

Research Supporting

Kid's College

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Research & Development

Table of Contents

Introduction	3
Research & Development	5
No Child Left Behind	9
Pedagogical Foundation	12
Evidence of Learning	26
Educators' Comments	39

Introduction

Kid's College

Kid's College is a K-8 skill-building program that combines sports video games and standards-based skills practice to build each student's proficiency with the math and language arts skills tested on standardized measures. Students find the format and context of practice highly motivational, as each step in their progress with specific skills unlocks exciting game-like opportunities.

Teachers access their students' progress electronically through Executive Reports that are e-mailed to them weekly or monthly. Reports itemize student progress and help teachers devise individualized, targeted instruction and intervene as necessary with struggling students.

District administrators receive reports as well. Executive summaries go to building principals or other designated site administrators, with class and building performance data. Administrative summaries also go to designated central district administrators to differentiate progress building-by-building and track district-wide performance.

The student-interactive components of Kid's College, and its system of reporting student progress individually and collectively, provide means of examining the effectiveness of the program using qualitative, anecdotal, as well as quantitative measures.

Kid's College was developed by Learning Through Sports, Inc.[®] as part of the company's dedication to, and specialized understanding of, the roles sports and sportsmanship play in the development of the whole child. The guiding principles of Kid's College match the philosophy of company founder Brian Shulman and are detailed below.

Today's children are different from any generation before, due to all of the technology that is available to them. What we saw in the industry was an overall lack of tools whereby today's teacher could motivate today's digital native learner. This is due in large part to the dramatic gap that exists between what kids do outside of school and how kids play, versus how they are learning in school.

Outside of school, students have all sorts of devices that are fun and engaging (PlayStation videogames, Game Boys, internet games, TV, iPods, etc.). What we needed was a way to take the students' love for video games and channel that into what the educator and parents need in order to build a state-standard aligned curriculum that ensures each student will attain Annual Yearly Progress (AYP). There are many existing programs that TEACH students the skills they need.

First of all, there is the teacher. Nothing we do replaces the teacher or the textbook. What Kid's College does is quickly identify skill gaps, communicate that information back to the teacher, principal or superintendent, and then automatically adapt the skill content in Kid's College to fit the specific needs of EACH student.

The difference in Kid's College versus other programs is that Kid's College is fun and engaging, so the student wants to stay in the program longer. This allows more questions to be answered and more data to be gathered on each student's progress, in order to better inform the teacher about his or her instruction. This ongoing cycle is critical to the student's and the school's success.

Research & Development

Kid's College

In creating Kid's College, we searched across the U.S. for experts in their respective fields of study to help with the creation and field testing of the product. And, because the program is web-based, we continue to modify Kid's College content based on teacher feedback and actual classroom usage – updating the alignments, adding new skill content and features, as well as improving game play and creating scoring contests for students.

The developmental process for creating Kid's College is highlighted below:

1. Initial goal setting

A core team of K-8 educators identified from across the U.S. discussed at length what was needed to fill the gap in a teacher's world, in order to motivate and teach today's digital native learner. It was determined that what was clearly *not* needed was another purely tutorial-type instructional program, due to the fact that there are just so many hours in the day when computers are available and the fact that almost all schools have purchased something in this area in the past. What educators wanted was a tool to leverage their existing investment, yet solve a huge problem. What was needed was a tool to intrinsically motivate today's digital native to practice the skills being taught and continue the mundane task of ongoing assessment.

Need for alignment to state standards

The program must be aligned to each state's standards and have a dynamic reporting mechanism in order to communicate to teachers, principals, superintendents, and even parents the progress of the learner.

Educators also stressed that the program needed to have sufficient artificial intelligence built into the program so that it will adapt to each student's needs.

Targeting of middle grades students with a reach into lower grades

The program should target the middle grades due to the inherent lack of motivation that appears in grades 4-8 but also should reach into lower grades in hopes of quickly identifying any gaps early on.

Video games, sports and the web

The program must appeal to the largest population of students, and it was determined that sports would accomplish that mass appeal, rather than a space, jungle, desert, or ocean theme. Everyone agreed that a video game setting would provide the best opportunity to motivate the largest population of students. In order to keep acquisition costs down, a web-based approach was the overwhelming choice.

2. Content strand creation

Publisher's Resource Group and a core team of K-8 educators from across the U.S. were identified by Learning Through Sports as having the expertise to create the curriculum. It was determined that Publishers Resource Group (PRG), Austin, TX, had the industry experience needed and a clear understanding of the goals. (See more on PRG below.) PRG created an initial list of major content strands to cover. These were determined based on their years of education industry experience and knowledge of major content and skills areas throughout the K-8 curriculum that are consistently tested, as well as the foundation skills areas in which students need extra practice. Once PRG submitted their initial recommendation of Content Strand Focus, the documents were circulated among the core team of educators to gain a "local" perspective and to confirm that these were the major content areas to address in the program.

3. Skill topics within content strands

PRG and the Core Educators Team followed the same steps outlined previously in developing the Skill Topic Listings. This process took place over an extended period of time, due to the fact that Kid's College has over 3,300 skills covered in the program.

4. Questions within skill topics

PRG and the Core Educators Team again followed the same steps in developing the actual questions for the program. Special emphasis was placed on matching the high stakes tests from across the country (SAT, Iowa Test of Basic Skills, etc.). The questions closely mirror these standardized tests in both format and structure.

5. Alignment to state standards

PRG carefully analyzed each state's standards, and special items were created for specific states to ensure few, if any, gaps in the state curriculum.

6. Creation of Skill Topic Instructional Help

Incentive Publications and a select team of K-8 educators determined that a small amount of instructional help would be valuable, specific to each skill area covered. The Help screen would appear if the student answered the question incorrectly on his or her first attempt. The student could review this information and then have another attempt to answer the question. Incentive Publications has over 30 years of experience in creating instructional material for educators of grades K-8. Once the instruction was created, it was circulated around the country to a select team of educators to review and field test.

7. Creation of Offline Instructional Workbooks

Incentive Publications and a select team of K-8 educators followed this same process in the creation of offline instructional activities. Much of this material already existed and had been field tested in schools over many years. The material was updated and then distributed to our educator team for review.

8. Instructional design of on-screen curriculum

Trylonix, Portage Interactive, and Deusx Game Technologies were identified as the primary companies to help create the product and field test it in classrooms across the U.S.

Once all of the curriculum was created, the focus turned to the instructional design aspect of delivering the program on the screen in a manner that would best accomplish the academic goal, as well as be as engaging as possible to the learner. Several instructional design firms and video gaming companies were consulted, and ultimately a team approach was created.

During the process, beta versions of the program were provided to numerous schools in varying socio-economic and culturally diverse settings. The student feedback proved to be incredibly valuable. This process continues to this day as a constant check on what is engaging to today's digital native learner.

As the CEO of Trylonix Corporation, Mr. Barton Listick has over 25 years of experience in software development and is the developer of Knowledge Adventure's best-selling JumpStart series of children's edutainment software. As the very first grade-based edutainment software, JumpStart literally created an entirely new category of educational software. Fernando Echeverra, who was formerly with Knowledge Adventure, brought a wealth of experience in database programming to this outstanding team.

Whether as a producer, executive producer, or designer, Mr. Listick has personally been involved in the creation of more than 15 edutainment titles, as well as the development of an innovative online tutoring service and home learning software for robots. Captivating game play and engrossing characters, combined with solid learning and progress tracking, have been the hallmarks of this award-winning company. Learning Through Sports was proud to employ the services of this development firm specializing in edutainment and game software, education technology, and children's products.

9. Creation of Adaptive Engine STRIDE™

Trylonix and several leading research and assessment experts in the field of adaptive testing created an adaptive engine that diagnoses a student's skill level and then adapts his or her individual learning path to remediate skill weaknesses and bring a student quickly up to grade level proficiency. (See more on STRIDE below.)

10. Classroom management creation

Trylonix, Portage Interactive, and a core team of K-8 educators worked together to create a management system that was easy for teachers to access, utilize, and navigate. This was key in gaining early acceptance of Kid's College by educators.

