Adapting Cloud Computing in Education: Can We Speak For an Alternative Didactic Approach in School Literacy in a Cluster Classroom for the Gifted and Talented Students?

Konstantinos Kalemis

Instructor at the National Centre for Public Administration and Local Government (E.K.D.D.A.) in Adult Education and Lifelong Learning, Scientific Associate at the Dept. of Primary Education (PTDE) in National and Kapodistrian University of Athens, Greece

kkalemis@primedu.uoa.gr

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Abstract. Today's classroom is changing. From when the school bell rings to study sessions that last well into the night, students are demanding more technology services from their schools. It's important not only to keep pace with their evolving needs, but also to prepare them for the demands of the workplace tomorrow.

At the same time, education institutions are under increasing pressure to deliver more for less, and they need to find ways to offer rich, affordable services and tools. The results of the global financial crisis are visible all-around. Those educators who can deliver these sophisticated communication environments, including the desktop applications that employers use today, will be helping their students find better jobs and greater opportunities in the future.

Cloud computing can help provide those solutions. It's a network of computing resources—located just about anywhere—that can be shared. They bring to education a range of options not found in traditional IT models. In fact, the integration of software and assets you own with software and services in the cloud provides you with new choices for balancing system management, cost, and security while helping to improve services.

Using the cloud means low-cost; schools no longer have the heavy expense of dealing first-hand with their data storage and can instead devote their limited resources to purchasing effective digital eLearning resources. A cluster classroom is a regular mainstream classroom in which a small group or cluster of students with gifted identification are placed together. The classroom teacher has the skills necessary to meet the needs of gifted learners. Cloud computing is changing the ways people do personal learning, interactive learning and many-to-many learning, in the primary, secondary and higher education spheres. This paper shows that we can use cloud computing as an alternative didactic process in education today.

1. Introduction

1.1 What is literacy?

Literacy is the ability to understand, respond to, and use those forms of language that are required by society and valued by individuals and communities. (New Zealand, Ministry of Education, 2007).

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- *Forms of language:* The written, oral, and visual texts that students use in their everyday lives – at school, at work, at home, and in their communities.
- *Text:* A piece of spoken, written, or visual communication that is a whole unit, for example, a conversation, a poem, a web page, a speech, an article, or a poster.

Defining literacy in this way is based on two key understandings:

- Literacy is reading and writing, underpinned by oral language. These are the interactive tools that students use to engage with the world, including all learning areas of the curriculum; they underpin students' development of the key competencies. These skills are cumulative. Without this knowledge and skills, students' further development in learning will be limited.
- Literacy is a set of social and cultural practices that is integral to each student's identity.

Literacy can be thought of as a tool for learning. Reading, writing, and oral language are the basis for the development of the key competencies. They enable students to make sense of information, experiences, and ideas to personally critique the issues surrounding them as they live, learn, and work. Having this toolkit supports students to understand, make decisions, shape actions, and ultimately control the direction of their lives. In defining literacy[1] for the 21st century we must consider the changing forms of language which our children and young people will experience and use. Accordingly, our definition takes account of factors such as the speed with which information is shared and the ways it is shared. The breadth of our definition is intended to 'future proof' it. Within Curriculum for Excellence, therefore, literacy is defined as: "*the set of skills which allows an individual to engage fully in society and in learning, through the different forms of language, and the range of texts, which society values and finds useful"*. The 2003 NAAL adds a complementary **skills-based definition of literacy**[2] that focuses on the knowledge and skills an adult must possess in order to perform these tasks. These skills range from basic, word-level skills (such as recognizing words) to higher level skills (such as drawing appropriate inferences from continuous text). New information provided by the 2003 NAAL is intended to improve understanding of the skill differences between adults who are able to perform relatively challenging literacy tasks and those who are not.

to perform literacy tasks	**Task-based (conceptual) definition**
	Literacy is the ability to use printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential.

