AERA SIG Studying and Self-Regulated Learning

An Interview With Kenneth A. Kiewra: *SOAR*-ing to Academic Success

By Anna Brady

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Have you ever wondered what separates ineffective and effective learners? *SOAR to College Success and Beyond* (2022) will answer this question and many more. *SOAR to College Success and Beyond* is Kenneth A. Kiewra's new book. This enlightening text provides research-based strategies that teach college students how to learn. Kiewra draws from his work in self-regulated learning, talent development, and expertise to provide a holistic view of learning in college. *SOAR to College Success and Beyond,* published by Cognella Academic Publishing, is an excellent resource for college students, instructors, and self-regulated learning researchers.

Kiewra is a professor of educational psychology at the University of Nebraska-Lincoln. He earned his PhD in educational psychology from Florida State University and was also on the Kansas State University and Utah State University faculty. Professor Kiewra's research pertains to learning and talent development. On the learning side, he has investigated note taking, graphic organizers, and the SOAR teaching and learning method he developed. Kiewra has investigated highly productive educational researchers and parents' roles in talent development on the talent side. He has authored five books on these topics, including *Teaching How to Learn*: *The Teachers Guide to Student Success, Nurturing Children's Talents: A Guide for Parents*, and his most recent book and the topic of this interview *SOAR to Academic Success and Beyond.*

Kiewra is the former editor of *Educational Psychology Review,* is listed among the Top 2% of the Most-Cited Researchers Worldwide, and is a frequent public speaker, having made more than 500 invited presentations to education, corporate, and parent groups. In 2021, Kiewra received his university's system's top award for outstanding teaching and instructional creativity. Professor Kiewra's career work is featured in Héfer Bembenutty's 2022 *Contemporary Pioneers in Educational Psychology: Theory, Research, and Applications (Vol.2).*

Kiewra is also a member of the American Educational Research Association Studying and Self-regulated Learning SIG. In 1986, Professor Kiewra attended a summit at Far West Laboratory in San Francisco to discuss self-regulated learning. From this summit meeting, the Studying and Self-Directed Learning SIG (later renamed to the Studying and Self-regulated Learning SIG) was born with John Thomas serving as the inaugural chair. Kiewra was elected to the SIG program chair in 1990 and assumed the SIG chair position in 1991 and 1992.

In the following interview, Kiewra discusses the inspiration behind *SOAR*, the connection between *SOAR* and research, and provides a preview of the tips, tricks, and strategies found in *SOAR!*

Brady: ***What inspired you to write "SOAR to College Success and Beyond"?***

Kiewra: Students are not taught *how* to learn. Throughout their schooling, they are taught content such as math and science but not how to learn such content. Schools focus on the products of learning but not the processes. This misfocus leaves many college students struggling academically and as lost as most $20 pens. Although they might have the will to learn, they lack the skill to succeed. That is because college students routinely use ineffective learning strategies. For example, most record just one-third of important lesson ideas as they take notes in class, leaving them scant information to study later. And, when they do study, they use weak, repetitive strategies like rereading, rewriting, and reciting…ridiculous! Enter *SOAR to College Success and Beyond.* This book provides students the skills needed to succeed, to SOAR, in college and beyond.

Years ago, I directed the Academic Success Center at the University of Nebraska, a one-stop-shop with various programs to help students succeed academically. One of our helping programs was a study skills course I developed called Strategies for Academic Success. If students were not learning to learn in their content classes, I figured they needed a class on learning. At first, it was a hard sell. Administrators asked to support the course did not like the idea of offering a remedial college course. I argued that something could not be remedial if never taught in the first place. And, that the science of learning—rooted in information processing theory and propagated by decades of strategy research—was a must science of exploration for all college students. A study skills course was not remedial but enriching. Message received. Today, 19 sections of that course are offered annually, enrolling about 600 students. *SOAR to College Success and Beyond* was written for courses like ours and for all students seeking to learn *how* to learn.

