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**Research Findings on the  
Impact of Kid's College on  
Student Achievement in Mississippi**

Compiled by

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*Conducting research in the areas of  
Measurement, Evaluation,  
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# Research Findings on the Impact of Kid’s College on Student Achievement in Mississippi

## Overview

The purpose of this report is to summarize the impact on Reading and Mathematics achievement growth as a function of Kid’s College, an online student intervention and instructional program, for schools in Mississippi. This research spans from fall 2008 through spring 2010 and demonstrates the efficacy of Kid’s College in helping districts improve (1) achievement and (2) growth.

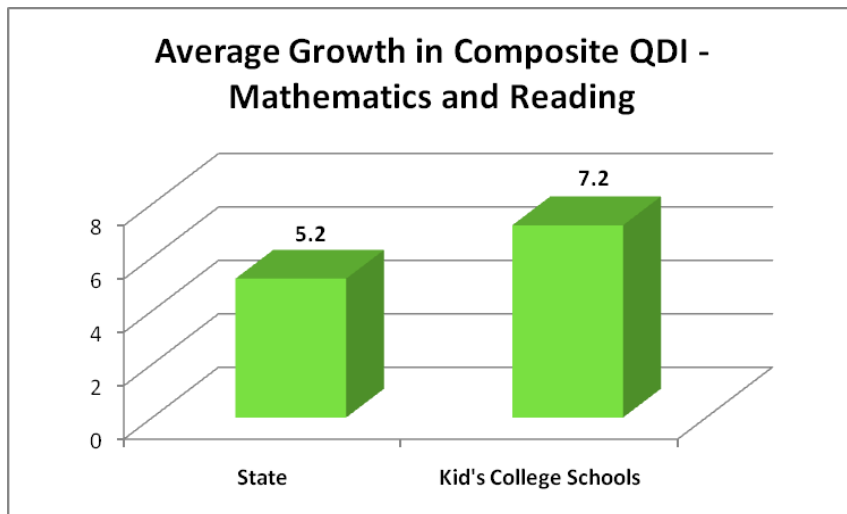
The Achievement Model provides a measure of overall school or district level performance during the previous year. In the State of Mississippi, a Quality of Distribution Index (QDI) value is calculated to measure achievement using data from both Language Arts and Mathematics tests. The QDI ranges from 0 to 300 depending on the percentage of students scoring at each of four performance levels (Minimal, Basic, Proficient, and Advanced).<sup>1</sup>

The Growth Model provides a measure of the extent to which a school or district meets its expected performance. Mississippi uses past achievement to predict performance on the next year’s tests in Reading and Mathematics. Growth is defined as students who exceed their expected achievement.

## Kid’s College Impact in Mississippi Schools

In the 2008-2009 school year, 40 Mississippi schools adopted Kid’s College as an intervention tool. These schools experienced an average growth in their QDI compared to 2007-2008 of 7.2 points. This growth exceeded the average growth of 5.2 points in the overall state QDI for the same comparison years.

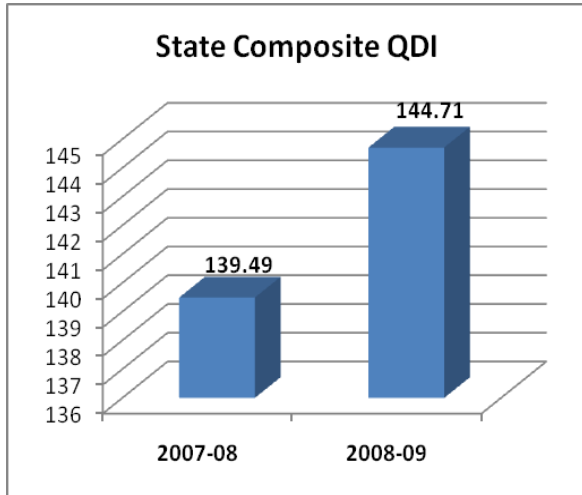
Figure 1: Kid’s College Schools QDI Growth Exceeds Overall State QDI Growth