The skills required	**Skills-based (operational) definition**
	Successful use of printed material is a product of two classes of skills: • Word-level reading skills • Higher level literacy skills

[1] Alternative approaches to digital literacy across the Curriculum for the gifted students: the e- pedagogy as intercultural didactic. (Kalemis, 2011)

[2] SOURCE: White, S., and McCloskey, M. (forthcoming). Framework for the 2003 National Assessment of Adult Literacy (NCES 2005-531). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

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The literacy experiences and outcomes promote the development of skills in using language, particularly those that are used regularly by everyone in their everyday lives. These include the ability to apply knowledge[3] about language. They reflect the need for young people to be able to communicate effectively both face-to-face and in writing through an increasing range of media. They take account of national and international research and of other skills frameworks. They recognise the importance of listening and talking and of effective collaborative working in the development of thinking and in learning. In particular, the experiences and outcomes address the important skills of critical literacy. Children and young people not only need to be able to read for information: they also need to be able to work out what trust they should place on the information and to identify when and how people are aiming to persuade or influence them. As there are several definitions on the term literacy[4], we state below the most acceptable through the educational society. The condition or quality of being literate, especially the ability to read and write. The condition or quality of being knowledgeable in a particular subject or field: cultural literacy; biblical literacy. It is also the ability to read and write and finally the ability to use language proficiently[5].

1.2. Literacy as skills

1.2.1. Reading, writing and oral skills

The most common understanding of literacy is that it is a set of tangible skills – particularly the cognitive skills of reading and writing – that are independent of the context in which they are acquired and the background of the person who acquires them. Scholars continue to disagree on the best way to acquire literacy, with some advocating the 'phonetic' approach and others 'reading for meaning', resulting in what has sometimes been called the 'reading wars' (Adams, 1993; Goodman, 1996; and see discussion in Street, 2004). The emphasis on meaning has recently given way to a 'scientific' attention to phonetics, word recognition, spelling and vocabulary. This approach has lately turned to research in the cognitive sciences on important features of human memory (e.g. how the brain processes reading patterns) and to techniques such as phonological awareness training and giving increasingly faster reading tasks (Abadzi, 2003b, 2004).

1.2.2. A 'global consensus' on literacy?

Definitions and understandings of literacy have broadened considerably over the past fifty years. As early as 1949, the United Nations General Assembly envisioned the minimum requirements for fundamental education as including domestic skills, knowledge of other cultures and an opportunity to develop personal attributes such as initiative and freedom (Jones, 1990b). The deeper, conceptual aspects of literacy have been understood for years yet have not been articulated in official national or international definitions. As definitions of literacy shifted – from a discrete set of technical skills, to human resource skills for economic growth, to capabilities for socio-cultural and political change – international organizations acknowledged broader understandings of literacy, which encompass 'conscientization,' literacy practices, lifelong learning, orality, and information and communication technology literacy. The growing international awareness of the broader social contexts in which literacy is encouraged, acquired, developed and sustained is especially significant. Indeed, literacy is no longer exclusively understood as an individual transformation, but as a contextual and societal one. Increasingly, reference is made to the importance of rich literate environments – public or private milieu with abundant written documents (e.g. books, magazines and newspapers), visual materials (e.g. signs, posters and handbills), or communication and electronic media (e.g. radios, televisions, computers and mobile phones). Whether in households, communities, schools or workplaces, the quality of literate environments affects how literacy skills are practiced and how literacy is understood. As text becomes an integral part of basic social, political and economic

[3] Enhanced Curriculum Planning for Gifted and Talented Ethnic Immigrant Students Using Serious Games.(Kalemis 2012)
[4] The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company.
[5] Collins English Dictionary – Complete and Unabridged © HarperCollins Publishers 1991, 1994, 1998, 2000, 2003

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institutions – for example, in offices, law courts, libraries, banks and training centres – then the notion of 'literate societies' becomes pertinent (see, for example, Olson and Torrance, 2001). Literate societies are more than locales offering access to printed matter, written records, visual materials and advanced technologies; ideally, they enable the free exchange of text-based information and provide an array of opportunities for lifelong learning. These broader understandings of literacy provide fertile ground for further research, innovation and progress toward the development of effective literacy programs for all.

1.3. What is cloud?

Cloud computing[6] is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. (The NIST Definition of Cloud Computing).

Cloud computing can have a transformative impact upon businesses, but it requires a sensible and pragmatic approach. Over the last few years excitement around cloud computing has reached fever pitch with many providers seemingly trying to outdo each other with the level of rhetoric and hyperbole they can throw around. The development of the cloud has been touted as everything from a revolution to the biggest disruption since the move from mainframe to client-server computing. Most recently, the incessant hype and unending buzzwords surrounding the cloud are in danger of obscuring the full extent of the business transformation on offer. From the start one thing must be made clear: the cloud is not the goal in itself. Just as an end-user doesn't care about what model of server is hosting their business' IT, cloud is simply a means towards a business outcome - it should be viewed as one cog within a larger machine. Too many organizations end up rushing towards the cloud, mistakenly believing that it is a panacea to all their infrastructure woes. This trend is being driven further by the easy access businesses have to the 'plug and play' model of IT services.