11. Data analysis and reporting provided via email

Trylonix, Dr. Garry McDaniels, and a core team of K-8 educators helped specify reports on the progress of the students. Identifying skill gaps for teachers, principals, and superintendents is a critical aspect of the success of the program. Dr. Garry McDaniels is an expert in services for at-risk children, youth, and adults. He was Chief of Evaluation and Research for the U.S. Department of Education's Title I program. Dr. McDaniels also served as the Director of Research, Evaluation, and Demonstration programs for the then Bureau for the Education of the Handicapped at the Department of Education. In 1982, he served as the Director of Federal Special Education Programs.

McDaniels and his colleagues created SkillsBank and Cornerstone, which became two of the best-selling supplemental computer products for U.S. schools. In 2000, McDaniels and his associates founded a new company that brought these popular disk products to the web under the name of SkillsTutor. McDaniels is currently President of the non-profit Orion Research Group focused on evaluation of basic education programs for children and adolescents with disabilities and low-skilled adults. He is the author of over 100 professional papers, 50 magazine columns on education research and data, and a frequent speaker on education topics. The University of Michigan, where McDaniels received his Ph.D., honored his work with the Distinguished Alumni Award in 1995.

NCLB & Kid's College

Kid's College supports the key elements of **No Child Left Behind** by utilizing models of research-based instruction, paying strict attention to national standards and assessment routines, utilizing systematic instructional design, and facilitating professional development. These aspects, plus the motivational components of Kid's College, have made it commonly used as an intervention program to help students achieve demonstrable Annual Yearly Progress (AYP) in reading, language arts, and math.

As this document will demonstrate, the pedagogy of Kid's College is built upon a research foundation comprised of several quantitative and qualitative elements, as follows:

- J.M. Keller's **ARCS Model of Motivational Design**, a theory of learning design centered on the importance of motivation in measuring performance differences among learners
- **Adaptive learning systems, such as STRIDE technology**, which adjust difficulty levels based on student responses. STRIDE reports help demonstrate student progress over time in relation to their use of the Kid's College program.
- **Classroom, building, and district efficacy studies**: three years of anecdotal records detailing student interactions with Kid's College.

In addition, the curricular content of Kid's College results from comprehensive alignments with state and national standards in language arts, reading, and math. Experts in these fields have provided the following services to ensure that the program reflects a standards-based curriculum:

- **Publisher's Resource Group (PRG)**, an established provider of curriculum alignment for school publishers, aligned all subject-area content in Kid's College with state curriculum standards.
- In addition, PRG developed test items aligning specifically with curriculum standards.
- Kid's College content has been aligned with NCTM standards, NAEP, and state standards and tests.

In addition, key elements of No Child Left Behind are addressed as follows in Kid's College:

1. Differentiating learning for each and every student

Accordingly, development of Kid's College has paid special attention to sensitizing the performance of the program to the real-time performance of each child, as follows:

- When students first enter Kid's College, the system diagnoses their areas of strength and weakness and prescribes activities accordingly.
- Adaptive learning technology (STRIDE) pinpoints each particular skill a student is having trouble with and drops them back to the lowest level at which they can be successful—even if that level is several grades lower. Then, once children master the foundational skills they missed in earlier grades, they typically progress rapidly up to grade level in that skill area.
- Each and every student receives lessons and activities based on their individual performance and mastery of skills areas.
- Teachers can set the pace for each child by prescribing a set amount of activities, after which the student can play a short video game. This allows teachers flexibility to pace lessons according to student needs.
- Students who master the skills at their grade level are presented with subsequent skills at the next highest level, so they are always challenged and continue to gain mastery of new skills. Teachers and administrators can set grade level limitations if desired.
- In addition to the online activities, print-based activities are available for students to complete in the classroom or at home, if required.

2. Data driven instruction for targeted intervention

- Import test score data to align Kid's College with what an individual student needs most.
- Kid's College reports are accessible anytime and clearly indicate which strands the student or the class needs more help on. This makes it easy for a teacher to identify a group of students that need help in one or more areas.
- Progress reports indicate mastery of skill strand by class or by building, so administrators can view overall trends and areas of greatest need.
- In Kid's College, student progress is constantly monitored, and the student is moved backward or forward based on his or her level of skill mastery.
- Students move through the system based on their own pace in skill mastery.

Pedagogical Foundation Kid's College

An Implementation of the ARCS Model of Motivational Design

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Abstract

The purpose of this document is to describe the instructional design elements that have been incorporated in the Kid's College® educational software program. The paper specifically examines how the software program serves as an implementation of Keller's ARCS Motivational Model of Instruction. Other learning and design theories will also be discussed as they relate to Kid's College. These theories include Information Pickup Theory, Conditions of Learning Theory, Subsumption Theory, Operant Conditioning, Constructivist Theory, Aptitude Treatment Interaction Theory, Criterion Referenced Instruction, Intrinsically Motivating Instruction Theory, Experiential Learning Theory Connectionism Theory, and Expectancy Theory.

Introduction

Knowledge will forever govern ignorance; and people who mean to be their own governors must arm themselves with the power which knowledge gives [James Madison].

This powerful quote by James Madison represents the basic goal for obtaining knowledge. Designing effective instruction using sound strategies is essential to providing learners with the opportunities to attain knowledge and become powerful governors of their own lives. The discipline of instructional design is "concerned with producing knowledge about optimal blueprints – knowledge about what methods of instruction will optimize different kinds of desired outcomes" (Reigeluth, 1983). These theories offer explicit guidance on how to better help people learn and develop (Reigeluth, 1999).

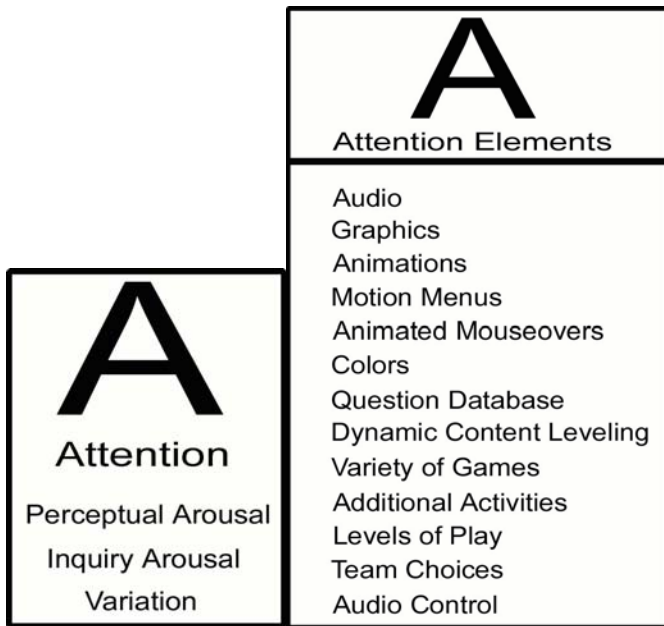
Table 1
ARCS Model

A Attention	R Relevance
C Confidence	S Satisfaction

The ARCS Model of Motivation is an example of a well-documented design theory that is centered on the importance of motivation to account for performance differences among learners. Keller suggests learners respond to their environment on the basis of internal and external characteristics, perceptions, goals, and on the basis of perceived and actual opportunities and reinforcements in the external environment (Keller, 1983; Keller, 1999). The ARCS model focuses on the conditions necessary to be sustained to keep the learner interested in the topic (Fernandez, 1999). The ARCS Model of Motivation explains how students will put forth more effort and thus learn more when they are motivated to do so. The ARCS model consists of four basic concepts that lead to greater motivation. These concepts are attention, relevance, confidence, and satisfaction.

The purpose of this document is to delineate how Kid's College implements Keller's ARCS Model of Motivation as well as other effective learning and design theories. Kid's College is a web-based learning program designed by Learning Through Sports, Inc. The program was developed to keep students engaged in the learning process by providing an interactive learning environment that utilizes sports-themed activities in the program. The Kid's College program offers eight interactive sports activities that each contain hundreds of questions correlating to state standards in math, reading, and language at the grades K-8 level. The program serves as a resource focused on reinforcing skills taught in the classroom by providing a variety of practice opportunities for students.

