Using the technological tool Photo Story 3 for Windows as a motivational resource to improve academic achievement of Students with Special Needs

Abstract: My experience as science teacher allowed me to see how the level of implementation of my seventh grade students has been declining in the areas of reading comprehension and writing in the science class. To increase skills in this area, we conducted an action research with 22 students (19 of the regular track and 3 students with special needs) on "Characteristics of living organisms". We used three techniques: quizzes of six readings, pre and post-test and creating a script. The latter integrates the technological tool "Photo Story 3 for Windows" whereby students completed the job successfully, especially reluctant writers. Although all students acquire skills in reading comprehension and writing, and technology was only an aid, we can't ascribe to it the entire educational gain.

Key words: Characteristics of living organisms, comprehension skills of reading and writing, technology, mainstream students, students with special needs, and "Photo Story 3 for Windows"

Introduction

The role of teachers is focused on helping students to develop their intellectual, moral and social capabilities within the context of their aspirations and possibilities (Regulation of Teachers of the Department of Education of Puerto Rico, May 21, 1984). That is, the teacher will lead the effort in getting their students to achieve their full potential development and execution level, taking in consideration the learning problems that can present some of them. As an educator I have noticed more and more how the level of execution of my seventh grade students has been declining in the areas of reading comprehension and writing in science class. This problem is not only of students with learning disabilities, also it is present in the mainstream students. According to Kennedy & Deshler (2010), the gap between the level of performance of students with learning problems and curriculum demands are expected to know is often very wide. The aim of my research was to determine whether the selected approach to make use of a technological tool will reduce the gap that has been watching from the demands of the science curriculum and the level of performance of my students, especially in students with learning problems.

The technological tool "Photo Story 3 for Windows" was integrated in the classroom to improve student academic achievement in skills of reading and writing Science comprehension. This tool allowed students to create a story from a series of pictures and be kept in a video format, as well as showing a greater interest in learning activities and to obtain a better level of performance in the skills impacted.

Literature Review

In the XXI century there is a gap between the level of performance of students with learning problems and curriculum demands. This gap presents a greater challenge for students with specific learning disabilities, which is reflected in studies conducted by Kennedy and Deshler (2010), where 21% of these students are five or more degrees below the reading levels, 31% drop out of school and only 11 % attend postsecondary institutions (Wagner, Newman, Cameto, and Levine, 2005). Furthermore, 90% of the school population with learning disabilities have difficulty reading independently, including reading comprehension problems (Earman and Tejero, 2011).

These results lead us to work with new instructional strategies, specifically address reading comprehension and writing in science class. According to Earman and Tejero (2011), the students with learning disabilities instruction assisted with technological resources can be effective teaching of reading comprehension strategies. The authors used quizzes and standardized tests to measure student progress. The findings suggest that daily reading on the computer, together with the comprehension strategies, can positively influence the reading comprehension of students.

On the other hand, the development of digital video allows students, particularly reluctant writers, build their own video as it is an effective way to get him to commit, while generating a product for evaluation (Peterson, Hourcade, and Parette, 2006). Also, some students are motivated with technologies that will provide control of their own learning or when the learning intellectual production involves the use of technology (Peterson, Hourcade, and Parette, 2006; De Jesus, 2007). In some ways, technology provides us different ways of organize information, visualize a concept or construct our understanding of a relationship helping us to think actively.

Here is the link: technology - activity - thinking – learning (De Jesús, 2007).

Methodology

An action research was realize with a group of 22 seventh-grade students from a middle school of the village of San Lorenzo, Puerto Rico (19 are from the regular stream and 3 from the special education program with specific learning disabilities). Three techniques were used for data collection: pre and post-test of 13 multiple-choice items, short tests (4 multiple choice items and an open question) that occurred before and after the intervention of the teacher to take readings short the theme" Characteristics of living things ". Readings were taken individually into six different periods of 15 minutes. Then, each student proceeded to take the reading comprehension quiz. The intervention of the teacher was to clarify doubts after the individual reading process. The teacher used "Power Point" presentation, oral discussion and videos for this purpose.

