

A study of the use of software related to phonic skills as part of the literacy programme in the infant department of a primary school in East Trinidad.

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Abstract

Research abounds on the importance of phonic development as an integral aspect of reading success as well as the use of technology in schools for the promotion of key reading skills. This study focuses on the use of existing phonic software in a primary school as part of the literacy programme. It utilizes a mixed method approach to closely examine the responses of participants through careful observation of interactions with existing software in a prepared environment. The findings reveal that the software has a positive motivational impact on the majority of participants in the study. Coupled with this, the findings highlight the need for collaborative planning among staff members for proper assessment of phonic development. The findings of the study can provide some direction with respect to planning of the literacy curriculum for this and similar schools in the district.

Keywords: phonics, software, motivation, literacy

Introduction

It is apparent that phonic development must be an integral part of any balanced literacy programme. At the school in question, the problems faced with respect to literacy success are multidimensional in nature and are accounting for the general decrease in academic performance experienced at the school. A close examination, through observations and perusal of success reports of the school's performance, has indeed revealed some alarming statistics with respect to phonics.

Literacy researchers advocate a programme that is well balanced and employs an integrated, interactive approach to literacy instruction. The use of the computer is but one of these strategies that, not only appeals to the young learner in this technologically advanced world we live in, but can aid in the reinforcement needed to close performance gaps. This study sought to examine the use of the existing phonic software at the school as part of the activities offered in the literacy programme. In so doing, the teachers were also engaged in a reflection and review of the participants, both in the classroom and during the exposure to technology, as well as their own planning techniques.

Background

At Sunshine primary school, there are an increasing number of children who are being diagnosed as struggling readers, diagnostic tests conducted by Student Support Services from the Ministry of Education

reveal that these children frequently have deficiencies in phonemic awareness and phonetic ability. Personnel who are trained specialists and are outsourced by the Ministry of Education have also been at the school within the past two years in connection with all the children who seek special concessions for the Secondary Entrance Examination. Reports at the school from these sessions revealed that major gaps with respect to phonetic ability exist and are affecting the performance of children. Interviews with teachers at the lower junior levels have also indicated that weekly and end of term test results reveal lower test scores on the assessment that require children to utilize their phonic skills.

Statement of the Problem

This study will seek to examine the use of technology, specifically, existing phonic related software, as part of the literacy programme at Sunshine Primary School.

Purpose of the study

It has already been identified that children are lacking basic phonic skills at the early childhood level at Sunshine Primary School and this is hampering reading success. This study will examine the responses of two infant classes to the existing software, which emphasizes facilitating phonic skills. The data collected upon examination of the use of the software should highlight the motivational aspect of utilizing technology as part of the school's literacy programme as well as focus on the issue of collaborative planning amongst staff members.

Research Question

How is phonic related software, utilized as a part of the literacy programme in the infant department of Sunshine Primary School?

Sub Questions

- What specific phonic programme/ programmes are in use at the school and how, in detail, is/are they utilized?
- What are teachers' reactions to the use of the phonic related software?
- What are children's responses to the phonic related software?

Significance of the study

This study will examine the responses of children to existing software designed for building phonic skills. The existing literacy programme, through observations and perusal of schemes of work, has revealed that the strategies employed are confined to the classroom with no integration across disciplines and a heavy reliance on worksheets. There is limited use of the computer utilized as a tool for teaching. A study of children's responses to the use of technology will provide invaluable data for the school.

This study will serve to bring a critical view to the current methods utilized with respect to the teaching of phonics. It can also serve to highlight the issue of collaboration among staff members with respect to

curriculum planning and evaluation. The semi-specialist, namely, the Information Technology (IT) teacher, will also become involved with the classroom teachers in planning, designing and amending literacy curricular materials.

Methodology

This study was descriptive in nature and employed a mixed method approach to methodology. The study involved gathering data through observations, interviews and a questionnaire that described in detail, children's responses to phonic software focusing on the motivational aspect. This data was then arranged, tabulated and analyzed. Data was organized into patterns that emerged during analysis and was supplemented by the use of visuals to aid the reader.