Keller's ARCS Model of Motivation has been widely used (Means, Jonassen, & Shellnut, Knowlton, & Savage, 1999; Song & Keller, 2001; Knowlton, Savage, & Shellnut) and serves as the foundation design theory for this paper. Other learning and design theories are also discussed as they relate to Kid's College. These theories include Information Pickup Theory, Conditions of Learning Theory, Subsumption Theory, Operant Conditioning, Constructivist Theory, Aptitude Treatment Interaction Theory, Criterion Referenced Instruction, Intrinsically Motivating Instruction Theory, Experiential Learning Theory Connectionism Theory, and Expectancy Theory.



Gaining a learner’s attention by incorporating strategies that maintain curiosity and interest is essential to effective learning (Kupritz & Laszlo, 2003). Keller postulates three methods for gaining a learner’s attention. These methods are an increase in perceptual arousal, an increase in inquiry arousal, and an increase in variation (Keller, 1987). Each of these methods will be discussed as they relate to Kid’s College.

Perceptual Arousal

Keller refers to perceptual arousal as the “use of novel, surprising, incongruous, and uncertain events.” (See Keller’s ARCS Model of Motivation.) Kid’s College provides a perceptual learning environment that closely connects to the elements described by Keller. Elements such as audio, graphics, animations, motion menus, and animated mouseovers provide the student with a surprising and novel environment to explore. Gibson, in his Information Pickup Theory, suggests the use of shadows, textures, and realistic environment such as that found in Kid’s College facilitates the receiving of information (Kearsley, 2004). Perceptual arousal is most closely related to “sensory-level reaction and selective attention in response to particular objects in the environment” (Keller, 1983). The audio and animated elements found in the Kid’s College environment appeal to the sensory level of students. They can see and hear a basketball going through a hoop or a bat hitting a baseball. These sensory items stimulate a student’s curiosity and in turn increase attention and motivation.

Inquiry Arousal

Inquiry arousal refers to stimulating information seeking behavior (Keller, 1983). Keller suggests that this can be accomplished by posing questions or having the learner solve problems (See Keller's ARCS Model of Motivation). Kid's College poses hundreds of unique questions to the students based on a question database. The instructor has the freedom to form questions as they relate to the content learned in class. This allows the instructor to provide the students with an exciting opportunity to practice prior material covered in the classroom. Recalling information the student has previously learned is also a central element of Gagne's Conditions of Learning Theory. Gagne stated that stimulating the recall of prior learning should be a necessary condition for instructional design (Gagne, 1970). Ausubel's Subsumption Theory supports the concept that instructional materials should relate to previously presented information (Ausubel, 1963; Kearsley, 2004). The answering of thought-provoking questions related to class content increases a student's inquiry arousal, thus increasing attention.

Variation

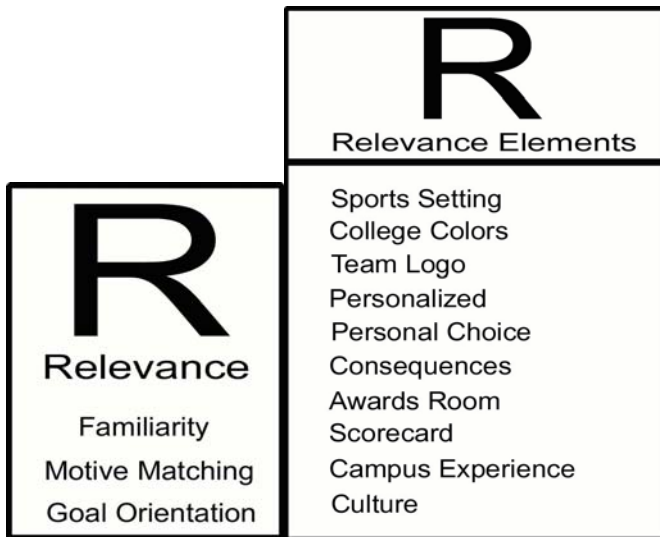
Keller recommends instructors vary the instruction to keep the students' interest from waning (Driscoll, 2000). Variety is one of the strongest elements of motivation for Kid's College. The student is given five different game options to participate in (basketball, soccer, baseball, volleyball, and football). In addition, he or she is able to choose from three other options that give the student a break from the typical question and answer environment (Campus Experience, Coach's Office, and Extreme Character). Likewise, students are given the opportunity to choose their game of choice and still practice on the standard or skill outlined by the instructor. The wide range of choices available to the students offers a welcome change to the instructional approach typically used.

Every game option also provides the student additional variety elements. For instance, each game contains multiple levels. As the student correctly answers questions, they are advanced to a higher level of game play. As the student advances, they have more receivers to choose from, more defenders to be aware of, and an increase in pressure from the opposing team. Each of these items differs depending on the sport and the level the student has advanced to.

Providing students with unique sounds and crowd reactions in each game also increases the variety of the learning program. For instance, the crowd reacts differently each time the students hits a homerun or scores a three-point shot. This feature, which is an external motivator for students, has been incorporated into each of the available sports.

Additionally, the student can increase the variety in the program by choosing a specific sports team to play for and can select his or her competition. Having the choice to play for and against a number of teams within a NCAA conference increases the variety by adding a personal, emotional element, which is otherwise purely intellectual or procedural material (Keller, 1983).

Keller recommends that there needs to be a range of methods and media to meet each student's unique needs and learning preferences (Small, 2000). Providing methods to accommodate a variety of needs is important in any educational program. In Kid's College students have the option to control the audio features of the program. Students enjoy control over the music, narration, etc., provided in the program and have the option to turn these features on or off at any time. They can also customize these media elements to better fit their individual learning style and needs.



Motivation through relevance includes a student's need to perceive that important personal needs are being met by the learning environment (Keller, 1983). Keller identifies three methods for increasing a student's sense of relevance. These methods include familiarity, motive matching, and goal orientation (Keller, 1987).

Familiarity

Familiarity is the use of concrete language, examples, and concepts that are related to the learner's experience and values (Keller, 1987). Whether through watching television sporting events, participating during gym class, or playing in the backyard, students worldwide are familiar with sports. By providing a variety of sporting activities, students have the opportunity to select the sport they are most familiar and comfortable with. This concept is important considering research indicates the more familiar something is, the more relevant the learner perceives it to be (Driscoll, 2000).

Another element of familiarity provided by Kid's College is the use of the team colors and logo that correspond with the school the student has chosen to play for. Seeing their team's logo as a constant reminder of who they are playing for may help the student feel more comfortable in the learning environment. In addition, customizing the program with the student's name on each screen and on the awards and scorecard not only gives the student a sense of ownership, but also provides a familiar element on each screen. Using the student's name is a simple, but powerful method for building relevance. This stimulates personal involvement in the class by using the student's name in all activities (Keller, 1987).

Motive Matching

Keller indicates "students' motivation will increase as they perceive the likelihood that the task will satisfy a basic need, motive, or value. These basic needs are power, achievement, and affiliation" (Keller, 1983). Providing opportunities for choice, responsibility, and interpersonal influence are factors which help improve the effectiveness of an instructional product (Keller, 1983). The power motive is evident in Kid's College when students realize that the results of the game are directly determined by their participation in the program. Students must take responsibility for the answers and face the consequence that the opposing team has the opportunity to score based on their choice of incorrect answers. There is a direct link between success in the game and the choices the students make.

Instructors have the opportunity to enhance achievement-striving behavior by providing opportunities to achieve under conditions of moderate risk (Keller, 1983). As the student increases in the levels of the game, the level of competition increases, and awards including trophies, medals, and certificates are eventually presented. These items of achievement are displayed in the awards room of the program. Each student also has the option to print a diploma showing physical evidence of their achievement in a specific sport or subject area.

The achievement motive resembles Skinner's Operant Conditioning Theory, which states that behavior is controlled by its consequences. When a particular behavior is reinforced positively, it will continue to occur at an increasing rate. (Travers, 1982; Shrock, 1991). This theory further explains that "a reinforcer is anything that strengthens the desired response. It could be verbal praise, a good grade, or a feeling of increased accomplishment or satisfaction" (Keller, 1983). The positive reinforcers previously mentioned from Kid's College are examples of using the Operant Conditioning Theory to help increase feelings of achievement, which in turn leads to greater motivation.

