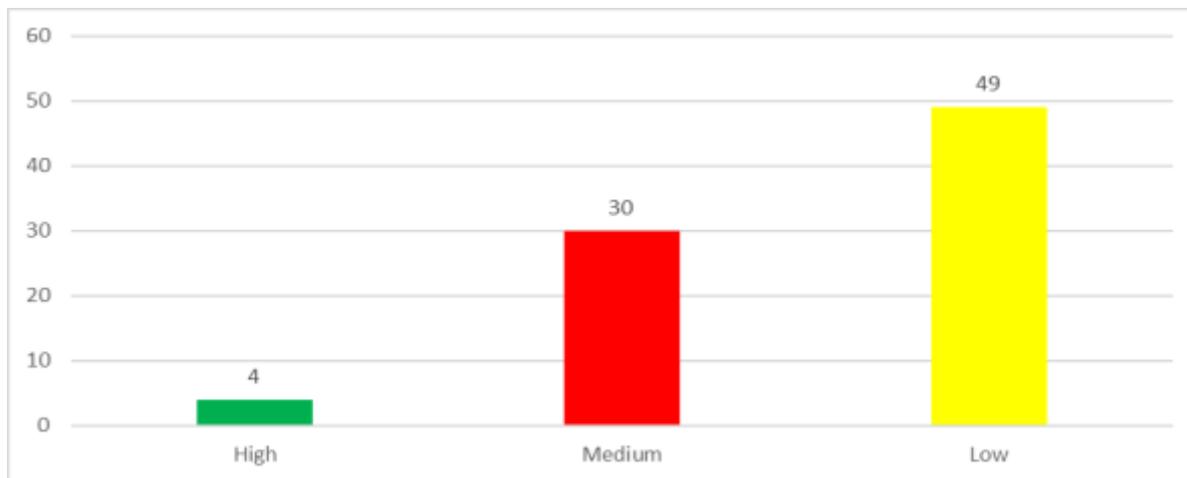


Figure 1 : Frequency of use of XO computers

Source : data from the field survey, September–December 2023

The data shows that 49 respondents, or 58.33%, state that their frequency of use of XO computers is low. Next, we have 30 respondents who say they use XO computers with moderate frequency. Finally, only 5 respondents stated that they use these computers frequently. This data therefore shows that respondents use these XO computers very little. It should also be noted that only one person did not answer this question.

4.1.2. The use of smartphones in teaching practices

The educational use of smartphones in primary schools in northern Cameroon offers significant benefits. This is because it takes place against a backdrop of infrastructure challenges and limited access to traditional educational resources. These devices, which are becoming increasingly widespread even in rural areas due to their lower cost compared to computers, provide access to digital educational content, such as learning apps, instructional videos or online platforms. They benefit both pupils and teachers by boosting motivation, utilising interactive methods and compensating for the lack of textbooks or libraries.

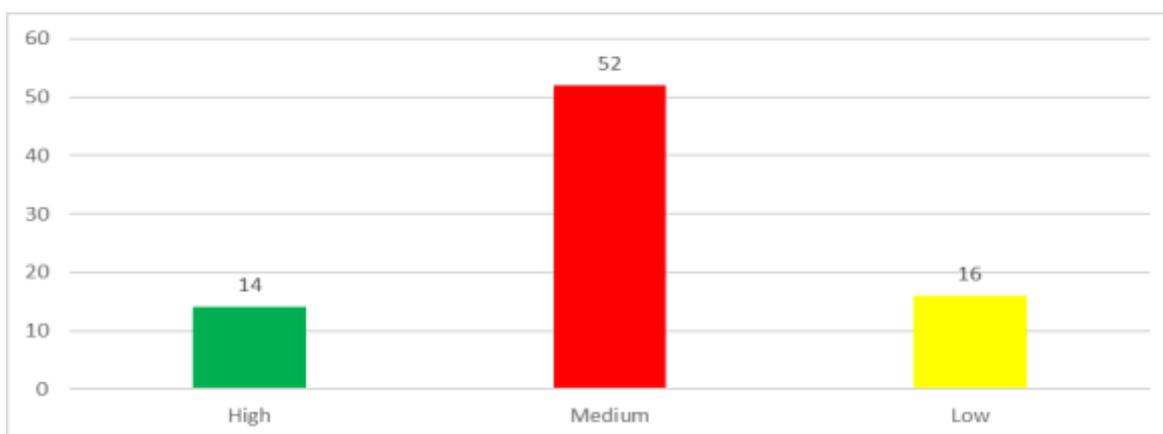


Figure 2 : Frequency of smartphone use in the teaching process

Source : data from the field survey, September–December 2023

An analysis of Figure 2 above, which shows the frequency of smartphone use in the teaching process, reveals that 52 respondents state that their frequency of smartphone use in the teaching process is average. Furthermore, 16 respondents report using smartphones in the teaching process infrequently. Finally, only 14 respondents state that they use smartphones frequently in the teaching process. These data therefore show that respondents use smartphones moderately in the teaching process. It should also be noted that two people did not answer this question.