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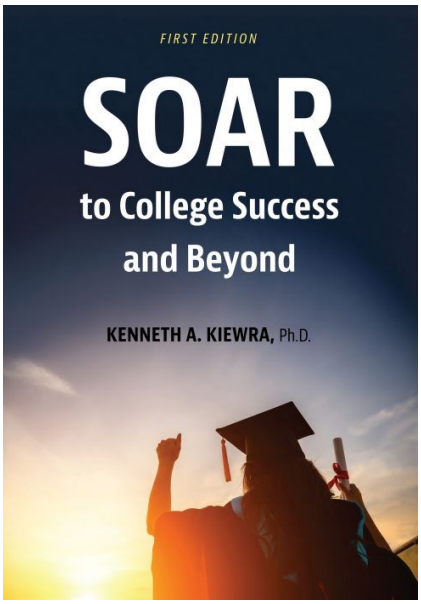
Brady: ***Could you explain the origin of the title? What does SOAR stand for?***



Kiewra: The title suggests that SOAR strategies can help students succeed academically in college and prepare them for success beyond college as they learn and perform in the real world. SOAR is an acronym that stands for **Select, Organize, Associate**, and **Regulate**. When students do these four things, they SOAR to success. To recap, students are rarely taught how to learn. Instructors say, "Take good notes…read your text….study for your exam…" but rarely say how. As a result, students use weak and ineffective strategies. They take incomplete notes and learn in a piecemeal and redundant fashion. SOAR is the remedy for ineffective learning methods.

SOAR is based on information-processing theory and experimental research. According to information-processing theory, learning depends on

1. attending to important new information while reading or listening (select),
2. chunking that information in working memory (organize),
3. encoding that information into long-term memory by linking it with other new and previously stored information (associate), and
4. retrieving that learned information as needed (regulate).

In theory, if students engaged in these four simple processes, they would learn effectively.

In a series of experiments, colleagues and I tested SOAR methods versus students' preferred methods for fact, relationship, and concept learning. Across experiments, college students were either given SOAR materials, helped to generate SOAR materials, or trained to create them independently. In all cases, SOAR-based learning led to higher achievement across test types compared to preferred methods, with mean differences as high as 48%. In another study exploring SOAR's impact on writing, those provided SOAR materials or trained in SOAR wrote more organized and integrative essays than those using their preferred methods.

Brady: ***How does SOAR connect to self-regulated learning?***

Kiewra: In a 2019 interview for the *Studying and Self-Regulated Learning SIG Newsletter*, I wrote about my introduction to the topic of studying and self-regulated learning by way of a 1984 landmark article by William Rohwer titled, "An invitation to an educational psychology of studying." This was followed by an actual Rohwer invitation in 1986 when he invited me and other researchers interested in studying and self-regulated learning to a summit at Far West Laboratory in San Francisco to discuss this new psychology. At the summit were pioneers of the studying and self-regulation movement, such as John Thomas, Michael Pressley, Bill McKeachie, Paul Pintrich, Barry Zimmerman, John Biggs, Noel Entwistle, Barbara McCombs, Martin Covington, and Merlin Wittrock, to name drop a few. So, yes, my work on SOAR traces back to those people and their seminal contributions to studying and self-regulated learning.

As for the SOAR method, SOAR's regulate component stresses self-regulated learning. That component directs students to monitor and assess their learning and performance. In *SOAR to College Success and Beyond,* Chapter 6 covers regulation strategies. It prepares students to regulate while using SOAR strategies such as when note taking (select), when building graphic organizers like matrices and illustrations (organize), and when connecting new ideas to one another and to prior knowledge (associate). It prepares students to regulate how well they have learned by anticipating, constructing, and answering practice test questions that tap fact, relationship, concept, and skill learning. It also prepares students to regulate during testing, following testing (error analysis), and in real-world settings such as those involving social and work encounters, safety precautions, and talent development in domains as varied as chess and golf. Other chapters maintain the importance of self-regulation, such as when managing one's life, time, and mindset. Moreover, every chapter contains objectives, focus questions, focus question answers, and practice activities to promote regulation and boost chapter mastery.