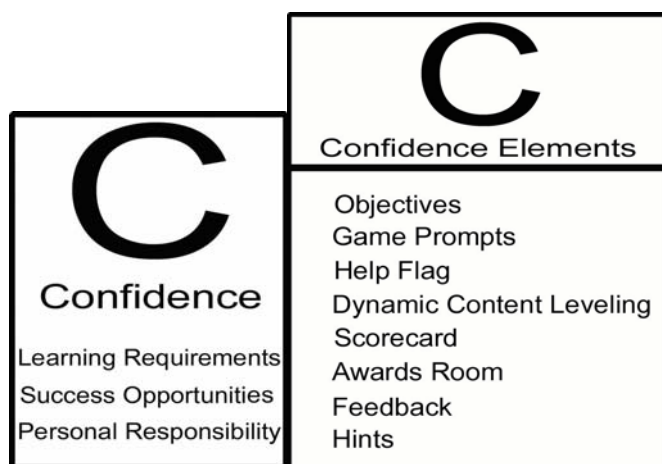
Research has identified "a human desire for affiliation and close personal relationships" (Keller, 1983). The affiliation becomes evident when the students develop a connection with a certain school or team. In addition, the campus experience option provides students with an inside look at their college. Students are able to observe videos describing campus and student activities, as well as access links to each participating university's website. It is logical that a student's feeling of affiliation and belonging increases as they gain a better understanding of the university team they are playing for.

The teams used in Kid's College are the teams the students often know and watch on television or in person in their local areas. This relationship increases a student's personal feelings of connection to the school and team.

Finally, cultural value also plays a role in motive matching. Keller explains that "parents, peers, organizations, and the culture at large have a well-known influence on motivation. Personal motivation increases when a desired goal is perceived to be consistent with the values of these reference groups. If the student's family, friends, and society think an activity is important, the individual will as well" (Keller, 1983). Collegiate sports are often considered a valued part of the community. By allowing the learner to be a part of a local or favorite team and compete against rivals or other opposing conference teams, the learner becomes engaged in the cultural influences surrounding the game. They become influenced by the culture to ensure their team succeeds and are motivated to do well.

Goal Orientation

Motivation to accomplish an immediate goal is often increased when it is perceived as a step for a desired future goal (Keller, 1983). When a student can perceive an end goal and can see the steps it takes to get to that point, then he or she has developed a goal-oriented motivation. At the beginning of each Kid's College game, the objectives are stated by the coach. The students know that in order to achieve their future goal, they need to complete the immediate objectives. The student can meet the immediate objectives of the game by correctly answering the questions posed to them. They begin to see that there is a direct association between the questions answered and the end goal. This association leads to an increase in study habits and overall performance at school in the related subjects. The importance of association is well documented in the learning theory literature such as Pavlov's Classical Conditioning.



Students gain confidence in their own abilities when they experience success at challenging tasks (Driscoll, 2000). Keller suggests that students be allowed to develop confidence by enabling them to succeed. Instructors should present a degree of challenge that allows for meaningful success under both learning and performance conditions (Keller, 1987). The concept of confidence can be broken down into three areas. These areas are learning requirements, success opportunities, and personal responsibility (Keller, 1987).

Learning Requirements

Keller suggests that there is a need to “increase expectancy for success by using instructional-design strategies that indicate the requirements for success. Instructors need to use well-stated objectives” (Keller, 1983). When a student enters a Kid’s College game, the objectives and formula for success are explained by the coach. If at any time the student needs to hear the objectives or instructions again, the help flag is located at the bottom of all screens. An additional help option provided by the program is the game prompt included in the newest versions of Kid’s College. This helps to decrease students’ frustrations while playing the game. If at any time the program can sense a student’s hesitancy in knowing what to do next, the computer will offer prompts. These prompts occur while waiting for the user to choose an answer or to initiate a sports move. These prompts help the student further understand the learning requirements and how to be successful in the game, thus increasing confidence.

Success Opportunities

Students gain confidence in their own abilities when they experience success at challenging tasks (Keller, 1983). Kid’s College provides the students with an increase in challenging questions and game play as they advance to higher levels. Thorndike’s Law of Effect supports this concept by stating that “rewards or successes further the learning of the rewarded behavior, whereas punishments or failures reduce the tendency to repeat the behavior (Bower & Hilgard, 1981). Dynamic content leveling ensures that each student can be successful at his or her skill level. The content is adjusted automatically based on the student’s performance, setting the level lower if they are consistently failing and setting it higher when the current skill/topic is mastered. Students who need to be challenged are motivated to perform while those struggling gain a sense of achievement as they progress and improve. Assessing the readiness of a student to progress is a principle that Bruner referred to in his Constructivist Theory. He also felt that instruction needed to be structured so that it was “easily grasped by the student” (Kearsley, 2004). The use of dynamic content leveling also relates to the Aptitude Treatment Interaction Theory developed by Cronbach and Snow. This theory explains that optimal learning occurs when instruction is exactly matched to the aptitudes of the learner (Cronbach & Snow, 1977). Dynamic content leveling matches the aptitudes of the learners to motivate them to achieve and progress.

Personal Responsibility

Instructors need to “connect success to personal effort and ability” (Keller, 1983). The uses of the scorecard and the awards room in Kid’s College are two of the methods where students can see how their personal effort has influenced the outcome. These elements show the student’s progress and achievements as they relate to the questions they have answered correctly. Keller also mentions using attributional feedback and other devices to help each student connect success to personal effort. Providing feedback helps students to develop an internal attribution for success and failure when such a factor is important” (Keller, 1983). The Criterion Referenced Instruction Theory developed by Mager also indicates that in order to facilitate learning, students need to be given opportunities to practice and obtain feedback about the quality of their performance (Mager, 1970). In Kid’s College students receive feedback after each question answered. An incorrect response results in missing a shot, goal, etc. A missed shot helps the student perceive a direct connection between missing the question and being unable to score the points needed to win the game. Success in the program is contingent on answering the questions correctly. When the student correctly answers a question, he or she is immediately rewarded with the opportunity to make the shot and hear words of praise from the sports announcer.

A feature included in the newest version of Kid’s College offers topic-specific educational “hints” when a child answers a question incorrectly. The student is given a second chance to answer a question after viewing the hint. Providing remediation feedback that helps the learner to see the cause of his or her mistakes and how to take corrective action, helps the student to know that it is okay to make mistakes and learn from them (Keller, 1987). A database tracks which attempt the student answered the question correctly. The instructor can monitor the student’s progress and know if the hints aided in the learning process. This feature also instills confidence in the student. Answering the question correctly on the second try still awards the student the opportunity for success in the game as a result of personal effort.



Using satisfaction as a motivation for learning involves “helping the student to use his or her knowledge in a setting that will provide feedback and reinforcements” (See Keller’s ARCS Model of Motivation). When students have the opportunity to apply what they have learned and

receive feedback that is positive, they will be more motivated to learn in the future. Kid's College provides an opportunity for students to demonstrate his or her understanding of materials studied in the classroom. Satisfaction can be broken down into three areas that influence motivation. These areas are: intrinsic reinforcement, extrinsic rewards, and equity (Small, 2000).

Intrinsic Reinforcement

Instructors need to encourage and support intrinsic enjoyment of the learning experience (Keller, 1987). Enjoying the "sports experience" is a huge motivator for students involved in Kid's College. Keller reminds us that "intrinsic outcomes are a result of one's internal emotions and evaluations in response to the performance" (Small, 2000). They are internally motivated because they are enjoying the experience of being involved in the activity. Kid's College provides the students with an activity related to the things they participate in outside of the classroom experience, which increases intrinsic motivation. Malone, in his Theory of Intrinsically Motivating Instruction, took intrinsic motivators a step further when he stated that "change, feedback, and clearly stated performance criteria are also considered intrinsic motivators" (Malone, 1981). This definition of intrinsic motivators encompasses additional Kid's College elements that have previously been discussed.