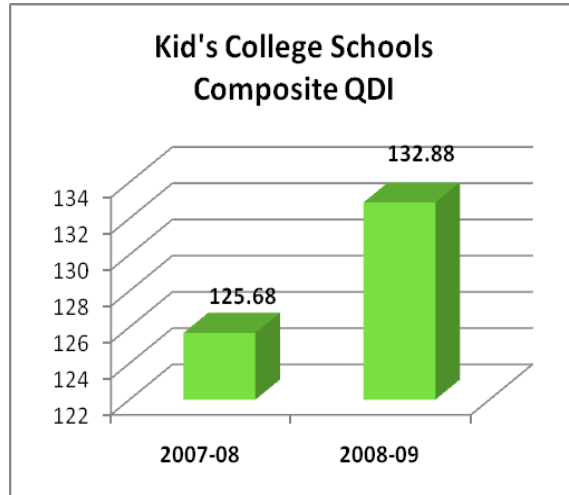
<sup>1</sup> QDI = (1 X % Basic) + (2 X % Proficient)+ (3 X % Advanced)

As reported in Figures 2 and 3, schools working in Kid’s College began at a lower average threshold (125.68 QDI) in 2007 compared with the state (139.49 QDI). The QDI growth for schools using Kid’s College indicates that this adaptive instructional program is effective at accelerating student growth even for low-achieving students. These findings are consistent with data from other states where Kid’s College has effectively assisted low-achieving students in moving up the learning continuum faster than other intervention and instructional programs.

**Figure 2: State Composite QDI**

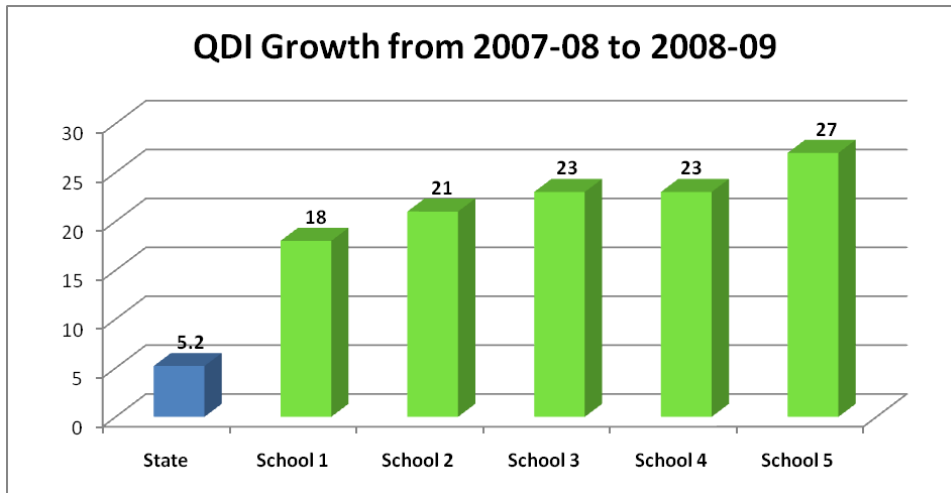


**Figure 3: Kid’s College Schools Composite QDI**



Notably, fourteen of the 40 schools using Kid’s College (35 percent) earned double-digit growth on the QDI index in 2008-09. Digging deeper into the data from five schools that serve primarily economically disadvantaged students, the QDI gains far exceed state gains. These five schools experienced Mathematics and Reading QDI growth that exceeded the state QDI growth by between 12.8 to 21.8 points.