As mentioned, the use of observations, interviews and questionnaires were the main avenues for gathering data. The following were utilized:

- An initial interview was set up with the teacher assigned to conduct computer classes at the school and apprise him of the study. This instrument was qualitative in nature as it was purely descriptive. The Information Technology(IT) teacher was able to indicate what program existed for phonic development along with a detailed description of such. This served to answer the sub research questions "What specific phonic programmes are in use at the school and how, in detail, are they utilized?"
- A questionnaire for the teacher to gather evidence on the use of the computer for teaching phonics; this included the frequency, if any, her views on the use of such and how she felt it was impacting or will impact the children. This too, was qualitative in nature and consisted of pure narratives to document responses. This answered the question "What are teachers' reactions to the use of the phonic related software?"
- A mixture of narratives in the form of a structured observation form, interview and checklist to capture children's responses to the phonic programme currently being utilized. A structured observation form was used for the gathering of narratives to eliminate bias.

These were a mixture of quantitative and qualitative data, in addition to the description of events using anecdotal records, there were items on the checklist and structured observation forms that could be defined and measured. The interviews with the children were done to capture their feedback on the phonic exercise; these were qualitative in nature. Data gathered answered the sub question "What are children's responses to the phonic related software?" It is noteworthy to say that the responses examined were based on the answers given by the participants on tasks as well as the interest and motivation displayed whilst performing these tasks.

Sampling Procedure

In an attempt to avoid biases, a probability sampling method was used for selection of participants. A stratified sampling method was employed in this instance. This was chosen since the target participants

were a small subgroup of the entire school population and thus variability was lower. The school has thirty classes in total. Given the constraints of time, this population was too large to observe. There were six Second Year Infant classes each containing twenty five plus children at this school. Two classes were randomly chosen, after which, ten students each were randomly selected giving a total of twenty student participants.

Validation of Data Collection Instruments

Prior to the conduct of the study, the data collection instruments, namely, the questionnaire, structured observation form and interview questions were administered in the same way under similar conditions at a neighboring school. A debriefing session was done with the respondents to gather information on the clarity and usability aspect of the data gathering instruments. This proved to be a useful exercise since all the data gathering instruments were user friendly and achieved their objectives. Additionally, at the school in question, there was an appointed Head of Department who coordinates the activities related to curriculum for the infant department. The instruments and preliminary results were reviewed and information garnered from this officer's assessment indicated that the instruments did yield the type of data required for the study.

Procedure

- The interview with the Information Technology teacher was administered at the beginning of the research period. The name of the software in use was noted along with the objectives of the programme.
- The timetable for the computer classes was accessed and perused. The time slots for the classes in question were noted. Permission was sought from the Principal for the researcher to observe the children during the assigned times. During these times, the researcher utilized the structured observation form to carefully record children's responses to the tasks. The checklist was done weekly for each child.
- The questionnaire for the teachers was administered during the fourth week of the research period. This allowed teachers the opportunity to observe the participants closely since they may be unfamiliar with the participants in question (first term of academic year).
- In the sixth week of the research period, the interview with the children was conducted. The interview with each child was approximately fifteen (15) to twenty (20) minutes long.

Data Analysis

The analysis will be done according to three major categories, data collected from; the Information Technology teacher, the classroom teachers and the participants.

The Information Technology Teacher

The data collected from the initial interview with the Information Technology (IT) teacher revealed some very salient points. Firstly, the Information Technology (IT) teacher has a comprehensive technological

plan aligned to each class at Sunshine Primary School. His intentions are to liaise with the class teachers to ensure that the content of his programme supports the classroom teaching. This collaboration did not occur for this academic year and thus the phonic software in use was not explained or demonstrated to any of the classroom teachers in question. This is due mainly to a lack of non –contact teaching, collaborative planning sessions at the school, making meetings challenging. The Information Technology teacher continues to use the programme since it was sent by the Ministry of Education and it is assumed that the software was chosen by literacy specialists at the Ministry. It must be noted, however, that the programme was not in use for the past two years with no apparent reason given.

Secondly, the interview revealed that although the principal of the school has mandated that all teachers must accompany their children to all classes outside of the classroom e.g. computer, physical education etc., teachers accompanied the participants to the computer classes approximately 50% of the time. Throughout the six week research period, the researcher observed Teacher A accompany her class twice and Teacher B three times. The teachers normally assist with class control in the computer room but do not interact or assist the children with the phonic activities.