Ironically, this ease of adoption actually seems to be limiting the scope of the cloud, not expanding it. Businesses are looking only at the immediate, short-term benefits and using these services to provide a new environment for old and outdated processes, settling for marginal improvements in cost and efficiency instead of using cloud to truly transform the business.

It's generally accepted that when it comes to IT, one size does not fit all. Similarly, within a business, not every application has the same infrastructure requirements. IT decisions are influenced by a number of different factors, whether it is the sensitivity of the data, the level of availability required or the need to scale computing power up and down. Businesses are complex entities and as result their infrastructure requirement is complex as well. Therefore a range of platforms are needed and the most efficient IT environments will be able to combine cloud services – whether they are public, private or multi-tenant hosted solutions – with traditional legacy systems, such as on

[6] The National Institute of Standards and Technology (NIST) developed this definition in furtherance of its statutory responsibilities under the Federal Information Security Management Act (FISMA) of 2002, Public Law 107-347.

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premise servers or co-location facilities.

When it comes to cloud computing there are two common pitfalls that businesses tend to fall into: over-estimating its power and under-estimating its potential effect. The former often leaves businesses under-provisioning for their infrastructure, trying to push their entire IT estate into a single platform rather than using cloud computing as part of the larger IT strategy. Meanwhile, many businesses also find themselves under-estimating the potential of the cloud. Merely lifting your IT environment into the cloud may offer some savings (in time or resource), but it's not going to be the IT 'revolution' that many are expecting.

In short, it's about picking the right platforms for the right applications – not trying to force square pegs into round holes. Organizations should be looking towards hybrid IT solutions and tailoring their cloud use to best suit the needs of their business, whether this is done alone or through a managed services technology partner. If the latter, it is essential that any partner is willing to take the necessary time to really understand what the business is trying to achieve and then use their expertise to create – and manage – the environments that offer the best strategic fit.

Essentially, what is needed is for businesses to recognize cloud computing, not as a technical achievement, but a tool to deliver a specific, individual business outcome. There is no doubt that cloud can be as important to your business as the hype suggests, but it requires a sensible and pragmatic approach to achieve the amazing transformation that has been promised.

2. Impact of Technology in an elementary Classroom

Elementary school education should focus on learning through playing and exploration in order to improve a child's cognitive, emotional, physical, sensory, reflective, communication and social developments. Traditional classroom methods may not always provide children with a fun learning environment. But nowadays, technology helps educators engage students with many fun learning approaches.

While introducing technology into early childhood education, educators and parents should take proper care to avail many positive benefits of it. Research shows that there are numerous advantages of introducing technology into the elementary classroom. Let's learn how student learning has been enhanced with 21st century technology.

According to an research published in ECGBL 2013 conference,

- 54% of 21st century kids start using mobile devices when they are 5 to 8 years old.
- 30% of the apps on parents' mobile are downloaded specially for their children's usage.
- 77% of the parents accept that usage of tablet increases children's learning & creativity.
- 72% of iTunes top selling apps are designed for pre-schoolers and elementary students.

By observing these statistics, we can easily estimate how greatly technology influences elementary education. Educational Technology includes all the approaches of technology that is utilized to enhance learning.

2.1. Usage of Mobile devices & Computers in Education

Educators find the use of technological devices in education[7], a great way to engage students because it attracts them. Mobile devices and computers provide students with a fun learning environment. As we know, different students have different learning styles; technology helps them learn in the way they're comfortable with. Many games, storytelling apps, online tools, etc., are introduced into the elementary classroom to engage students more effectively than with traditional approaches. With these technological devices, students can learn from anywhere. Tablets, Desktop computers, iPads, etc., help educators and parents to provide students with the personalized learning

[7] Research has been going on to overcome this criticism. The creation of serious games, especially the fun educational computer games (which include motion-sensing technology) for young children that require physical activity by the child.

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environment and also helps them learn interactively through many games and apps. It has become easy for teachers to engage students with lesson concepts through animations, presentations, etc., rather than depending on textbooks and blackboard.