Extrinsic Rewards

Using extrinsic awards as a method of increasing satisfaction involves providing "positive reinforcement and motivational feedback" (Small, 2000). Motivational feedback is given through multiple sources in Kid's College. The student receives feedback about his or her performance through the use of the scorecard and the awards room. The scorecard serves as a great method of self-evaluation for the student. Using self-evaluation as the principle form of accessing progress relates to the Experiential Learning Theory developed by Rogers (Kearsley, 2004; Rogers, 1969). The audio provided throughout the game is a highly motivating extrinsic reward. The student receives instant gratification as he or she hears "great job" for a home run. Students also hear the crowds cheering as they make a great pass. The opportunity for the students to score points by playing the game is another form of an extrinsic reward. In addition, the Reinforcement and Connectionism Theories, both developed by Thorndike, state that behavior followed by a satisfying experience tends to be repeated (Blanchard, 2004). Connectionism also explains that learning is a result of associations forming between stimuli and responses (Gillani, 2003; Bower & Hilgard, 1981). The students also receive motivational feedback through the coach's office and campus experience. The coach's office offers students advice for being successful in life and in the game. The campus experience offers motivational advice through the campus videos and mascot quotes. The elements discussed increase satisfaction, as well as overall motivation to be successful.

Equity

Equity encourages motivation and success through the use of consistent standards and consequences for success (Keller, 1987). Standards for success are consistent throughout Kid's

College. The student always knows what the results will be for a correct or incorrect response to the question. There are never any surprises when it comes to the scoring or outcomes of a student response. There is an increase in a student's feelings of equity as a result of the Expectancy Theory developed by Vroom, which indicates that motivation is enhanced when the student is able to perceive the outcome of his or her choice and its likelihood of occurrence (Vroom, 1964). When the student is able to perceive that a certain act will yield a specific outcome, he or she has developed an increase in expectancy. Equity helps keep the student's trust when he or she knows that the scoring will always be fair and consistent with the objectives previously stated.

Conclusion

The ability to govern oneself comes, in part, through obtaining knowledge. Kid's College is a powerful tool through which students obtain and improve their knowledge in important academic areas including language and math. Kid's College is a successful learning program because sound design principals of instruction (i.e., ARCS Model) are incorporated directly into the program. Teachers and students alike enjoy the byproducts of such an effective tool. The software program incorporates appropriate strategies in the areas of attention, relevance, confidence, and satisfaction to motivate and actively engage the student in the learning process.

Providing students with the opportunity to practice cannot be understated. Theories including Thorndike's Law of Exercise and Guthrie's Contiguous Conditioning suggest that repetition of a habit increases its strength, on the premise that practice makes perfect (Bower & Hilgard, 1981). In other words, practice increases the strength of a connection while disuse or not practicing leads to its weakening or forgetting. The premise that students need to practice skills taught until they have mastered the content is the underlying goal of Kid's College. However, this program goes a step further. By maintaining the attention of the students and gaining the students' confidence and satisfaction, Kid's College helps students to maintain a desire to practice, learn, and succeed.

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Evidence of Learning Kid's College

How Do We Reach Them?

Dr. Susan Nelson

March 2004

Dr. Susan Nelson serves as Adjunct Professor for the University of Alabama, teaching "Current Trends & Research in Early Childhood Education" and "Media Production & Utilization." In addition to this position, she is also the Media Specialist/Technology Coordinator for Hueytown Elementary in Jefferson County, Alabama. She has worked in the Jefferson County school system since 1970 after graduating with her B.S. in Elementary Education from Auburn University.

Dr. Nelson earned an M.A. in Elementary Education from UAB in 1973 and an Ed.S. in Elementary Education from UAB in 1985. In 1996, Dr. Nelson earned her M.L.I.S. degree in Library and Information Studies from the University of Alabama. Her education journey culminated with her Ed.D. in Elementary Education from the University of Alabama in 2001.

During this time, she continued to teach and become involved with the schools. She has been given several awards for excellence, including twice winning the L.A.M.P. (Library and Media Professionals) Award of Exceptional Service and winning the Jefferson County Second Mile Teacher Award. She has served on the Southern Association of Colleges and Schools (SACS) Committee and on the Jefferson County Library Media Services Committee. She has represented the 4-H Club, presented at the Alabama Educational Technology Conference (AETC), and led workshops at that same conference.

Dr. Nelson first instituted the Kid's College program with her students at Hueytown Elementary in the 2002-03 school year and continues to use it today.

The Impact of No Child Left Behind

Spring is a time for renewal, hope, and a look toward the future. It can also be a time of apprehension and anxiety for both educators and students. With the No Child Left Behind Act (2001), schools are being held more accountable than ever. Educators are doing everything in their power to ensure that no child is left behind. Throughout the year programs and strategies

are developed, examined and utilized. But with the spring comes a time for testing, a time to again initiate the means of holding schools, and ultimately teachers, accountable. The scores of the Stanford Achievement Test (SAT-10) have become one of the highest factors in determining whether a school receives a passing or failing grade on its report card. Therefore, everyone in the school community is searching for the best way to reach the student, to instill a desire and motivation for learning that will result in achieving knowledge and skills that are demonstrated by higher test scores.

Today's Influences on Education

The world today is more changeable and complex than ever before. With all the technological advances and availability of media, children are exposed to more than their parents ever were. Families are more mobile and diverse than in the past. Children are both more intelligent and less capable academically than before. In this extremely complicated world, students need more advanced life skills, knowledge, and strategies to aid in the ability to cope and succeed. Educators are attempting to compete with numerous mental, emotional, and physical distractions to provide these skills. At times it seems to be a losing battle.

In this age of media overload, children are exposed to a bombardment of experiences that tend to overload the senses. In 1999, households in the U.S. watched television an average of 7 hours and 24 minutes a day (Nielsen, 2000). The Henry J. Kaiser Foundation, after examining the media environment of 3,155 children representative of the U. S. child population, from ages two through eighteen, found that children of less educated parents watched television 30 minutes more a day than those of higher-educated parents (Roberts, Foehr, Rideout, and Brodie, 1999). Another disturbing finding was children of higher-income families watched an hour less than those of lower incomes.

Other aspects of the impact of media found in the study were:

- 60% of households have three or more televisions
- 58% have two VCRs
- 58% have television on during meals
- 50% have no television rules
- two-to-seven-year-olds average watching television 2 hours daily
- eight-to-eighteen-year-olds average 2 $\frac{3}{4}$ hours of television a day
- African-American children watch twice as much television as their Caucasian counterparts (3 hours a day as compared to 1 $\frac{1}{2}$ hours a day)
- two-to-eighteen-year-olds average 29 video minutes daily
- 53% of children have a television in their bedroom
- African-American children are far more likely to have a television, and one with premium cable service in their bedroom.

It appears that those who watch the most television achieve less in school. The U.S. Department of Education compared the scores of thirteen-year-old math students based on how much television they watched. Students watching 2 hours or less of television a day scored 9 points higher than those watching 3 to 5 hours a day, and 23 points higher than those watching 6 hours or more (Campbell, Hombo, and Mazzeo, 2000).

Students' Interest in Sports

It is interesting to note that before 1970, sports existed on television only two days and one night a week. By the mid-1990s, various channels devoted only to sports, with additional stations carrying many sporting events, have been produced. Sports, now available on demand 24 hours a day, have a predominantly male viewing audience. Jim Trelease, author of *The Read-Aloud Handbook* (2001), surmises, "The boy who only sees his father focusing on athletics, who lives in a home or culture where it's all sports all the time, will allot far less value and time to school than to athletics."

Perhaps Trelease has an insight into the problems boys seem to have when it comes to academic achievement. Boys are more likely than girls to repeat a grade or drop out of school. They suffer more from learning disabilities, are three times more likely to be enrolled in special education classes, are more likely to be involved in criminal and delinquent behavior, are less likely to be enrolled in college preparatory classes, have lower educational expectations, and do less homework (Riordan, Sommers, 2000, 1996).