Thirdly, the success of the phonic activities is hinged on the children's ability to move through the activities and the teacher's feedback. The Information Technology teacher revealed that a meeting is carded for the end of the term in order to discuss the participants' progress as evidenced by his own record keeping and the participants' interactions in the regular classrooms. If this meeting does not come to fruition, then proper evaluation of the use of the programme cannot be done.

The Classroom Teachers

Both teachers are in agreement, that the use of the phonic software as part of the literacy programme in the school, has value. It is clear that in tandem with the comments made by the Information Technology teacher, the time constraints account for a lack of collaborative planning. The teachers' assessment of the value of the software is based on the children's apparent excitement to attend the classes and prior knowledge of the software based on previous classes they had.

The teachers were not very detailed with respect to how they view the use of the software benefitting the participants in the classroom but were very adamant that the children are eager to go to the computer lab and interact with the phonic software. The research question which requires an examination of teacher's response to the software therefore cannot be answered in detail without a longer research period for questioning and observations. The key point to note, however, is that the teachers are in favour of the programme. They send the participants regularly to the classes and in their opinion, the use of the software is motivating as it excites the children to learn when they return to the normal classroom setting.

The Participants

The structured observation form, checklist and interview with the participants all served to answer the question "What are the children's responses to the phonic software?" The first category of observations required the researcher to log the events at the start of the sessions. It can clearly be seen that 60% of the participants displayed positive behaviours towards the software, 30% still awaited instructions in the

beginning but started to gain confidence after week two, as evidenced by their eagerness to open the programme and 10% was still hesitant, even at the end of the research period.

Documentation of participant's eagerness to commence also indicates a large percentage, namely 90% in the affirmative, it can be deduced that the participants who scored in the 60% category for positive behaviours, most likely would have been included in the 90%. Interestingly as well, 10% of the participants seems to be experiencing difficulty and needs to be assisted. This is similar to the 10% of the participants who were hesitant to commence the tasks.

One can see that a resounding 75% of the participants displayed some measure of competence as evidenced by their ability to complete the tasks on their own and move through the levels. The participants who fell in the 25% band were also able to complete the task but the major difference is that they required assistance from the teacher and their peers. Similarly, as in the last two categories, the larger percentages denoting positive behaviours are comparative to this category as well. A similar result is also evidenced in another category where 82% of the participants scored high motivation and 18% scored mediocre. The subtle differences in the behaviours as described in the data presentation were mainly due to the fact that the participants in the 18% relied on the teacher more but were able to complete the task eventually, which again is in keeping with the results from other aforementioned categories.

The data from the checklist is also indicative of a larger percentage of the participants displaying behaviours in keeping with high motivation. It can be seen that 85%, 97% and 71% of the participants are using the computer with minimal assistance, responding to the activities and moving to challenging levels respectively in each category. This can be solidly compared to the 82% who are displaying the criteria for high motivation, the 90% depicting eagerness and displaying confidence. Additionally, if the tallies from the checklist reveals the mean score for each of the criteria would be 30 since the total tally possible is 60 and there are 2 categories of 'Yes' and 'No'. It can clearly be seen that the tallies are above the mean mark for the following criteria:

- Participants are using the computer software with little or no assistance from the teacher
- Participants are responding to the activities required in the software programme
- Participants are motivated to move to challenging levels in the phonic programme

The one criterion below the mean mark was for the one which expressed children's frustration and inability to complete tasks which yielded 0%. This is definitely in keeping with the aforementioned analysis.

Concluding, the interview with the participants further depicted the qualitative aspect of this research study by comprehensively categorizing the descriptions of the participants. The data clearly indicates large percentages are again allotted for criteria such as enjoyment-100%, engaging in activities-95%, confidence-90% and a lower percentage for experiencing difficult-20%. It must be noted that the interviews revealed, that through the exposure to the activities using the phonic software, a larger number of the participants felt that they could better cope with regular classroom literacy activities, as evidenced by the responses that they feel more compelled to participate and answer questions.

Discussion

Slavin, Lake, Davis & Maddin (2011) indicated that phonic software inclusion has the ability to convey concepts in new innovative ways that would otherwise not be possible, efficient, or effective with traditional instructional methods. The high affirmative percentages previously discussed are suggesting that the use of the phonic software was indeed a new, innovative way for these participants to be exposed to phonic activities. The fact that Teacher A indicated that the cramped conditions, noise level and lack of a computer in the classroom setting make it difficult to do interactive phonics lessons reinforces this statement.