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4.1.3. The use of video projectors in teaching practice

In the classroom, video projectors enable teachers to compensate for the lack of physical textbooks by projecting digital resources, maps or colourful illustrations. These elements capture the attention of young pupils, who are often numerous in each class. In a context where oral and visual elements are paramount, the video projector's the lesson into an interactive experience. A lesson on the Bénoué Basin ecosystem or on hygiene becomes more tangible thanks to the projection of educational videos.

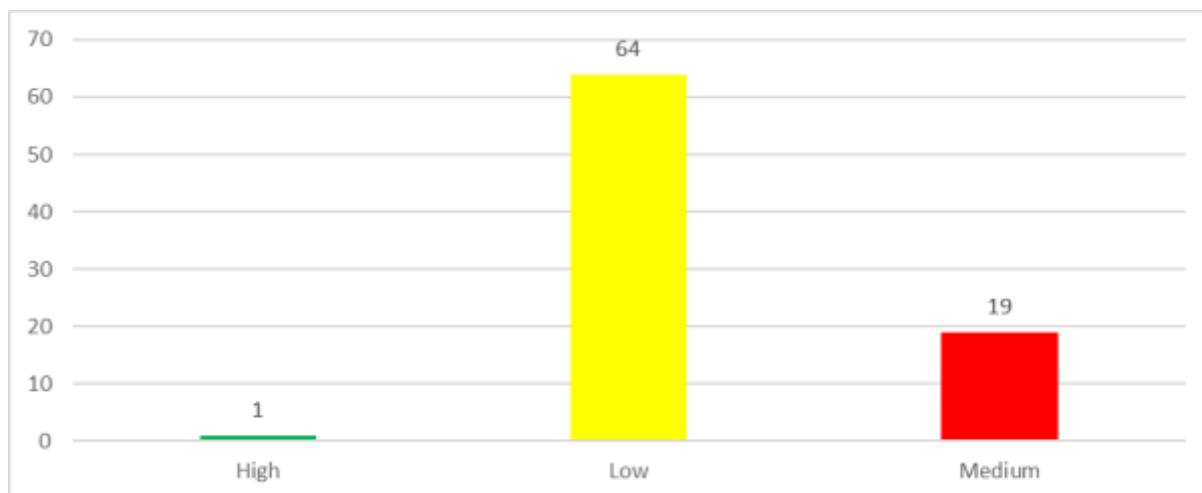


Figure 3 : Frequency of use of video projectors in teaching practice
Source : data from the field survey, September–December 2023

The figure above, relating to the question on the frequency of video projector use in lessons, shows that 64 respondents, or 76.19%, state that their frequency of video projector use in lessons is low. Furthermore, 19 respondents state that they use the video projector for lessons with moderate frequency. Finally, only one respondent stated that they use a video projector for lessons frequently. These data therefore show that respondents use video projectors very little for lessons.

4.1.4. Use of information and communication technologies during formative assessments

The integration of information and communication technologies (ICT) into formative assessments in primary schools in Bénoué may mark a significant transition towards a more dynamic and interactive teaching approach. Thanks to a variety of tools such as educational tablets or multimedia resources, assessment is no longer limited to a simple test of knowledge, but becomes a means of immediately adjusting teaching. This approach promotes more effective pedagogical remediation, as it provides instant feedback that stimulates learner engagement and allows learning pathways to be personalised according to the specific needs identified during lessons.