Student Motivation and Learning

Student motivation accounts for almost as much of the discrepancy in student achievement as does measured intelligence (Walberg, 1986). It is likely that little learning is taking place if students, whether boys or girls, are unmotivated; or if some learning does take place, it is probable that it will not be retained (Maslow, 1954). Bruner (1960, 1966, 1973) proposed that instruction must provide experiences and contexts that make the student willing and able to learn.

Instruction should also be structured so that it can be easily grasped by the student, and designed to facilitate extrapolation by going beyond the information given. Another facet of motivation was noted by Carl Rogers, who in his *Freedom to Learn* (1969, 1983), offered the principle that one tends to become more rigid under the perceived threat to self, and to relax boundaries when completely free from threat. Therefore, the educational situation that effectively promotes learning is one in which the threat to the self of the learner is reduced to a minimum and a differentiated perception of the field of experience is facilitated.

Successful Instructional Practices

According to Heinich (2002), successful instructional practices include making provision for student:

- Active participation
- Practice
- Individual differences
- Feedback
- Realistic contexts
- Social interaction

Engaging Students in Learning

Students learn more if they are actively engaged in it, have more time on task or opportunity to learn (Berliner, 1990; Brophy, 1988). To achieve automaticity, fluency, and proficiency, skills require practice. Student ability and individual differences must also be taken under consideration. There are aspects of the student's ability that may make it difficult for the student to achieve unaided, but still easy enough for the student to be successful with a little support. For although knowledge is important, solving problems that encourage students to go beyond their current skill and knowledge level lead to further development of skills at a higher level (Vygotsky, 1962, 1978).

Scaffolded Practice

Guided or scaffolded practice with a student's zone of development is more likely to maximize the successfulness and effectiveness of that practice (Rosenshine and Meister, 1992). Practice combined with information feedback for both the student and teacher could yield a significant positive effect on performance; computer feedback being associated with particularly large effect sizes (Kluger and DeNisi, 1996; Paul, Swanson, Zhang, and Hehenberger, 2000).

Why Choose Learning Through Sports?

Learning Through Sports is a language and math based learning system that utilizes the premises of getting students actively involved, providing practice in academic skills, leveling practice to provide for individual differences, giving immediate feedback to responses by rewarding correct responses, and providing explanations and answers to incorrect responses, in a realistic sports oriented context.

Although students work individually at computers, there is a sense of camaraderie as they interact with the program and each other. The web-based Kid's College program combines state-standard curriculum, favorite college teams and interactive sports games into one program to engage and motivate all students. It especially targets those students who are typically hard to reach.

The content was created so that each item in the Kid's College™ program directly matches the appropriate academic content and achievement standards for each state. Items were reviewed by an independent panel of experts in math, language arts and instructional technology for content validity, fairness, educational appropriateness, congruence with state and national standards, ease of use, technical quality, and documentation and support.

Hueytown Elementary Results

After viewing the spring 2003 SAT-10 results for Hueytown Elementary School (Alabama State Department of Education, 2004), the administration and staff concluded there was a need for continued emphasis on reading skills and a renewed effort toward improving mathematical skills.

There were 768 students enrolled on the 120th day of school in 2003, with an average daily attendance rate of 96.2%. A designated Title I Federal Program school, 45.5% of the student body participate in the free or reduced lunch program. In April 2003, third, fourth and fifth grade students were given the Stanford Achievement Test. The following is a breakdown of students who were tested.

Stanford Achievement Test 10th Edition

Jefferson County - (037)
 Hueytown Elementary School - (0410)
 Grade: All Grades
 All Subjects (5): 2002 - 2003

Data

Graph

Category ⁽¹⁾	Number Tested ⁽²⁾	Percentile ⁽³⁾	Percent in Group ⁽⁴⁾	Academic Status
All Students	354	45	~	CLEAR
Black	127	34	35.88	WATCH
Hispanic	3	*	0.85	**
White	224	52	63.28	CLEAR

Third grade students were not as successful in math as their fourth grade counterparts. Although at the beginning of the 2003-2004 school year, all grades were advised to concentrate on the improvement of math skills, the former third and fourth grade students were targeted as needing the most assistance. The following were the results of their achievement in math on the 2003 SAT-10.

Stanford Achievement Test 10th Edition

**Jefferson County - (037)
Hueytown Elementary School - (0410)**

**Grade: 03
Math: 2002 - 2003**

Data

Graph

Category ⁽¹⁾	Number Tested ⁽²⁾	Percentile ⁽³⁾	Percent in Group ⁽⁴⁾
All Students	129	45	~
Special Education Students	12	10	9.30
General Education Students	117	50	90.70
Male	68	39	52.71
Female	61	51	47.29
Black	42	30	32.56
Hispanic	1	*	0.78
White	86	52	66.67
Non-Migrant	129	45	100.00
Non-Limited English Proficient	129	45	100.00
Free Lunch	32	25	24.81
Reduced Lunch	19	37	14.73
Fully Paid Lunch	76	56	58.91
Poverty (Free and Reduced Lunch)	51	29	39.53
Unreported Poverty Level	2	*	1.55

Jefferson County - (037)
Hueytown Elementary School - (0410)
Grade: 04
Math: 2002 - 2003

Data

Graph

Category (1)	Number Tested (2)	Percentile (3)	Percent in Group (4)
All Students	114	39	~
Special Education Students	18	15	15.79
General Education Students	96	44	84.21
Male	62	37	54.39
Female	52	41	45.61
Black	47	30	41.23
Hispanic	2	*	1.75
White	65	45	57.02
Non-Migrant	114	39	100.00
Non-Limited English Proficient	114	39	100.00
Free Lunch	45	35	39.47
Reduced Lunch	16	39	14.04
Fully Paid Lunch	49	42	42.98
Poverty (Free and Reduced Lunch)	61	36	53.51
Unreported Poverty Level	4	*	3.51

After the media specialist/technology coordinator was approached by the Title I Resource Coordinator for the Jefferson County School District in Birmingham, Alabama, with the Learning Through Sports Kid's College program provided free by the Southeastern Conference to the schools of Alabama, Hueytown Elementary determined to participate in the program. Plans were made for one fourth grade class and one fifth grade class to visit the library media center for 30-minute sessions each school day for four weeks. Time would be spent playing basketball using only the math activities.

Each student in the fourth and fifth grades was given the STAR Math (Renaissance Learning, 2004) test to determine achievement level and placement. Additionally, all fourth and fifth grade students would be given forms stating that if randomly selected to take home a Kid's College CD-ROM, they would spend 30 minutes each day on math – any sport – five days a week to simulate time spent on the online version at school. After four weeks the students would again be given the STAR Math test to measure growth. Students who were exposed to the Kid's College SEC software program were to be compared to those who were not.

The fourth and fifth grade classes most closely resembling the total make-up of the student body were selected to participate in the study. After gathering permission forms for the entire fourth and fifth grade, 12 students in a fifth grade class drew the names of 12 prospective participants out of a basket. Eight fourth grade and four fifth grade students were drawn. These students were given log sheets to log time spent each day on math. Logs would be kept for four weeks. After failing to install the program for two weeks, one fifth grade male student returned his CD because he did not have the computer hardware requirements. A fourth grade female student (designated in the following table with a star) was then drawn who participated for two weeks.

After four weeks the students were again given the STAR Math test to measure growth and a questionnaire to assess effectiveness of the program. Students who were exposed to the Kid's College software program were compared to those who were not. The following are the results of growth of all students as evidenced by the STAR Math test:

Growth for Fourth Grade Students Not Exposed to Kid's College

Scaled Score (SS)	15
Grade Equivalent (GE)	0.2
Percentile Rank (PR)	4
Normal Curve Equivalent (NCE)	2.1

Growth for Fourth Grade Students Exposed to Kid's College Online
(6 white male, 8 white female, 4 black male, 2 black female)

Scaled Score (SS)	52
Grade Equivalent (GE)	0.7
Percentile Rank (PR)	14
Normal Curve Equivalent (NCE)	7.6

All except one of 21 students in the fourth grade class experienced positive growth. This one student scored above grade level on the first test.