A third strategy was the design of the script, which was used to promote successful writing process: drafting, revising and editing. After reviewing the script made by the teacher, the participant proceeded to edit their work and then prepare the presentation. Was required to have completed the script before going to the computer lab and in this way the use of the technological tool selected would be more effective. Finally, the students developed a presentation using the "Photo Story 3 for Windows". This presentation was used as another mechanism to determine the knowledge acquired and assessed taking into consideration the criteria in the rubric prepared for this purpose.

Discussion and Conclusion

In Table 1, the regular stream students in the pretest were below 69% and 50 %. However, in the posttest there was an increase in the scores of all participants. The 26% of these, dominated the post-test with scores ranged from 100 % to 70 %, and the 58% between 69% and 50%.

Table 1: Results of the percentages obtained in the pretest and posttest for mainstream students versus students with special needs

Students	% scored at the pretest			% scored at the posttest		
	100 - 70%	69 - 50%	< 50%	100 - 70%	69 - 50%	< 50%
Mainstream	0	20	80	26	58	16
Special Needs	0	20	100	0	100	0

For participants with special needs, they scored less than 50 % at the pretest versus scores ranged from 69 % to 50 % in the post-test, showing an improvement in his execution.

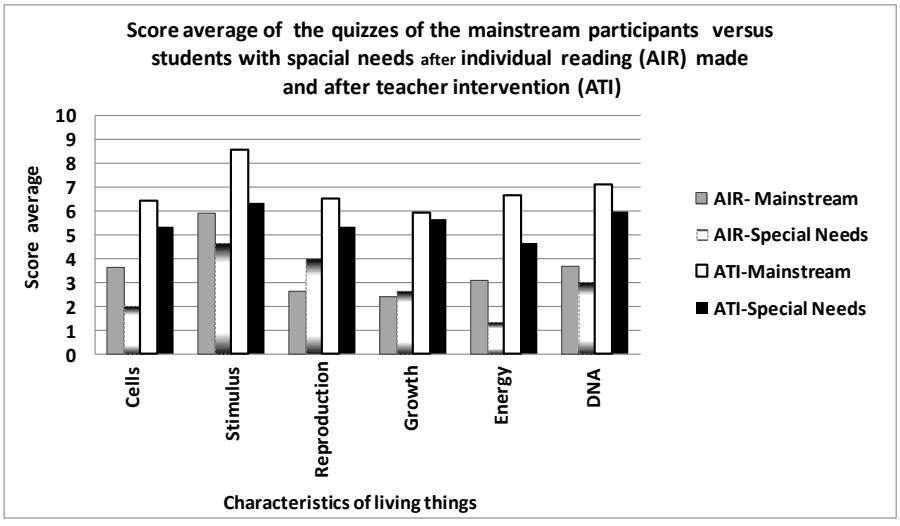

Figure 1

Comparing the score average of the quizzes of the mainstream participants versus the students with special needs, after individual reading made, can be noted that the latter obtained a better performance in quizzes readings related to reproduction, growth and development. Contrary to the best execution in the six quizzes of the mainstream participants after the intervention of the teacher (see Figure 1). Something interesting was that the group of students with learning problems simply leave blank the item open question, a fact that is not surprising, since in the medical findings indicated that these students have difficulty writing skill and low levels in the ability to remember. In addition, all students who were reluctant to write when they were taking quizzes, completing their scripts. The 95% of participants completed his script as an evaluation criterion was established to work the technological tool "Photo Story 3 for Windows". According to research by King, Swanson and Mainzer (2011) the students with special needs instruction based on the use of technological tools improve their language when doing written work, as they can match up their educational needs to make use of these technological tools. This pairing allowed participants completed the script, so that 91 % of students obtain 70 % or more in their final work.

The final product showed that the technological tool "Photo Story 3 for Windows" - allowed students to have better execution when discussing the topic of the “Characteristics of living organisms.” According to Morrison (2007) the educational intervention is well planned and aimed at the needs of the participants , there will be a gain in the process , which was shown in research with the use of the technological tool "Photo Story 3 for Windows ", which was the element that motivated participants to complete their work, especially to reluctant writers .

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