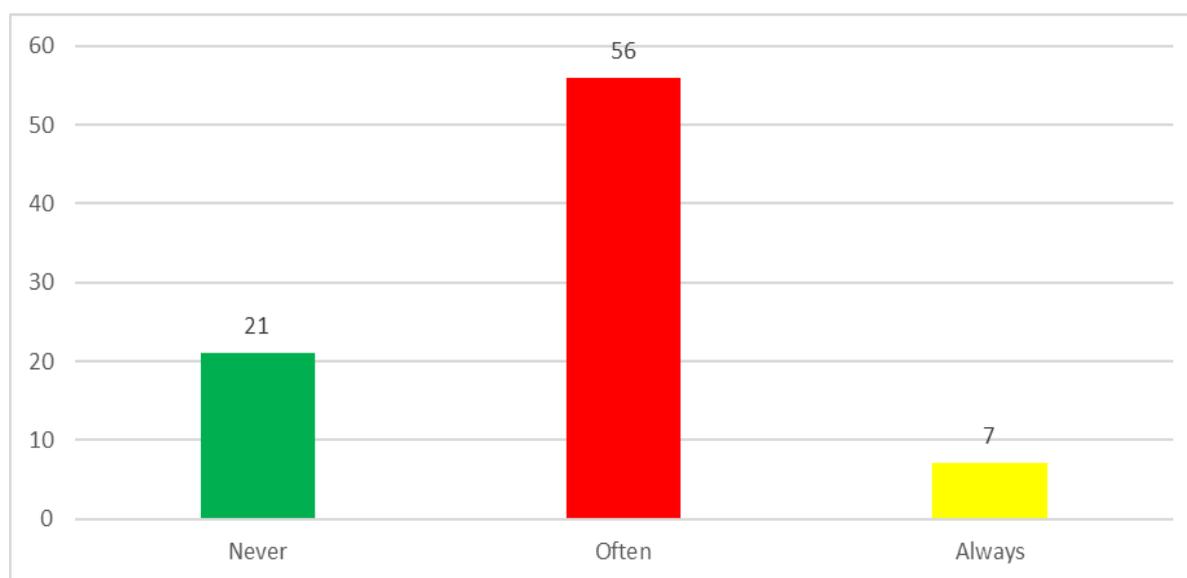


Figure 1 : formative assessments using ICT
Source : data from the field survey, September–December 2023

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The figure below, relating to the question on formative assessments using ICT, shows that 56 respondents state that they often carry out formative assessments of pupils using ICT. Furthermore, 21 respondents state that they never carry out formative assessments of pupils using ICT. Finally, only 7 respondents state that they always carry out formative assessments of pupils using ICT.

4.2. Inferential analysis of the study results

4.2.1. Reliability analysis of the variable 'educational use of digital capsules'

Table 1 : Reliability statistics

<i>Reliability statistics</i>	
Cronbach's alpha	Number of items
,652	3

Source : Personal data in SPSS 27.0.1

The table above, relating to the reliability of the scales for the variable '*educational use of digital capsules*', shows an acceptable Cronbach's alpha coefficient of around 0.652. However, the table below indicates that whichever item we remove, the value of Cronbach's alpha will not change ; therefore, we will continue the analysis with the same items.

Table 2 : Statistics for all items

<i>Statistics for all items</i>				
	Scale mean if item is removed	Scale variance if an item is removed	Cronbach's alpha	Cronbach's alpha when an item is removed
Use of PowerPoint in lesson presentations	3.46	,871	,420	,517
illustration of certain activities through short video clips	3.13	,702	,444	,481
design of reading lessons using audio clips	3.00	,845	,405	,533

Source : Personal data in SPSS 27.0.1

4.2.2. Testing the research hypothesis

To test the specific research hypothesis *that the educational use of digital capsules influences the development of skills among primary school pupils in the Bénoué department*, let us first formulate the statistical hypotheses.

- H0 : There is no linear relationship between the educational use of digital capsules and the development of skills among primary school pupils.
- H1 : There is a linear relationship between the educational use of digital capsules and the development of skills among primary school pupils.

The ANOVA table, which allows us to examine the F-statistic from Fisher's test, shows that the significance of the F-statistic is approximately 0.31, which is below the 5% threshold. We can therefore conclude that there is at least one indicator of the variable 'facilitation of activities through digital capsules' that does not have a zero coefficient.

Table 3 : ANOVA^a

ANOVA^a

Model		Sum of squares	ddf	Mean square	F	Sig.
1	Regression	1.107	3	,369	3.131	,031 ^b
	Student's	8,018	68	,118		
	Total	9,125	71			

a. Dependent variable: pupils' skills

b. Predictors: (Constant), design of reading lessons using audio clips, use of PowerPoint in lesson presentations, illustration of certain activities using video clips

Source : Personal data in SPSS 27.0.1

Furthermore, an analysis of the coefficient table initially indicates that there is no multicollinearity among the variables, as the VIF values for each indicator are below 4. Thus, all the necessary conditions for interpreting the coefficients have been met.