STUDENT	SS	GE	PR	NCE
One (white male)	-36	-1.4	-35	-22.2

Growth for Fourth Grade Students Taking Kid's College CD-ROM Home

STUDENT	SS	GE	PR	NCE
One (white female)	28	0.5	6	4.8
Two (white male)	70	1.3	7	3.7
Three (white female)	3	0	-2	-1.1
*Four (white female)	21	0.3	7	3.7
Five (white female)	58	1.1	17	14.7
Six (black male)	-30	-0.4	-17	-9.2
Seven (white female)	29	0.5	7	5.3
Eight (white female)	-32	-0.6	-16	-10.6
Nine (black female)	51	1.0	16	11.8
Average	16	0.3	3	0.9

Three of the nine students who took the CD-ROM home experienced negative growth. One has not yet returned the log. Two did note they had spent time doing math, but not quite the full 250 minutes a week asked of them.

Growth for Fifth Grade Students Not Exposed to Kid's College

Scaled Score (SS)	24
Grade Equivalent (GE)	0.4
Percentile Rank (PR)	7
Normal Curve Equivalent (NCE)	4.1

Growth for Fifth Grade Students Exposed to Kid's College Online

(6 white male, 4 white female, 5 black male, 4 black female)

Scaled Score (SS)	34
Grade Equivalent (GE)	0.6
Percentile Rank (PR)	10
Normal Curve Equivalent (NCE)	5.6

Six of 19 students in the fifth grade class experienced negative growth. Four of the six scored above grade level on the first test.

STUDENT	SS	GE	PR	NCE
One (white male)	-28	-0.4	-15	-10.1
Two (white female)	-21	-0.3	-7	-3.7
Three (black female)	-15	-0.3	-8	-5.4
Four (black female)	-25	-0.4	-10	-6.2
Five (black male)	-77	-1.4	-34	-9.1
Six (black male)	-10	-0.2	-6	-3.4

Growth for Fifth Grade Students Taking Kid's College CD-ROM Home

STUDENT	SS	GE	PR	NCE
One (white male)	49	1.0	39	11.5
Two (black female)	133	2.3	44	27.4
Three (white female)	38	0.7	11	7.0
Average growth	73	2.1	31	15.3

All three fifth grade students who took the CD-ROM home experienced positive growth. Looking at the data, of the 52 students exposed to the Learning Through Sports Kid's College online or CD-ROM software versions, only 10 experienced negative growth. These student participants showed an average growth that was higher than their peers who were not exposed to the program.

Questionnaire responses from both teachers and students reflected positive experiences with the program.

Teacher responses included:

- ...beneficial to my students... "kid" friendly format.
- ...Varied formats to questioning and problem solving did not give the appearance of practice and drill.
- ...They were not bored or "burned out" with the program.
- ...became a math intervention for struggling students.
- ...Everyone is a fan and likes to be a part of the team.
- ...Success breeds encouragement – when they are successful in math, it removes the fear factor.
- ...interesting and exciting way to get kids interested in learning.
- ...good drill and practice in an entertaining format.
- ...Brings awareness to all of the schools in the Southeastern Conference – not just their favorite team.

Fourth grade student responses included:

- ...I like it, I like it!
- ...You get to play and learn at the same time.
- ...It's really fun...it helps me...[I like] the word problems.
- ...I think it's cool...it teaches me new stuff.
- ...I have been making better grades...you get to play on the computer, and you get to play games with math.
- ...It helped me with my math a lot...very, very, very fun.
- ...They make math into sports.
- ...I think it was very fun and it helped me a lot...it has helped me on decimals.
- ...It is very good for us because sometimes we don't like to learn in the classroom, but Kid's College is very fun...I'm very bad in math, but I think at least I went from an F to a B. I think that is helping me...people [who] have trouble learning, if they do Kid's College, [it] might be fun for them...it's a fun way to learn stuff.

Fifth grade student responses included:

...I like it because it has games you can play, but at the same time it's helping you achieve in your work.

...It shows the answer and will get the answer in your mind every time it shows you [the question].

...I think it is fun to play it...I like basketball and football.

...I love it...it lets you pick your team.

...I think it is great...it has given me advanced math problems.

...I answered some hard questions... [I like] the graphics.

...I think it is wonderful...some of the stuff I did not know, and now I do.

...I like playing it...it's a fun way to help you with math.

...Some of the questions I would know when we would have a test...I like the sports...they have the same teams that I like.

...It's great...they mix it [math] up in a game instead of giving it straight to you.

...It's fun to play and learn at the same time. I like it...you get to play basketball as math.

Observable Behaviors

As evidenced by the preceding comments, both students and teachers deemed their overall experiences with the Kid's College software program to be positive. Observable behaviors shown were: great enthusiasm, determination to achieve, and excitement with the vicarious experience of actually participating as an athlete.

Students congratulated and competed with themselves, as well as with their peers. Cultural, intellectual, and racial barriers appeared nonexistent. Two of the most enthusiastic students were a non-athletic African-American male and a Hispanic female. Two of the students showing the most growth in math were an athletic African-American female and a non-athletic, gifted Caucasian male.

Improvement in Math Scores

The data shows that math scores can improve by using the program. At Hueytown Elementary School, fourth grade teachers began scheduling times to visit the computer lab in the library media center for their students to practice mathematics skills using the Kid's College program. Fourth and fifth grade students were given access to the program during their 30-minute weekly technology classes as well.

Students using Kid's College showed measurable performance gains based on STAR and SAT-10 math scores. As a result of this success, Kid's College was deployed schoolwide.

Based on a sample of 109 students who had access to Kid's College and were administered the SAT-10 in both 2004 and 2005, measurable improvement in math scores were recorded.

- On the total SAT-10 mathematics battery, *average growth* was 3.24 percentile points.
- Problem solving recorded an average growth of 8.3 percentile points.
- Of the thirty students in Stanines 1, 2, and 3, all but 4 students showed improvement.
- Overall, 76% of students are scoring in the 4th through 9th Stanine.

Recommendations for Further Study

Recommendations for further study include providing regularly scheduled opportunities for schoolwide participation in grades three through five over a school year. Comparison of 2003, 2004, 2005, and 2006 SAT-10 mathematics scores should determine effectiveness. However, a longitudinal study would be necessary to determine the impact the program could have on student attitude toward learning, staying in school, and building good character.

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Educators' Comments Kid's College

Don Capps, Joaquin Elementary, Provo, UT

Joaquin Elementary is a Title 1 school. Using Kid's College has helped us prepare for High Stakes testing in a fun and engaging way. We have used Kid's College for several months now, and the students still ask to go to Kid's College. Thanks for designing a program the students enjoy and that helps prepare them for state standard testing.

Polly Beam, Principal, Henley Middle School, Klamath Falls, OR

I asked a student what they thought of Kid's College. His response was "Way cool!" Here at Henley Middle School, we just started using Kid's College with our special needs students. The format is easy to use, and it seems all students are interested in sports. The questions line up with the state standards for English and Math. We would like to thank you for this program!

Kathy Boyd, Hueytown Elementary School, Hueytown, AL

My daughter brought the game home from school. She loved it. She really got a lot of math skills out of it. My son was having trouble with math, and I tried him on it also. He loves baseball, so playing baseball and learning math just seemed to go hand in hand. They both improved their math skills and would fight over who got to play first. I recommend the [program] to all my friends who have children. It is fun and educational at the same time. We especially like the University of Alabama game. If you have a child who is having problems in math, I recommend Kid's College. It's the best piece of educational software I have ever seen.

Sonia Remick, Hewes Middle School, Santa Ana, CA

Your company has the most tremendous customer service. I feel totally pampered!

Nancy Hopson, Hampton Elementary School, Hampton, TN

We are a K-8 school with 727 students. Each week all of those children use our lab. Kid's College meets the educational needs of every student. The children love the games! I don't have to change disks for every class and can tailor the games to meet the needs of each individual child. State standards are being met without "teaching to a test." When given a choice of what game they would like to play, the vast majority always pick Kid's College!

Ruth Anne Glisson, Wakulla Middle School, Crawfordville, FL

My students and I have enjoyed using the Kid's College program this year. Several other teachers in our school have also used it. Thank you for providing this program for us!