**Figure 4: QDI Growth in Five Kid’s College Schools Far Exceeds State QDI Growth**

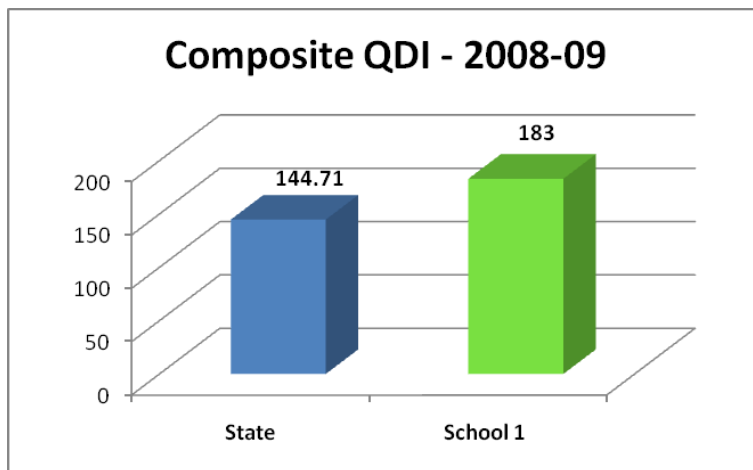


In studying the implementation of Kid’s College in these five schools, there appear to be two essential behaviors resulting in these outcomes. First, in each of these schools, teachers routinely utilized the weekly emailed data reports on individual student performance to guide them in adjusting and differentiating classroom instruction. And, each week teachers used Kid’s College adaptive online curriculum as a formative tool to deliver prescriptive instruction for individual students depending on how they performed skill by skill during the previous week. These findings are consistent with the work of Black and Wiliam (2004), Stiggins, Arter, Chapuis & Chapuis (2004), and other researchers who report that when teachers use student work or performance data to differentiate instruction, learning accelerates for each student.

Each of these five schools had peak success at different grades and in different content areas, which indicates that Kid’s College is effective at accelerating student growth across grade levels and in both subjects.

**School 1** is an elementary school that serves 415 students in Kindergarten through grade 6. Seventy-five percent of students are economically disadvantaged. Relative to ethnicity, 48 percent of the students are White, 43 percent are Black, 7 percent are Hispanic, and 2 percent are Asian. School 1’s composite QDI increased by 18 points from 2007-2008 to 2008-2009 after their first year of implementing Kid’s College. And, School 1 exceeded the state composite 2008-2009 QDI by 38.3 points.

**Figure 5: Elementary School 1 QDI Far Exceeds State QDI**



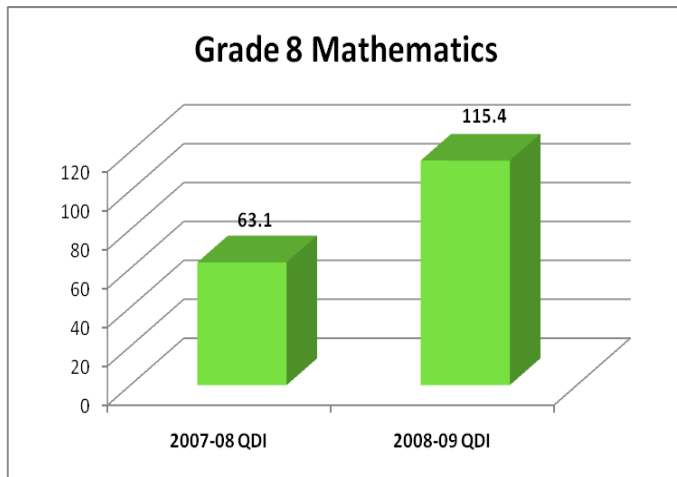
For both content areas and all grades tested at School 1, 87.5 percent showed growth from 2007-08 to 2008-09. For example, in Mathematics at grade 5, the grade-level QDI increased by 41.1 points. Grade 3 Reading QDI increased by 38.5 points.

**School 2** is a middle school that serves 135 students. Ninety-seven percent are economically disadvantaged, and 99 percent of the student population is Black. School 2’s composite QDI increased by 21 points in 2008-09. And, while only students in grades 6 and 7 participated in Kid’s College, their grade 6 students achieved a noteworthy QDI increase of 29.5 points.

**School 3** is a middle school that serves 442 students in grades 6 through 8. Ninety-two percent are economically disadvantaged, and 97 percent are Black. White students represent 2 percent of the population, and Hispanic students represent 1 percent. School 3's composite QDI increased by 23 points after the first year of using Kid's College.