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Table 4 : Coefficients^a

Coefficients ^a Model		Unstandardised coefficients		Standardised coefficients Beta	t	Sig.	Collinearity statistics	
		B	Standard error				Tolerance	VIF
1	(Constant)	1.516	,167		9.091	,000		
	use of PowerPoint in lesson presentations	,009	,083	,013	,112	,911	,823	1,215
	illustration of certain activities through short videos	,162	,059	,273	2,707	,042	,802	1,247
	design of reading lessons using audio clips	,089	,064	,132	1,389	,169	,836	1,197

a. Dependent variable: pupils' skills

Source : Personal data in SPSS 27.0.1

After correcting for the error terms, we observe in the table of coefficients that the significance of the Student's t-test for two indicators is well above the 5% threshold, with p-values of around 0.911 for the indicator 'use of PowerPoint in lesson presentations', 0.169 for the indicator 'design of reading lessons using audio clips', whilst it is around 0.042 for the indicator 'illustration of certain activities using video clips'; therefore, we can conclude that for this indicator, its coefficient is non-zero with a 5% margin of error. As this coefficient is approximately 0.162, we can say that the educational use of video clips facilitates the development of skills among learners. We can therefore assume the existence of a linear relationship between the use of digital clips to facilitate activities and the development of skills among primary school pupils, expressed by the equation: development of pupils' skills = 0.162 × educational use of video clips + 1.516.

4.2.3. Analysis of the variability of the dependent variable

The summary table of the model below shows us that the R-squared is approximately 0.121; we can therefore conclude that the variable 'facilitation of activities using digital clips' explains 12.1% of the variation in pupils' skills.

Table 5 : Summary of models

Summary of models				
Model	R	R-squared	Adjusted R-squared	Standard error of the estimate
1	,348 ^a	,121	,083	,34337

a. Predictors: (Constant), design of reading lessons using audio clips, use of PowerPoint in lesson presentations, illustration of certain activities using video clips

Source : Personal data in SPSS 27.0.1

We can therefore conclude that the hypothesis that the educational use of digital clips influences the development of primary school pupils' skills in the Bénoué department has been verified. This result is discussed.

5. DISCUSSION OF RESULTS

The low uptake of digital tools by teachers is an issue of interest to researchers. In Benoué, this is due to a lack of continuing professional development. This is further supported by the authors (Carugati and Tomasetto, 2002; Charlier et al., 2002; Breuleux et al., 2002), who believe that the thorny issue of digital tool usage in teaching activities lies in teacher training. Furthermore, based on the results of the descriptive analysis of data relating to the use of video and audio clips, it appears that the use of audio clips is more prevalent than the use of video clips among respondents. Indeed, 59.75% stated that they used video clips, whilst 72.62% of respondents stated that they used audio clips. However, the results of the inferential analysis indicate that the use of video clips develops pupils' skills.

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These findings are fully consistent with the studies by Laduron and Rappe (2019), who, in their paper, present a typology of the educational uses of video based on learner activity—whether intended or actual—and whether initiated by the trainer or by the learner themselves. This model emphasises the diversity of approaches that can be adopted by the learner within a training programme incorporating video. These approaches are as follows: video as an object of ‘comprehension’, for example, an explanatory video dealing with a particular concept; video as an object of ‘memorisation’, such as watching a video at one’s leisure whilst preparing for an exam; video as an object of practical application, as in traditional ‘tutorials’; video as an object of analysis, for example when the learner is asked to provide an ‘analysis’ of the content viewed; video as an object of ‘positioning’ through illustration, when the learner is asked to form an opinion on the content viewed; video as an object of ‘creation’, where the learner is required to produce a video themselves. These results clearly demonstrate the importance of knowledge transfer through video clips.