Sharron Kennedy, Umatilla Elementary School, Umatilla, FL

Kid's College software is terrific! Cash-strapped schools are always searching for reasonably priced software to assist with state curriculum standards. Our students love the program! They even elect to use it in our after-school program. The web-based software is very easy for the students to use. The software makes learning fun!!!

Jules Michel, Principal, St. Michel, Jackson, MS

I want to thank you for such a well-done piece of software. I am principal of an elementary school of 500, and each grade level is using this software. It is the most popular on campus. The students use it for review and for enrichment. The classes really get into competition with each other.

Mary Coleman, Benvenue Elementary, Rocky Mount, NC

The students were very excited to play the games. I can see them thinking about the skills they were taught in the classroom as they are answering the questions. What a wonderful way to reinforce classroom objectives, yet have fun at the same time!

Susan Redden, Orrs Elementary School, Griffin, GA

It is remarkable to watch the students as they achieve goals that they have set for themselves and grow into other levels! When given a choice, the students would prefer to use this program than any other that we have. I feel that this will help with our test scores, as well as help the children to think out answers, rather than just putting down answers.

Sandy Ross, Manifest County Elementary School, Frenchburg, KY

My students love the activities! I have trouble getting them to leave when our scheduled lab time is over; they beg for "just one more minute, please!" Thank you for providing such a motivating program, which makes learning fun and enjoyable. Keep up the good work!

Pamela Anderson, Rancho Cucamonga Middle School, Rancho Cucamonga, CA

What a find Kid's College has been for us! Students are using and loving Kid's College, and they are seeing unbelievable results. Our kids are assigned rotation time, and they can hardly wait until their Kid's College day arrives. They work in pairs, assisting each other with questions (teamwork!), and, with the help of the state standards curriculum design of your program, these formerly unmotivated students are realizing improvement and excellence in academics. Within each area of study, students move to higher levels of proficiency, and they are congratulated and awarded certificates. This is truly a positive experience.

Also, the collegiate theme of your program complements what we are working hard to instill: a love of learning and the promotion of higher education. Your staff has been helpful with getting us started, web access is easy and quick, and the disaggregated results gleaned from Kid's College are just what we've been looking for; the results are content specific and readily show

where students need extra instruction. Thank you so much for Kid's College! Your service to our students is amazing!

James Taylor, Edgemont Elementary, Newport, TN

The feedback has been overwhelmingly positive! Here are the positive points: ease of sign up, correlates with the state standards in math and language arts, simple to use, and availability of reports. We feel that this will definitely help improve our test scores, and in regards to the NCLB, the reporting tool will assist us in meeting the requirements of reporting in a disaggregated manner.

Cheryl T. Bosch, Title 1 Aide, French Settlement Elementary School, LA

Our teachers are excited because the students are learning, and the students are excited because they are having fun. I'm always saying that learning should be fun, and this program provides that for our students.

Joan E. Grant, Bristol Elementary School, Colorado Springs, CO

For myself, as the administrator, I have found the web site easy to use as I set up the various classes and curriculum. Teachers appreciate this customization, as they can select the grade level of material appropriate to each student as well as the state standards where students need improvement. Teachers have found the reports invaluable, as they can print class reports, student reports, and reports by state standard. The student reports show students and parents how the student is progressing in that state standard. We are thrilled to have access to this incredible resource and know benefits will be seen in our CSAP results next school year! Thank you so much for funding Learning Through Sports for our children! You have added to their educational success.

Jeff Holbrook, Midway Elementary, Colbert, WA

I first would like to thank all of those involved with the Kid's College program and all the work that has been devoted to this opportunity. I am a fifth grade teacher, and my students have been extremely motivated by the online challenge presented with the skills in math and language arts. I have enjoyed the resource to track my students' progress and know how they are doing. Thanks for the class report, as well as the individual [report] – very helpful. Again, THANK YOU, and I am hopeful that this opportunity will continue.

Frank G. Magnani, Winston Park Elementary School, Miami, FL

The teachers like the way the kids stay focused and learn from it. The comments I'm hearing from the teachers on the Web version is even better than before. They especially like the fact that they can work to our own state standards and keep track of their students' progress with the reports they are able to generate. I hope you continue to provide this and more to the students. It's a great learning tool!

Bernie Kincaid, Sims Elementary, Conyers, GA

Thank you for the opportunity to use the Kid's College software. Our students love it! The math and language questions are challenging to the students. They are sure to improve on their state standardized test scores this spring.

Mark Anderson, Power Ranch Elementary School, Gilbert, AZ

Thank you, Learning Through Sports! Your support of the Kid's College program has been outstanding! I emailed Learning Through Sports and asked them to set my class up with the program. I did not realize what a great effect it would have on my students. The program is helping my class to get ready for the AIMS testing and the SAT-9 testing in the spring. The program keeps track of each student's progress. If I have a student that is below or above grade level, the game gives me the ability to add questions to the specific student. Thank you again for supporting this wonderful educational game. I believe that if this game were in every classroom across the country, you would see test scores go up dramatically.

Mary Owen, McKenzie Elementary School, McKenzie, TN

As you know, there is now a cornucopia of online resources all tied to state standards, but Kid's College is unique. As an educator, I see excited children and pleased teachers eagerly coming to our school's computer labs to use Kid's College to improve their mathematics and language arts skills. This learning system has to be one of the most highly motivating programs our students and teachers have used. Our students love the collegiate sports themes, and our teachers love that their students are preparing for the high stakes tests that lie ahead.

Sally Tullier, Shannon Elementary School, Morgan City, LA

When I introduced the game to my children, they were highly motivated by the sports themes and interaction with the characters. They played in teams and formed consensus answers on their first play. They were congratulating each other and taking turns. My kids had a great time! They not only reinforced language and math skill areas, they practiced cooperative learning standards.

Donna Galt, Drake Elementary School, Strongsville, OH

As the teacher, I especially like being able to go to the selection menu at each grade level and select what we are currently working on that meets the standards and is at the appropriate ability level for each student. This gives each student the opportunity to work toward his grade level, but not be frustrated by work beyond his capability. There is a definite challenge built into each level!

Betsy H. Hodges, Blackshear Elementary School, Blackshear, GA

I cannot express how many of our teachers and students enjoy Kid's College. It is a teacher's delight to be able to direct a student towards a motivational teaching tool whenever necessary. This software has caused numerous of our lower achieving students who possess little motivation to "come alive" and enjoy learning. With state mandates becoming more strict as to what can be accomplished in the classroom, Kid's College has reached new heights in providing our faculty and staff with the means necessary to help ensure that "No child is left behind."

Felecia Ruse, Mitchell-Nielson Elementary, Murfreesboro, TN

I have installed Kid's College on every computer in the lab, and it is by far the most popular [program]. Not only have I seen improvement in the students' math and language knowledge, they are also working together and building friendships!

Brenda McCombs, Kannapolis City Schools, Kannapolis, NC

I've enjoyed the Kid's College software. I've especially enjoyed the exceptional customer service Learning Through Sports provides. It is easy to set up student information, add math and/or language arts state standard objectives, and track the progress each student is making. The support is there to answer any questions and get your school set up and logged on in no time. I was up and running in less than 10 minutes due to their undivided attention. Thank you, Learning Through Sports!

Dr. Walter Tilghman, Counselor, Big Ridge Elementary, Hixson, TN

Once they get started there is no stopping them!

Kayla Crawford, Clinton Elementary, Lincoln, NE

I am a mother, and we received the Kid's College software through an event at my daughter's school. I really wasn't sure what to think of it, so we took it home and tried it out together, and I'll have to tell you this game is amazing and my daughter loves it. This would be something I would recommend to any parent!

Becky Cooper, Kalama Elementary School, Kalama, WA

Kid's College is absolutely amazing! It provides my students with a fun and safe website that is educational and motivational. My students are constantly asking to get on the website. As a teacher I love the program because the questions directly relate to our state standards and grade level. I am very thankful to those individuals who designed this program!

AnneMarie Hauber, Lake Ridge Elementary School, Magna, UT

I am the technology coordinator for Lake Ridge Elementary in Magna, Utah, and have been impressed with the reaction of the students to Kid's College. They become excited about doing the math and language exercises and complain when they have to leave, even if it is for recess!