

Higher-order thinking critical thinking essay sample



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The No Child Left Behind Act of 2002 was implemented to increase student proficiency in the assessed subject matter. This intention included students from different social strata and recently special education population.

According to (Johnson & Hanegan, 2006), the results are left to ponder whether education establishment is doing things right.

Reauthorized NCLB included four mandates: stronger accountability, best practices, more choice to parents, and more freedom for states and communities. NCLB required the states to assess students in reading and mathematics in grades 3-8 and once in grades 10-12 in the 2005 -2006 school year identifying all schools that did not achieve expected adequate yearly progress (AYP). The math and reading tests continue to determine AYP goals.

AYP - identified, under-performing schools receive targeted improvement services such as Supplemental Educational Services (SES) toward ensuring that all of their students will become proficient in math and reading by the end of school year 2013-14. However. Such measure creates pressure on individual schools and their respected school districts.

Members of the US Senate Education Committee began hearings in early 2007 to consider renewal of the No Child Left Behind Act of 2002 by examining what specific actions need implementation in order to rescue urban schools that demonstrate the lowest academic performance (Hoff, 2007). Hoff reports that Senator Mike Enzi, R-Wyoming stated in committee, " We know what makes a good school. What we don't know is how to make a low-performing school into a high-performing school."

The Senate Education Committee heard the testimony of eight witnesses. These eight witnesses suggested remedies that included: 1) reading coaches and turnaround specialists, 2) closing failing schools completely and reopening them with all-new staffs, and 3) lengthening the school day. Senator Edward M. Kennedy, chairman of the Health, Education, Labor, and Pensions Committee, added at the February 8 2007 hearing, “ The federal role in assisting these schools may be our greatest challenge, and it’s our top priority for this reauthorization.”

He stated that future hearings would address such issues as ways to improve testing and accountability measures (Hoff, 2007). However, none of the committee members or witnesses spoke about the Bush administration’s recent proposal to provide vouchers for students in low-performing schools to redeem for tuition at private schools (Hoff, 2007). The three remedies listed above remained the only considered options.

The Senate Education Committee found that the Michigan State Department of Education assigns support teams from intermediate-achieving schools to low-achieving schools in order to audit their underachieving students’ performance and “ coach” school leaders in ways of meeting NCLB goals.

However, it is unknown whether this is a workable solution nationwide, or whether the effects are always positive (Lytle, 2007). In addition, most witnesses agreed that NCLB provides adequate data already for individual teachers to create student learning-plans for low-achievers in order to meet the goals of NCLB in school year 2013-2014. Thus, the early direction of the Education Committee regarding renewal of NCLB appears to be to place

additional responsibility for proficiency test scores directly onto individual teachers, without offering them additional support.

This, in fact, becomes the pivot point in improving the academic achievement of our students. The program enhancement must begin from within the classrooms, initiated by the very teachers who did not provide evidence of successful instruction. But what is successful instruction? What criteria should we establish to decide whether the instruction is or is not successful? Astleitner (2005) helps us understand effective instructional methods and their impact on daily curriculum delivery.

These principles include a) reflexive learning, b) motivational strategies, c) considering students' strength, d) stimulation of higher-order thinking (critical thinking), e) argumentation skills, f) teaching students how to self-regulate in their learning, g) creating challenging opportunities, h) arousing and sustaining interest, i) promoting positive feelings, j) decreasing negative feelings, k) establishing respect and responsibility, and l) using self-instructional learning materials. As we can see, one element, like stimulation of higher-order thinking, is not enough to create daily effective instruction. It is rather a systemic approach, the approach in which each component is necessary to establish one complete whole.

Burnap, Kohut & Yo (2002) suggested to use peers to identify the effective instruction and to search for evidence of it. More systematic assessment of the classroom performance cannot be provided or even guaranteed by the school administrator. It is not enough for the school principal to visit the classroom twice a year for one hour each. Even a number of 15-minute

miniobservations, despite the frequency, would not give an entirely accurate picture. The evidence of the effective teaching can be noticed and recorded only by peers. Therefore, peer evaluation programs should be considered as the only tool to establish the successful culture within the school building.

NCLB achievement goals believe that every student can meet the goals. Such a belief, as noble as it is, lacks the tools for its achievement. The more stringent standards established by the majority of states are not the answer. It is raising the plane without giving a supporting ladder to reach it.

The researchers found that university math and science courses aimed at influencing teacher candidates' attitudes of this nature are ineffective in raising the academic success of elementary school students in math and science: " Students leave the experience with the same understanding of the phenomena studied that they possessed when they entered the instruction. Exceptions to this are very few." This indicates that successful math and science instruction requires a different approach or approaches (ibid.).