2.1.1. Usage of Internet & Social Networks in Education

Use of internet in education benefits students as well as educators and makes them work on what really matters. Many online tools that connect teachers, students and parents have been introduced into the classroom to help them collaborate from anywhere and at any time. For example, Shoofly, an educational social networking platform that enables teachers to add their students, parents and other colleagues, saves their time by providing them with many tools which include setting homework, sending documents, creating calendars and students' assessments. Technology develops students' social skills, research skills and communication skills. The only task of parents and educators is to make children aware of digital citizenship. 21st century technology also helps educators and parents to make children the perfect digital citizens.

As a coin has both sides, every approach in this world is a combination of both positive as well as negative impacts, but Technology has the ability to overcome its negative impacts when used properly. Every household nowadays has been equipped with at least a technological device namely a desktop computer, laptop computer, smart phone, tablet, etc., and students love to use them. It's a great way to implement their use in education as it has been already proved that technology improves students' learning, communication, creativity and problem solving skills. 21st century classroom enables game-based learning, project-based learning, inquiry-based learning, visual learning, auditory learning, kinaesthetic learning, etc.

2.2. Who Is The Gifted Learner?

The phrase gifted and talented student means a child or youth who performs at or shows the potential for performing at a remarkably high level of accomplishment when compared to others of the same age, experience, or environment and who: "*Exhibits high performance capability in an*

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intellectual, creative, or artistic area; Possess an unusual capacity for leadership; or Excels in a specific academic field " (74th legislature of the State of Texas, Chapter 29, Subchapter d. Section 29).

Actually, identifying the gifted learner is not the problem. Properly educating and providing experiences for the gifted learner is the problem. The highly gifted child also must attend the regular classrooms, but instead of working at mentally appropriate academic levels and having equal opportunity for learning, the gifted will spend much of the school day tutoring others in cooperative leaning groups or simply going over curriculum that they master years ago. The traditional school does not meet their needs. Placed in a tutoring situation, the gifted child is allowed range of thought, encouraged to reach new levels, and search for better avenues of learning. His curiosity sated. And, more importantly, his desire to learn and master have been satisfied – all with the assurance of a guiding, master teacher.

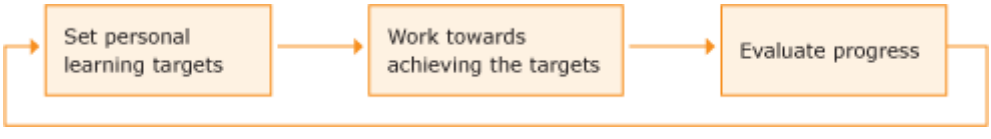
2.3. Strategies to enhance student self-assessment

Teachers often use preformat to encourage students to reflect on their learning experience. While these are convenient and provide a record of student thinking, they can become an activity devoid of any real thinking. Oral reflection, whether as a whole class or group within the class, might sometimes be more useful. Alternatively, teachers could devote some time to questioning students about what they have recorded on their preformat and asking them for explanations. Usually the evidence they produce is in the form of a portfolio, which students have prepared according to provided guidelines. The student, with teacher guidance, is the one who selects the work.

2.3.1. Setting learning targets

The setting of learning targets, or goal-setting, is an intrinsic part of the iterative nature of self-assessment. Student self-assessment begins with setting learning targets, proceeds through the production of work that aims to achieve those targets, to the assessment of the work to see if it does in fact meet the targets and then, finally, to the setting of new targets or revising ones that were not achieved.

Diagrammatically, the process looks like this:



Ideally, students will increasingly assume responsibility for the setting of their learning targets and also for the monitoring or tracking of those targets. In practice, of course, students' ability to do this

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will vary, and teacher assistance will be more important to some students than others. The provision of suitable 'tracking' sheets is an obvious way for teachers to assist all students. As with other aspects of instruction, the use of modelling and explicit teaching is of relevance here. Teachers commonly use the SMART acronym as a way of guiding students in the design of a learning target. In this acronym:

S = Specific
M = Measurable
A = Achievable or Attainable
R = Relevant
T = Time-bound

The SMART method of setting learning targets:

Specific

The learning target must be specific rather than general: 'I will include a topic sentence in each paragraph' rather than 'I will improve my paragraphing.'