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Brady: ***You have written a couple of other books that use the SOAR framework. How does SOAR to College Success and Beyond differ from those other books?***

Kiewra: *Learn How to Study and SOAR to Success* in 2005 was the original SOAR book for college students. Although it covered each of the SOAR components, it did not include specific material included in the current book, such as (a) talent development, (b) mindset, (c) life management, (d) SOAR for reading, writing, arithmetic, and beyond, and (e) the dangers of laptop note taking and how to combat digital distractions. Of course, the current version also includes many other new or updated ideas, examples, and text supports.

Teaching How to Learn: The Teacher's Guide to Student Success, published in 2009, is also based on the SOAR method. It differs from the other SOAR books, though, in that it is for instructors, not students. It helps instructors teach in SOAR-compatible ways that ensure effective information selection, organization, association, and regulation—and teach students how to learn by embedding strategy instruction in their content teaching. This way, students not only learn math or science, but they also learn *how* to learn math and science on their own. I am working on another book for parents and teachers that draws from SOAR and talent development literature.

Speaking of talent development, my 2019 book *Nurturing Children's Talents: A Guide for Parents* includes a chapter on SOAR methods to boost academic talent. Moreover, one of my talent studies investigated academic talent development among National Merit Scholars.

Brady: ***Who would benefit from this book? How would they benefit? How is it different than other study skills books?***

Kiewra: As mentioned previously, most students do not know how to learn. They record sketchy notes and study them in a piecemeal and repetitive fashion. That is not working. Students need to understand and embrace the science of learning. They need to learn *how* to learn, and it is never too late. *SOAR to College Success and Beyond* aims to introduce students to the science of learning, teach them how to learn, and help them SOAR to success in college and beyond.

This book is for college classes that stress academic success and learning strategies. It is not an orientation to college text. I fear that orientation texts accomplish little more than turning an insecure and unhappy college student with a 2.0 GPA into a secure and happy college student with a 2.0 GPA. Being secure and happy are essential, but academic skills boost learning and ensure academic success. Students need science-based academic skills like SOAR to excel in college and beyond.

Most study skill books are not science-based. Their recommended strategies are not tied to learning theories like information processing and self-regulated learning or to research findings pertaining to note taking, graphic organizers, and the testing effect. They often recommend strategies that have proven ineffective, like laptop note taking, highlighting, outlining, and rehearsal. Perhaps most problematic, though, they offer a hodgepodge of strategies, making it difficult to know what to do when, rather than a unified and straightforward system like SOAR.

"My view is that most students wander off-task during live or online instruction because they are not engaged in learning. Furthermore, they are not engaged in learning because they do not know how to learn. As mentioned previously, they use weak and ineffective strategies such as sketchy note taking, piecemeal learning, and repetitious review strategies that lead them nowhere. Moreover, they are not self-regulatory and have a defeatist fixed mindset. No wonder students are tuning out of lectures and into their cyber devices. SOAR can help by offering a manageable and effective learning system that can be applied in any learning context in college and beyond. When students know how to learn, they are more likely to remain engaged in class and while studying and to succeed and flourish."

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Brady: ***The increase in technology and online learning in college may create new challenges for students. How does SOAR help students address challenges related to technology or online learning?***

Kiewra: Technology can be a blessing or a curse, depending on its use, and *SOAR to Academic Success and Beyond* tries to make this clear to readers, particularly the curse part. For example, the text warns students about the cyber-slacking misuse of laptops and other mobile devices and includes data such as these:

- Eighty-one percent of students use laptops for non-class purposes (e.g., surfing the web, checking email) during class.
- Students report spending more than half of class periods using laptops for non-class purposes.
- Laptop note takers take poorer quality notes than longhand note takers and achieve less.
- Seventy percent of students report sending text messages during class, and they send or receive about 20 messages per class.
- The more text messages received and answered during class, the lower a student's note taking output and achievement.