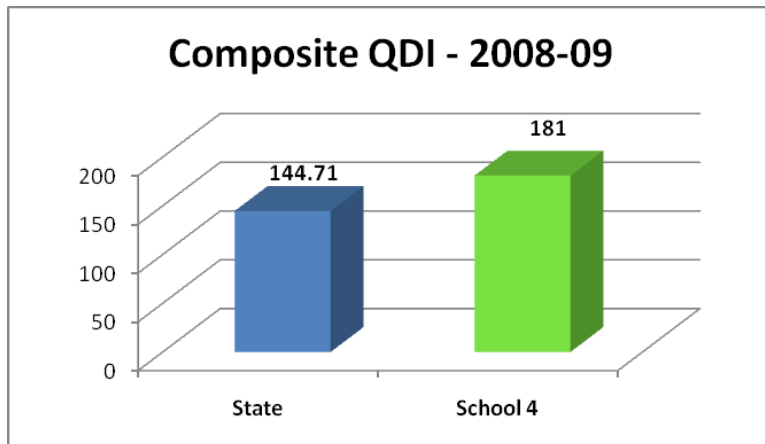
As reported in Figure 6, grade 8 Mathematics achieved a 52.3-point increase in the grade-level QDI. School 3 students also increased QDI in grade 7 Mathematics (by 37.3 points) and in composite QDI (Reading and Mathematics) for grades 7 and 8 (QDI increases of 29.6 and 28.7 points, respectively.)

**Figure 6: Impact of Kid's College on Grade 8 Mathematics QDI Growth at Middle School 3**



**School 4** is a small urban elementary school serving 153 students in Kindergarten through grade 6. Ninety-two percent of students are economically disadvantaged. Their population is 66 percent Black, 18 percent White, 9 percent Asian, and 7 percent Hispanic. School 4's composite QDI increased by 23 points from 2007-2008 to 2008-2009 after their first year utilizing Kid's College. And, they exceeded the state composite 2008-2009 QDI by 36.3 points.

**Figure 7: Elementary School 4 QDI Far Exceeds State QDI**



At School 4, students in grade 3 Mathematics made the highest gains with a 49.3-point increase in QDI from 2007-08. Grade 6 Mathematics increased QDI by 46.4 points.

**School 5** is a junior high school that serves 449 students in grades 6 through 8. Seventy-four percent are economically disadvantaged. Fifty-seven percent are Black, 41 percent are White, and 2 percent are of Other ethnicity. School 5's composite QDI increased by 27 points after year one of implementing Kid's College, and they exceeded the state composite 2008-2009 QDI by 4.3 points. Grade 7 students increased QDI by 34.7 points from 2007-08, and grade 6 Language Arts students were close behind with a 33.8-point increase in QDI.

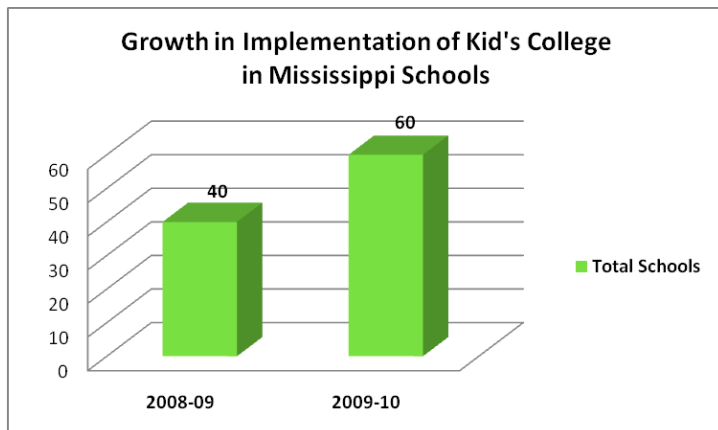
### Relationships Between Kid's College and QDI Growth

Relative to use of Kid's College, there appears to be a positive relationship between time spent working in Kid's College, number of Mississippi standards-based Reading and Mathematics questions answered, and QDI growth. For the 40 schools utilizing Kid's College during 2008-09, there were 25,553 students working in the program. These students answered 19,510,524 total practice questions and spent 8,559,739 minutes utilizing Kid's College. On average, each student answered 764 questions.