Measurable

It must be possible to know whether the learning target has been accomplished, so there needs to be some way of measuring this. 'I will learn my 7 times table', for instance, could be measured by 'Being able to recite to my teacher/parent/peer the table X times without making mistakes.'

Achievable

The achievement of the learning target must be something the student is capable of attaining. Where the prospect of achievement seems daunting, the learning target can be broken down into a series of steps so that the student has the prospect of experiencing success. For example, instead of a learning target that states 'I will use correct spelling', it is better to concentrate on the use of individual spelling strategies so that, over time, the student builds up a repertoire of strategies designed to achieve the aim of improving his or her ability to spell correctly.

Relevant

The learning target needs to be significant and relevant to the student's present learning. If students are left to set learning targets without any guidance, at least initially there is a danger that such targets will be less relevant than if they are set in the context of understanding 'What I know or can do now/ what I still need to know or be able to do/ how I can go about making that improvement'.

Time-bound

Students should specify when they aim to achieve the target. Time-bound learning targets are easier to evaluate and track than those which have no particular time period attached to their achievement.

In a recent research article published by PEW Internet under the title " The Impact of Digital Tools

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on Student Writing and How Writing is Taught in Schools ", 91% of teachers surveyed report that " judging the quality of information " as the top of the digital skills students need for the future. Similarly, another 91 report that "writing effectively" as being essential skill for students while 54 % of teachers think that working with audio, video or graphic content as being important but not essential.

Reading these stats together with other sections in this research made me think that the teachers surveyed in this study put digital citizenship on top of the continuum of digital skills; in other words, knowing how to use web tools comes secondary to knowing the reasons for which to use them, or at least that is how I interpret it.

3. Curriculum planning for the gifted students

Special subject teachers enhance the gifted learner through student talents, which include artistic, dramatic, musical (vocal and instrumental) and athletic. Through the use of rubrics, portfolios, and teacher observation, the special subject teachers are able to identify those students with exceptional talent. In the regular education art classes, bringing students to the next level in their artistic development challenges the individual potential of the exceptional student.

Through the program, students continue to develop critical thinking, increase creative problem solving skills, and broaden the skills of fluency, flexibility, originality and elaboration through a variety of creative activities.

The trans-classroom teacher who moves between the two environments, transferring ideas, strategies, and practices from one to the other, is a mental migrant. The transformations—of the teacher and of the course—that occur in these migrations and the two-way interactions between face-to-face and online teaching are the focus of this study.

Video games used in learning fall into four categories, ranging from purpose-built edutainment to commercial games integrated as-is into the curriculum. Games that come into contact with the educational establishment often become "teacherized" by the need to embed, add, or refer to educational content linked to performance-related outcomes within the curriculum. A good game designer gives his players continuous challenges, each of which leads to another challenge, to keep them "hooked" on playing a game. This can be done by setting clear, short-term goals appropriate to the level of the player and the context within the game. Each challenge should satisfy some kind of learning objective. However, a good storyline can liven up a competition still further. In various Internet forums and game-magazine columns about video and board games, a good plot or storyline is cited as essential to a good game. Oddly enough, a fantasy context makes players more motivated to succeed at a game. So instead of having students memorize types of ores have them play as miners prospecting for minerals and needing to identify profitable sources. Rather than using games to escape from their studies, encourage students to use games to escape into their studies. Using technology for learning in ways that are relevant, meaningful, challenging, and hands-on is not an

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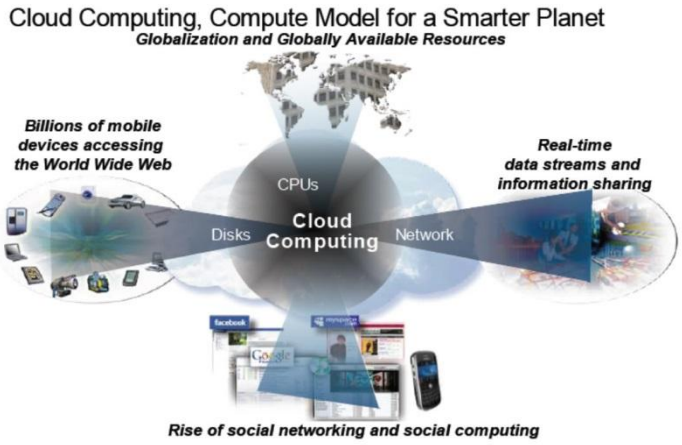
easy task. It requires a rethinking of curriculum and pedagogy as well as the spatial and temporal boundaries of education. It necessitates a re-evaluation of learning in areas of engagement, individualization, and collaboration. Rethinking teaching and learning should move education away from conventional methods by which kids are told what to learn, when, where, and how. Instead, knowledge should be actively constructed and students should be made responsible for their own learning. The process of curriculum and pedagogy transformation is complex, cumulative, and long term in scope, but one way to initiate the process is to change the curriculum from within. In addition, the curriculum should be stripped of outdated and irrelevant content and replaced by a model of learning that recognizes that virtually any information can be accessed and manipulated anywhere, anytime, and by anyone. Just adding more content is not the answer. While technology plays an important role in this respect, the greatest obstacle to be overcome is human; parents, teachers, students, and other stakeholders need to come to understand school as a process, not a place.