My view is that most students wander off-task during live or online instruction because they are not engaged in learning. Furthermore, they are not engaged in learning because they do not know how to learn. As mentioned previously, they use weak and ineffective strategies such as sketchy note taking, piecemeal learning, and repetitious review strategies that lead them nowhere. Moreover, they are not self-regulatory and have a defeatist fixed mindset. No wonder students are tuning out of lectures and into their cyber devices. SOAR can help by offering a manageable and effective learning system that can be applied in any learning context in college and beyond. When students know how to learn, they are more likely to remain engaged in class and while studying and to succeed and flourish.

Brady: ***Your book is not only packed with powerful information, simply explained and exemplified, and with sage science-based advice for success, it is replete with engaging and informative stories. For example, there is the story of Jayde Atkins' rise to rodeo stardom, Pete Kostelnick's record-breaking 46-day run across America, and Isabelle's note-taking nightmare. What are you accomplishing with these and other stories?***

Kiewra: Whenever possible, I let stories tell the tale. Stories that are on point, engaging, and well-told are easily understood and long remembered. How better to dismiss the talent-is-born myth than to spin the tale of Jayde Atkin's five-hours-a-day practice sessions that led her to the National High School Rodeo Championship. How better to raise the bar of possibilities than to reveal that a full-time, 29-year-old financial analyst named Pete Kostelnick, who once thought he would never complete a half marathon because 13 miles was too far to run, ran over 72 miles a day over 46 days to become the fastest ever to run the 3,000-plus miles across America. And, how better to illustrate the myriad atrocities students commit during lecture learning than to have poor, fictitious Isabelle commit them all. By the way, Isabelle is at it again in a later chapter violating every time management principle advocated. I will not give anything away here, but Isabelle makes a profound reappearance in the book's epilogue after learning how to learn.

Brady: ***How does your research inform the topics and strategies you write about in SOAR?***

Kiewra: As a graduate student at Florida State University, my first-year statistics professor outlawed in-class note taking, believing that note taking disrupted attention toward the lesson and hindered learning. He also believed that having notes for later review was instrumental to learning, so he provided students with a set of notes following each lesson. This 1980 experience piqued my scientific interest and launched my note-taking career, which continues today. So, naturally, *SOAR to Academic Success and Beyond* encapsulates much of that note-taking research, such as note taking versus listening, the consequences of missing lectures, note completeness and achievement, reviewing one's notes versus the instructor's notes, note-taking frameworks, copy-and-paste note taking, note-taking cues, laptop versus longhand note taking, digital distractions, note revision, lesson repetition, text note taking, and note review methods.

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> "SOAR is an acronym that stands for **Select, Organize, Associate**, and **Regulate**. When students do these four things, they SOAR to success. To recap, students are rarely taught how to learn. Instructors say, "Take good notes…read your text….study for your exam…" but rarely say how. As a result, students use weak and ineffective strategies. They take incomplete notes and learn in a piecemeal and redundant fashion. SOAR is the remedy for ineffective learning methods. "

My interest in note taking eventually led to a particular interest in a special type of notes: graphic organizers. Nelson DuBois and I developed and investigated a simple representational system—comprised of hierarchies, sequences, matrices, and illustrations—that could graphically depict any information. Other systems, meanwhile, might confusingly purport dozens of graphic organizer types. Our system is described and exemplified in *SOAR to Academic Success'* Chapter 4 on organization and is used throughout the text to represent text ideas graphically.

Of course, my research on SOAR is also prominent in the text. Chapter 2 overviews the SOAR method for college success. Chapters 3-6 cover each SOAR component in turn: select, organize, associate, and regulate. Chapter 7 addresses SOAR for reading, writing, arithmetic, and beyond.