Although this study was not a comparative one, the research conducted by Wild (2004) cannot be ignored. The findings of the study conducted by Wild (2004) clearly indicated that the students who were exposed to software were highly motivated and displayed higher incidences of enjoyment as opposed to those who were not exposed. So too, in this study, students displayed high percentages of motivation. This motivation was measured using certain criteria adopted from the work of Christopher (2010) who theorize that indicators of motivation include persistence-the ability to stay on task, choice of challenge-welcoming a task that is challenging, dependency on adults-low reliance is directly related to high intrinsic motivation and lastly, emotion-children show enjoyment and positive emotions when motivated. Each or a combination of most of the aforementioned data collection instruments and resulting data served to capture these indicators. It can be categorically stated that a majority of the participants were indeed motivated by the software.

There are certain issues arising out of the study which must be highlighted. The fact that there is no collaboration between the classroom teachers and the IT teacher, coupled with the fact that the teachers do not accompany the participants to all the computer classes are cause for discussion. If there is no collaborative planning, then the success of the programme may be compromised. This is supported by Vega (2013) who indicated that properly trained staff, adequate equipment, ongoing funding, and successful integration of technology into existing teaching are needed in order to maximize learning for students. Sunshine Primary School is fortunate to have a trained teacher with appropriate qualifications as well technological resources and software approved by the Ministry of Education. These, however, as indicated by Yu (2013) must be carefully integrated to ensure learning objectives are being met.

This study was riddled with the main challenge of time. Careful observation of a larger cross section of this and other primary schools in the area would have produced more definitive results upon which more generalizations on a district and national level could be made. The main research question, however, "How is phonic related software, utilized as a part of the literacy programme in the infant department of Sunshine Primary School?" was answered through the data collected on the various instruments. The definite pattern of high percentages for positive behaviours when exposed to the software can indeed be utilized by the Administrator and staff of the school to plan for the further integration of technology in the literacy programme.

Recommendations

The researcher proposes the following recommendations for Sunshine Primary School:

- Although the software was sent by the Ministry of Education, an attempt must be made to meet with the literacy specialist attached to the district to ensure the reliability and smooth integration of the phonic software as part of the entire literacy curriculum. The literacy specialist can assist in the formulation of a literacy team to ensure the success of the use of technology as a part of the programme.
- Regular, on- going collaborative sessions for the purposes of planning the literacy programme for the upcoming term as well as assessing the use of the software throughout the term.
- Individual record keeping by the Information Technology teacher as well as the classroom teacher on each child's progress with regards to phonic development
- Professional development sessions with all members of staff with respect to the type of software being utilized and its objectives
- Consistent use of all the software approved by the Ministry of Education. Regular liaising with literacy specialists in the district to ensure objectives of technological programmes are achieving the school's needs and major literacy objectives
- Research with primary schools across the district on the issue of phonic development. Concurrently, formulation of literacy teams within schools and at the supervisory level compiling administrators, school supervisors, university personnel /specialist, teachers and literacy coaches to conduct research, collect and collate data, analyse findings and lend further support to schools based on the district's research

Conclusion

The aforementioned recommendations are all hinged upon some very distinct findings in this study. It can be categorically stated that participants experience some level of enjoyment and by extension feel motivated when using technology as part of the literacy experiences at school. It is hoped that a further analysis of the findings and a critical evaluation of the school's practices may indeed further assist in improving the school's reading performance.

Indisputable also are the views expressed by the classroom teachers that the use of the technology does indeed assist in the interactive sense for reinforcing phonic skills, which can be challenging in the classroom setting. The fact that the school has a functional computer lab with a resource teacher is another advantage that this school has with respect to the continued use of the technology. On a larger scale, although the study was not in depth enough to generalize, it can be used as an example to other schools in the district with similar resources.

Concluding, the study suggested the need for a collaborative approach towards the planning and assessment of the use of the software. As educators, constant dialogue must be done in a bid to examine whether the literacy experiences being provided for children are achieving intended learning outcomes. A focus on the motivational aspect of children's learning is always a very rewarding experience as it emphasizes the vast power we have in creating and sustaining life-long learning.

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