Similarly, during classroom observations, several pupils, by following the steps for making an object on YouTube presented by the teacher, managed to reproduce 80% of what they had seen. This use of video clips enhances pupils’ engagement during lessons and makes them more independent and active participants. These results are similar to those obtained in the studies by Desparois and Lambert (2014) and Ammer (2020), cited in Fabiano (2022), which demonstrate the importance of using video clips in teaching. Video has a positive effect on learners’ motivation and a beneficial impact on the academic success of weaker learners. This is because these digital clips easily capture learners’ attention due to their engaging nature. This observation is also illustrated in the respective comments of respondents E5, E8 and E7 below: ‘Here’s an activity I do with my pupils in art lessons: I log on to YouTube – as I had a bit of data – and they followed along step by step. I swear I was surprised when I saw their work; they reproduced it a thousand times better than what I’d done on the blackboard. Here’s the illustration. What’s more, in science I like to use video resources to deliver lessons; in history and geography, for example, I used short video clips of 4 to 4 minutes on the slave trade because I divided the lesson into four parts. Through these videos, I showed how slaves were captured, how they were taken to the United States, and on which ships they were transported, how, in short, it all happened very quickly. I don’t know if you’ll come across my pupils, but if I were to give you the titles of the lessons I’ve taught using digital tools, you’d be surprised compared to lessons taught using books and the telephone.’

Regarding the use of audio clips in classroom practice, E5, E6 and E3 state respectively: ‘With the XO computers in language lessons such as English, there were translation apps; the children looked up words and it translated them into English. This helped me particularly with pronunciation, as I struggle with English pronunciation; the children listened carefully to the pronunciations and then repeated them several times. I didn’t have to run out of breath; it also translated, so the pupils developed their skills quickly, and it helped me with my pronunciation too’; ‘I use them in ICT lessons – the videos and audio clips. It’s quick, and the children are so engaged; they really enjoy it’; ‘In French, I downloaded an audio poem, but I realise that these tools will really work in the long run’.

It is worth noting that the teachers’ comments regarding the development of pupils’ skills through the use of audio clips are consistent with the observations we made during our field visit. Indeed, in the field we observed that when pupils listened to the audio clips and repeated after them, this had an impact on the development of language skills among certain pupils experiencing difficulties. This means that the use of digital clips transforms teaching, contributes to the achievement of the intended learning objectives, and improves pronunciation among both pupils and teachers in the subject of English. As for the design of lessons using PowerPoint, the results show that very few teachers design lessons using PowerPoint, and this is due to their lack of proficiency in using digital tools. These findings are evident in the study conducted in Morocco by Mastafi (2020) among 334 primary school teachers, which indicates that only 18.6% of respondents possess skills relating to the mastery of educational programmes and simulation programmes using digital tools.

Siemens’ (2005) connectivism supports our hypothesis that the use of digital clips promotes the development of pupils’ skills in the Bénoué department, which has been validated. This learning theory emphasises the importance of connections and learning networks. In the context of using video and audio clips to develop skills, connectivism is applied to several factors; for example, in terms of learning networks, video clips are used to create learning networks, share pupils’ knowledge and experiences, and showcase their various projects or work, thereby connecting pupils and teachers. Furthermore, they can create a learning environment that is more interactive and collaborative. The use of video clips in a connectivist context allows for the creation of a YouTube channel to share videos of a specific lesson, and this will help students to comment on and share their own videos, as with the skills-based approach, the student is at the centre of learning.

6. CONCLUSION

The study conducted in the Bénoué department confirms that the educational use of digital clips, particularly video clips, has a positive, albeit modest, influence (12.1% of the explained variability) on the development of primary school pupils’ skills. In a context marked by severe structural constraints (overcrowded classrooms, limited access to electricity and the internet, insufficient teacher training), these digital tools nevertheless make lessons more engaging, interactive and practical. They promote learners’

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autonomy, motivation and participation. , video clips, more so than audio clips or PowerPoint presentations, prove particularly effective at illustrating complex concepts, stimulating memorisation and encouraging active learning. These elements are in line with the principles of connectivism (Simiens, 2005), which emphasise distributed knowledge networks. These findings highlight the potential of digital clips as a lever for improving educational quality in priority areas, even though their use remains limited and uneven.

To maximise this impact, it is recommended that there be a significant expansion of continuing professional development for teachers in the creation and pedagogical integration of short video clips. Rural schools must also be equipped with reliable equipment (solar-powered video projectors, offline tablets) and digital content tailored to the Cameroonian curriculum. It would also be appropriate to develop national or regional platforms for sharing locally produced clips, thereby fostering a sustainable connectivist ecosystem. Finally, future research could explore a longitudinal comparison of the effect of video clips on academic performance and dropout rates in rural versus urban areas. One could also examine the specific impact of clips produced by teachers themselves versus those sourced from external resources. Another avenue is to analyse the differentiated effects according to pupils' gender and socio-economic status, or the combined integration of digital clips with offline mobile devices in contexts with poor connectivity. Such investigations would help refine strategies for integrating digital technology to promote a more inclusive and competent primary education in Cameroon.

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