My research on talent development and expertise grew from a desire to help my first child excel in chess, which was one of his early passions. At the time, there was scant research on how parents could nurture talent, and most of the talented parents I interviewed had no clear plan for cultivating talent and were trialing and erroring it. However, by interviewing those with world-class talent, their parents, and their coaches, I was able to forge a blueprint for talent development in my book *Nurturing Children's Talents: A Guide for Parents.* I retell some talent success stories in *SOAR to Academic Success and Beyond* to convince readers that talent is made, not born, and that the path to expertise—whether in sports, music, or school—rests in their outstretched palm.

Another focus of my talent research has been productive scholars and what they do to be so productive. Those reading this interview are probably aware of the 20 productive psychologists I have studied, such as Richard Mayer, Patricia Alexander, Barry Zimmerman, Dale Schunk, Richard Anderson, Michael Pressley, Alexander Renkl, Carol Dweck, Jacquelynne Eccles, and Ming-Te Wang, to name a few. Chapter 9 in *SOAR to Academic Success and Beyond* draws from this research to offer readers life and time management advice.

Brady: ***How does the content of this book inform college instructors' teaching practices?***

Kiewra: SOAR was developed as both a learning and teaching method. Although *SOAR to College Success and Beyond* is a student text and *Teaching How to Learn: The Teacher's Guide to Student Success* is an instructor text, any reader can draw SOAR-related teaching and learning implications from either text. An instructor reading S*OAR to College Success and Beyond* will learn a great deal about learning and instruction. An instructor would learn, for example, about

1. talent nurturing,
2. minimizing digital distractions and boosting effective note-taking practices,
3. graphic organizer benefits and construction,
4. applications for building internal and external associations,
5. means for boosting students' self-regulation, and
6. ways to boost motivation, implement a growth mindset, and improve life and time management.

The text's preface also councils instructors about strategy instruction. In addition to addressing the text content chapter-by-chapter, instructors are advised to embed strategy instruction on the fly as needed. "When students retreat to the rear of the classroom, a quick, impromptu lesson on sitting front and center is in order. When laptops and phones command attention during class, the time is ripe to warn them about digital distractions and suggest longhand note taking. When students are assigned a long-range project, why not tell them about the "invest early" and "invest daily" time-management principles…"

Teaching and learning are opposite sides of the same coin. Both instructors and students must understand effective learning practices, such as SOAR, and make sure they are applied.

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SOAR to College Success and Beyond

Many students learn content like math and history in school, but not *how* to learn such content. Consequently, many students use weak learning strategies and struggle academically.

SOAR to College Success and Beyond teaches students how to learn any type of content effectively and helps them thrive in school and in the real world. At the book's core is a unique learning method called SOAR that Dr. Kiewra developed, scientifically validated, and has disseminated through his writings and teachings to thousands of students. When students Select, Organize, Associate, and Regulate, they SOAR to success.

The text introduces students to SOAR, offers a chapter about each SOAR component, and shows how to apply SOAR across academic subjects and outside academia. In addition, it covers vital SOAR-related topics such as memory, mindset, motivation, and life and time management.

The book is written in an engaging and enjoyable way, features memorable stories and powerful examples, and includes chapter objectives, focus questions with answers, and activities that guide the student learning experience.

SOAR to College Success and Beyond is ideal for freshman orientation courses, academic success courses, and any student seeking to become an expert learner.

Kenneth A. Kiewra, Ph.D. is a professor of educational psychology at the University of Nebraska-Lincoln, where he teaches courses in academic success and in talent development. Dr. Kiewra has published four other books for students, educators, and parents. He is among the top 2% of the most-cited researchers worldwide and has made more than 500 invited presentations to education, corporate, and parent groups. In 2021, Dr. Kiewra received his university system's top award for outstanding teaching and instructional creativity.