3.1. Matching Games to the Curriculum - Teaching with games

"Although games can be effective learning environments not all games are effective, nor are all games educational. Similarly, not all games are good for all learning or for all learning outcomes. The key is how games are used. Simply adding games to a curriculum does not mean they are integrated with it. Consider how best to add games to the educational tool set, blending them with other activities. Integration requires understanding of the medium and its alignment with the subject, the instructional strategy, the student's learning style and the intended outcomes. Game can be integrated into education through a range of approaches such as allowing students to create their own games, integrating commercial games into the curriculum, or critiquing games to find what is incorrect or lacking which allow students to explore not just the subject but how the games is structured" .

Dr Diana G. Oblinger (2006)

Imagine a scene in which groups of tech-savvy students wander among dusty library stacks seeking the books and articles from the recommended hard-copy lists given to them by their professors. With iPods and smart phones intact, they do one-handed text messaging and then plunk down their wireless laptops and check their e-mail before earnestly hunting down a book's call numbers. Eventually, they go searching for those texts, finally reach the right floor, but are frustrated when the text is not there or is not what they thought it would be. They go back to their laptops, and using online databases, and interactive Web sites, they locate what they need. Then they instant message their classmates to ask for clarification about the assignment, and dialogue ensues about their respective research efforts along with exchanges of Web addresses for several popular political

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blogs. Perhaps this scenario, although fabricated, is a familiar one in schools and libraries today, when students from all over the world can easily communicate and share ideas, lessons and do inter-active plans in the same time.

At this point, let suggest some practical ideas concerning teaching with games such specific groups of students as migrants and ethnic minorities. Games are useful tools for teaching for several reasons. First, they engage. Second, they are a language that most immigrant bilingual students speak fluently; Immigrants, of course, speak "game" only rudimentarily if at all, and so distrust the medium. Third, games can in many instances present traditional content in previously unavailable ways that facilitate understanding, such as simulation games about resource management and scientific principles.

The field of literacy across the curriculum can be achieved in many ways with very positive results as well as the digital literacy by the use of all mobile and computer technology. It makes teaching and learning more participatory; students generate ideas and develop sub-skills which help their essay-based examinations.

We may see very good results in a major percentage of what we call School Literacy and the use of games based teaching will assist the teacher in a multi – cultural school to accomplish most of the targets of the curriculum in lessons like Math's, History, Geography and of course Language lessons (grammar, text writing, etc.).

3.2. Our aims and goals from an enhanced curriculum plan

The primary purpose of the Enrichment/Gifted and Talented Curriculum is to challenge eligible students to think differently and critically through a variety of instructional approaches. Such instructional approaches may include brainstorming, cooperative learning, oral demonstrations and presentations, creative analytical writing, and creative problem solving techniques.

The concept of collaborative learning, the grouping and pairing of students for the purpose of achieving an academic goal has been widely researched and advocated throughout the professional

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literature. The term "collaborative learning" refers to an instruction method in which students at various performance levels work together in small groups toward a common goal. The students are responsible for one another's learning as well as their own. Thus, the success of one student helps other students to be successful. Proponents of collaborative learning claim that the active exchange of ideas within small groups not only increases interest among the participants but also promotes critical thinking. According to Johnson and Johnson (1986), there is persuasive evidence that cooperative teams achieve at higher levels of thought and retain information longer than students who work quietly as individuals. The shared learning gives students an opportunity to engage in discussion, take responsibility for their own learning, and thus become critical thinkers (Totten, Sills, Digby, & Russ 1991). In spite of these advantages, most of the research studies on collaborative learning have been done at the primary and secondary levels. As yet, there is little empirical evidence on its effectiveness at the college level. However, the need for non-competitive, collaborative group work is emphasized in much of the higher education literature. Also, majority of the research in collaborative learning has been done in non-technical disciplines. The advances in technology and changes in the organizational infrastructure put an increased emphasis on teamwork within the workforce. Workers need to be able to think creatively, solve problems, and make decisions as a team. Therefore, the development and enhancement of critical-thinking skills through collaborative learning is one of the primary goals of technology education.