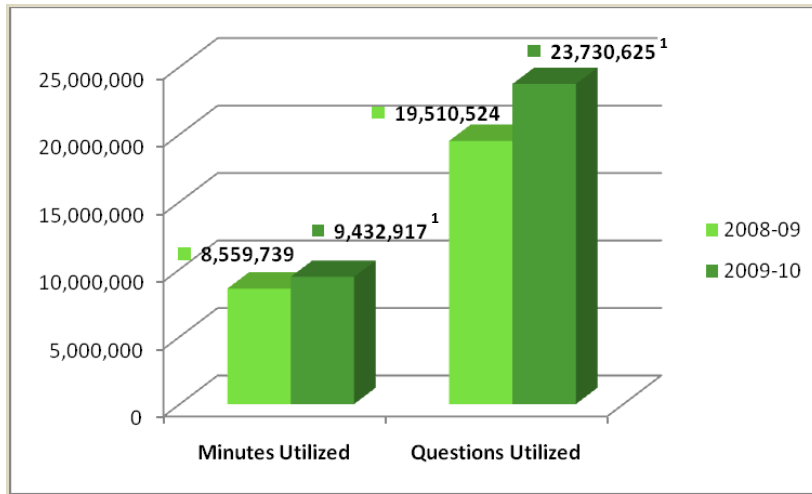
In 2009-2010, participation grew to 60 schools. This year, students are projected to answer more than 23,730,625 total questions, and more than 930 questions on average. They are projected to spend 9,432,917 total minutes utilizing the program.

As reported in Figure 8, over the first two years of implementation, the time engagement in Kid's College (Minutes Utilized) is on an upward trend. This is an important finding because the research on student achievement indicates that *time on task* is a strong predictor of achievement (Brophy, 1988; Levin and Nolan, 1996). It is also important to note that use of Kid's College by Mississippi students since 2008-2009 is consistent at approximately 85 percent of work during normal school hours and 15 percent of work after school hours, when students are logging in to Kid's College on their own accord from home, the library, or anywhere they can access the Internet.

**Figure 8: Growth in Implementation of Kid's College in Mississippi Over 2 Years**



**Figure 9: Growth of Kid’s College Utilization and Time-on-Task**

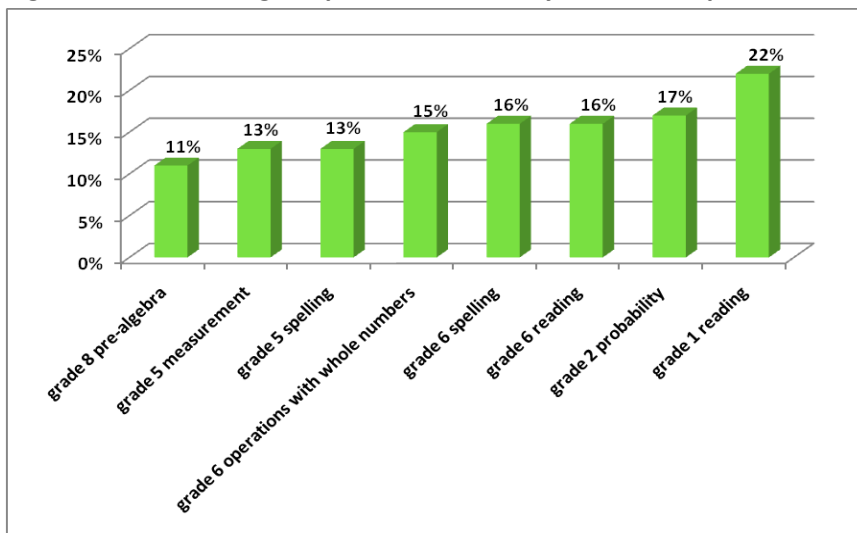


<sup>1</sup> Projected out annually based on year-to-date use

Furthermore, there is preliminary evidence at the student level which suggests a strong relationship between engagement in Kid’s College and high positive growth (exceeding expected).

Kid’s College data indicates that across the 40 Mississippi schools utilizing the program in 2008-09, students demonstrated double-digit growth in proficiency on specific skills in both Mathematics and Reading while working in the program. For example, students increased their proficiency in *probability* at grade 2 by 17 percent. Students at grade 5 improved proficiency in *measurement* by 13 percent. Students in grade 6 improved proficiency in *operations with whole numbers* by 15 percent. And students in grade 8 improved proficiency in *pre-algebra* by 11 percent. Similar findings were reported for grade 1 *reading* (22 percent increase in proficiency), grades 5 and 6 *spelling* (13 percent and 16 percent increases, respectively), and grade 6 *reading* (16 percent increase).