In no way, a new textbook will meet these requirements. In 2001, The Sacramento City Unified School District adapted Saxon Math program for K8 math instruction. The program returned the pedagogy to drill and kill method breaking each concept into smaller instructional units.

True, the end-of-lesson problem set repetition of the previously learned concepts helped students not to forget the previously studied material, but a multitude of required components provided no time for the teacher to initiate and to follow nine out of 13 effective strategies for successful instruction.

The fifth grade teacher who I have interviewed complained on the strictly

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enforced pacing and scripting of the program. “ I would be very lucky to complete all and required components of one lesson within allotted time for math. I have no time to probe my students for critical thinking, nor have them reflect on what there are learning. It feels as my students and I are in constant chase after time.”

Successful instruction must include purposeful assessment. When the program does not allow flexible modification based on the results of that assessment, the assessment has no specific purpose for the students. When the students learn about their results many days later, such assessment has no purpose for them. It is exactly the same for a teacher. In order to be successful, each teacher must have an opportunity to modify his/her instruction based on the assessment the students took. However, if the pacing is so inflexible, and there is no opportunity for the lesson modification, the instruction cannot be successful.

In fact, such approaches that are proven to ensure success in math learning, that is evidenced by standardized testing at the elementary and middle school, include inquiry-based and project-based learning. Students participating in inquiry-based/project-based learning often achieve higher performance scores in science, math, and reading than those who do not (Hitchcock et al., 2002; Chambers & Carbonaro, 2003; Johnson, 2004; Neill, 2005; Darling-Hammond, 2006; Johnson & Hanegan, 2006; Papert, 2006; and Hoff, 2007).

These students also increase their higher-order cognitive skills to make better connections among science, math, and reading than those who do not

(those under traditional instruction) (ibid.). However, under the federal demand to increase positive test outcomes, school administrations and teachers found themselves under increased pressure to achieve disregarding this proof of inquiry-based/project-based learning in favor of rote memorization and “teaching to the test” (Johnson, 2004; Neill, 2005; Hoff, 2007; and Lytle, 2007).

None of the evidence demonstrated above was presented in the Senate Education Committee hearing. Ignoring all such evidence, Ms. Barber’s sentiment places even additional pressure on teachers to ensure that their students meet NCLB goals. This may lead to additional increased teaching to the test with constant drills and memorization, to the exclusion of effective science learning. This also ignores the need to develop the important connections between reading and mathematics with science, which is not achieved through rote learning and traditional instruction (ibid.).

As to resort to the misjudging of how instructional success can be achieved, educators from Virginia indicated that their higher-performing elementary school meets 205 days yearly, 25 days more than even the state requirement for *year-round schooling*. Their schools are in session from 8:00 a. m. to 4:30 p. m., with Saturday classes for students who fall behind. This extended school time may lead to more hours and days of teaching to the test with drills and rote learning as teachers and students tire. Therefore, adding days and hours to the school year may also not be the best solution for meeting NCLB goals.

The most effective teaching methods to achieve the success in their instruction may include inquiry-based/project-based learning (Johnson & Hanegan, 2006; Tangdhanakanond, Pitiyanuwat, & Archwamety, 2006) discussed above, integrated and interdisciplinary curricula (Hitchcock, Meyers, Rose & Jackson, 2002 ; **Douville, Pugalee & Wallace 2003; and Neill, 2005**) , instruction that targets different student's learning styles (Hawk & Shah, 207; Dunn & Honigsfeld, 2006), and teaching styles that do not rely solely on authoritarianism and its traditional model in all instances (Johnson, 2004; Neill, 2005; Hoff, 2007; and Lytle, 2007). Therefore, the research questions addressed in this study include:

1. Is there a difference between performances on the Elementary Level Math Examination for students participating in an inquiry-based classroom instruction and students participating in a non-inquiry-based classroom?
2. Does the preferred teaching style of a classroom teacher influence the performance of students' on the New York State Elementary Level Math Examination?
3. Does a traditional style of instruction affect students more positively than a nontraditional style of instruction on Standardized examinations?

The researcher found that after only six months of active student engagement resulting in inquiry-based classroom instruction, the scores on mock standardized assessment increased exponentially (Astleitner, 2005). They also found that if teachers change their preferred teaching styles from

lecturer and demonstrator to facilitator and delegator (ibid), the students' success doubles. Therefore, no one can argue that traditionalism in the instructional delivery (lecture, teacher-centered style) is ineffective in light of today's demands. Teachers must be trained to provide systemic approach to the curriculum delivery having in mind their students first and their own comfort level second.

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