3.3. Challenging Gifted Students in the Regular Classroom.

How do teachers develop an instructional plan that will be challenging, enlightening, and intriguing to students of different abilities, and still maintain a sense of community within the classroom? This is the central question for educators as they begin the quest of bringing sound instruction to gifted students in regular classroom settings. Research tells us that a large majority of gifted and talented students spend most of their day in regular classroom settings (Cox, Daniel, & Boston, 1985). Unfortunately, instruction in the regular classroom setting is generally not tailored to meet their unique needs (Archambault et al., 1993; Cox, Daniel, & Boston, 1985; Westberg, Archambault, Dobyns, & Salvin, 1993).

This situation is putting gifted students at risk of failing to achieve their potential. Achievement scores below what might be expected from our brightest population provide the evidence (Callahan, 1990; Kantrowitz & Wingert, 1992; Ness & Latessa, 1979). The challenge for educators is twofold. Our gifted and talented population must have a full service education if we expect these students to thrive in the manner in which they are capable. Second, these students must be involved in educational experiences that are challenging and appropriate to their needs and achievement levels. The place to begin is in the regular classroom.

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3.3.1. The cluster classroom

A cluster classroom is a regular mainstream classroom in which a small group or cluster of students with gifted identification are placed together. The classroom teacher has the skills necessary to meet the needs of gifted learners. The size of the cluster may be as few as two or as many as ten students. The rest of the cluster classroom is composed of students of varying ability, not everyone in a cluster classroom has gifted identification. Although experts in gifted education widely promote cluster grouping gifted students, little empirical evidence is available to attest to its effectiveness. This study is an example of comparative action research in the form of a quantitative case study that focused on the mandated cluster grouping practices for gifted students in an urban elementary school district. Some school administrators chose not to follow the model as designed, resulting in the emergence of two groups: gifted students in cluster-grouped classrooms and those in regular heterogeneous classrooms. Cluster grouping represents an inclusion model that allows identified gifted students to receive services on a daily basis with few financial implications to the district. In a gifted cluster model, all identified gifted students receive services, regardless of their area(s) of identification, ability level, achievement, or English language proficiency level. Identified gifted students are clustered into classrooms with a teacher who has been designated as the gifted cluster teacher for that grade. Careful balancing of the classes at each grade level and focused teacher training for the cluster teachers creates measurable differences in learning success. Differentiation of instruction lies at the heart of the gifted cluster model; therefore, evidence of the effectiveness of a cluster model must examine the achievement results of differentiated instruction occurring in the cluster classes.

4. Conclusion

What's in the cloud? Much of what's on your desktop or in your data center right now. For example, e-mail in the cloud is, in many cases, free for schools and universities that need to upgrade legacy systems and expand services. The cloud helps ensure that students, teachers, faculty, parents, and staff have on-demand access to critical information using any device from anywhere. Both public and private institutions can use the cloud to deliver better services, even as they work with fewer resources. By sharing IT services in the cloud, your education institution can outsource noncore services and better concentrate on offering students, teachers, faculty, and staff the essential tools to help them succeed. The cloud is a bridge from the desktop to a world of devices, from the average on-campus school day to remote services anywhere and anytime. As much excitement as there is in cloud computing, it is just one piece of a technology landscape that spans from the on-premise data center to the cloud and reaches people through the computer, Web, and phone. By cloud computing, you are able to plan your long-term, data center strategy and as a result High Education Institutions i.e. Universities can benefit from opportunities in the cloud. The cloud has the power to drastically advance the goals of the educational system: to make it easier for institutions to empower their students to succeed while at the same time cutting costs and expanding accessibility. The cloud is poised to revolutionize the educational sector, and schools and learning institutions would be wise not to write off the cloud as just a business tool. The future opportunities for success or failure of students could rest in the cloud.

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