**Figure 10: Kid’s College Impact on Proficiency Growth in Specific Skills**



## **The Story Behind Improving QDI in Mississippi**

Kid's College, a web-based assessment and intervention program in Mathematics and Reading, delivers a unique, differentiated instructional program for students in K-12. There are five components to Kid's College:

1. GAP Assessment is the standards-based assessment used to identify strengths and weaknesses and to design a program of intervention. Items in the GAP tests were developed specifically to align to the Mississippi state content standards.
2. STRIDE Adaptive Technology is the instructional intervention program which adapts mathematics and reading curriculum to every student, moving them up or down the learning hierarchy as a function of their performance on fine-grained tasks aligned to specific knowledge and skill requirements. Their responses are used to scaffold them up or down the curriculum ensuring that each student receives instruction directly at their level of understanding.
3. Custom curriculum written specifically to the state content standards for Mathematics and Reading. These items will assist with test preparation for the MCT2 and End-of-Course exams.
4. Customized Instructional Worksheets are generated for students based on their performance on grade-level items as diagnosed by the Gap Assessment. The student is provided with a worksheet per skill strand not yet mastered. The worksheets are accessible online, can be printed one-by-one or in workbook format for classroom use, or emailed to parents for supplemental, targeted skills practice at home.
5. Periodic sports entertainment, reward and recognition for time spent learning in Kid's College. Students are recognized both for their growth and for their prowess at the sport game of their choice.

## **Conclusion**

These data demonstrate the power of Kid's College in helping Mississippi districts improve their QDI results and address the individual learning needs of students based on formative data. Underlying each of these benefits is the power of an engaging learning tool that delivers differentiated instruction based on real time assessment of every student.

## References

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Stiggins, R., Arter, J., Chappuis, S. & Chappuis, J. *Classroom Assessment for Student Learning: Doing It Right – Using It Well* (Portland, OR: Educational Testing Service, 2004)

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### **About Margaret Jorgensen, Ph.D., MBA CEO, Measure2Learn**

*MBA, Business Leaderships, University of Texas at San Antonio*

*Ph.D. Measurement, Evaluation, and Statistical Analysis, University of Chicago*

*M.S. School Psychology, Miami University*

*B.A. Political Science, Wellesley College*

Dr. Margaret Jorgensen is a leading authority on assessment for K-12 education. She is the author of two books on innovative assessment and dozens of articles and chapters, and has developed hundreds of criterion-referenced, standards-based, and norm-referenced tests for K-12. She has worked for both Educational Testing Service and ACT, and led education products in the K-12 assessment space for Harcourt Assessment. At Harcourt, Dr. Jorgensen was responsible for the development of all norm-referenced achievement and ability products. For example, Dr. Jorgensen was responsible for the development of the innovative 10th edition of the Stanford Achievement Test, the 3<sup>rd</sup> Edition of Apenda<sup>®</sup>, the Stanford English Language Proficiency Test, and the 8<sup>th</sup> Edition of the Otis Lennon Ability Test.

In addition, Dr. Jorgensen has led the development of literally thousands of standards-based assessments, including accountability tests for Alabama, Arizona, California, Delaware, Florida, Georgia, Virginia, Massachusetts, Michigan, Mississippi, New Mexico, Ohio, Rhode Island, South Carolina, Texas and Virginia and online assessments. *(continued)*

Dr. Jorgensen is knowledgeable in all areas of assessment and has pioneered innovative item types and assessment formats, designed friendly and useful score reports linking assessment information to instruction, and authored books and articles — all initiatives focused on more meaningful ways to systematically capture evidence about what students know and can do. She has advised both large and start-up technology companies in the assessment space since 2006 including Pearson Vue (adaptive licensing examinations) and DreamBox Learning for K-3 mathematics.

Dr. Jorgensen founded Measure2Learn, LLC, in 2007 to provide research and statistical services in the K-12 product space, conduct research and evaluation, build assessments and instructional resources, and inform and collaborate with clients on the national education reform landscape. Measure2Learn is a small, nimble entity with collaborators from various disciplines and with a range of expertise including data analysis, content development, alignment, and program or product evaluation. Measure2Learn clients include Pearson Vue, Rally Education, DreamBox Learning, Princeton Review, National Taiwan University, the University of Missouri-St. Louis, and Learning Through Sports.