

# ARTS

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The Architect Registration Examination is changing—for the better. In July 2008, NCARB will launch ARE 4.0, which updates and improves the current format by combining graphic and multiple-choice divisions. ARE 4.0 represents a pragmatic and visionary effort to integrate exam format while also emphasizing the problem-solving skills architects regularly use in day-to-day practice.

## An Introduction to ARE 4.0: Providing Exam Content in a New Wrapper

The steady evolution of the Architect Registration Examination can be traced back to 1997, when NCARB introduced the computerized version of the exam. Since then, the Council has worked toward improving the ARE's content, delivery, grading, and administration. This work has been guided by the 1999 Practice Analysis, a groundbreaking study sponsored by NCARB that provided a comprehensive analysis of the architecture profession.

Any changes affecting the ARE must be strategically phased-in. NCARB's goal always has been to lessen disruptions for candidates—even as the Council improves the exam. ARE 4.0 is no exception to this long-standing objective. Ronald B. Blich, FAIA, of New Orleans, LA, and the current chair of the ARE Subcommittee, explains, "The development of ARE 4.0 has been carefully managed to ensure that its implementation is orderly, logical, and, most especially, candidate friendly."

It is important to note that while NCARB will launch ARE 4.0 in July 2008, the Council also will provide the parallel delivery of ARE 3.1, which is the current version of the exam. By delivering ARE 3.1 and ARE 4.0 simultaneously, NCARB recognizes the need for a clear transition between exam iterations. This one-year period—from July 2008 to June 2009—provides candidates with ample opportunity to complete ARE 3.1 and/or to prepare for ARE 4.0. (NCARB is developing several resources—including mailings, an interactive web site, and additional media coverage—that will provide information about the ARE 3.1/ARE 4.0 transitional period. Look for extended coverage of the transitional period in the fall 2007 issue of Direct Connection.)

### WHAT IS ARE 4.0?

Integration is the key description for ARE 4.0, moving from nine divisions to seven divisions: six combining multiple-choice questions and graphic vignettes and one (the current Building Planning division) with graphic

### Recent and Notable Changes to the ARE

Since 2004, NCARB has launched some notable changes to the Architect Registration Examination. These improvements are directly linked to the 1999 Practice Analysis, which was a comprehensive study of the architecture profession organized by the Council. Practice Analysis findings were published in early 2001.

It is important to remember that NCARB had introduced the computerized ARE in 1997—a mere four years before the release of Practice Analysis data—and did not want to implement other major changes to the exam within such a short period of time. NCARB has purposely spread out exam improvements over the past couple of years. These improvements include:

- The debut of ARE 3.0 in February 2004. ARE 3.0 is noteworthy for including a new Test Specification—or the material that guides the creation of exam divisions and questions—and providing the first reduction of graphic division vignettes (from 15 to 13).
- In February 2006, NCARB introduced ARE 3.1. The Council reconfigured the Site Design and Site Zoning vignettes, reducing the number of vignettes from 13 to 11. (Site Design was combined with Site Parking, and Site Zoning was combined with Site Analysis.)
- The most recent changes to the ARE took place last month, February 2007, with the introduction of “alternate item type” questions in the Mechanical & Electrical Systems division. *See the article on page 10 for more details.*
- The launching of ARE 4.0 in July 2008 will integrate most of the graphic vignettes into the current multiple-choice structure of the exam. While candidates will be tested via different methods, the ARE divisions will cover the same content.

vignettes only. (See sidebar comparing ARE 3.1 and ARE 4.0 for more details.)

ARE 4.0 differs from the current exam in that it is more subject-oriented and, therefore, better represents what a candidate would do while practicing architecture. Dennis S. Ward, AIA, of Florence, SC, a veteran volunteer leader for several ARE committees and task forces, explains, “ARE 4.0 is more in line with the day-to-day approach that an architect would take to solve a design problem. For example, when an architect addresses a site design issue, this may cover not only the basic principles of site design, but may also address aspects of structural design, material selections, methods of construction, contractual issues, etc.”

David Cronrath, AIA, dean of Louisiana State University’s College of Art and Design and the FY07 chair of the ARE Grading Subcommittee, adds, “I think students graduating from accredited architecture programs will find the 4.0 release to be more related to their experiences. The fact that multiple-choice questions and graphic vignette design problems are integrated into the same division means the test has focused on each of the knowledge areas required to be a licensed architect.”

### THE PRACTICE ANALYSIS AS ROADMAP

Those familiar with the ARE have noted several changes to the exam since 2001. At that time, the results of the 1999 Practice Analysis were released, and the data gathered began to influence the ARE’s evolution. To understand the profound effect the Practice Analysis has had—and will continue to have—on the ARE, a brief review of this study is useful.

Working with the then-Chauncey Group International in 1999, NCARB began its comprehensive analysis of the architecture profession. It was “a huge undertaking that went above and beyond” similar profession-based analyses, said Stephen Nutt, AIA, who leads NCARB’s Examination Services directorate.

The study utilized several practice analysis methodologies, including focus groups; visits to architecture firms; telephone interviews; discussions with architecture “trend spotters”; the development of a survey disseminated to 4,600 architects, educators, and interns in the United States and Canada; and meetings with collateral organizations.

As a measure of its comprehensiveness, the study gathered 10 focus groups as a means to better understand how architectural services are used and what roles architects play within various environments. Focus group members basically considered how architects contribute to a given project/situation.

The focus groups included architecture clients; registered architects; structural/mechanical/electrical consultants; civil and geotechnical consultants and landscape architects; interior designers and specialty consultants; educators; interns and graduates from architectural programs; general contractors and construction managers; senior building officials; and liability carriers, lending institutions, and attorneys.

Amidst the exhaustive data collected, four clear conclusions about the ARE emerged:

- The ARE must continue to evolve.
- Health, safety, and welfare topics always must be the ARE’s focus.

## COMPARING ARE 3.1 TO ARE 4.0

The following charts provide a detailed overview of the differences between ARE 3.1 and ARE 4.0. Please note that the current 11 vignettes comprising the graphic portions of ARE 3.1 will be redistributed in ARE 4.0. The number of multiple-choice questions will decrease while the number of graphic vignettes remains the same.

ARE 3.1	ARE 4.0
<p><b>BUILDING DESIGN / MATERIALS &amp; METHODS</b> 105 Multiple-choice questions</p>	<p>➔ <b>BUILDING DESIGN &amp; CONSTRUCTION SYSTEMS</b> 85 Multiple-choice questions 3 Vignettes <i>Accessibility / Ramp</i> <i>Roof Plan</i> <i>Stair Design</i></p>
<p><b>MECHANICAL &amp; ELECTRICAL SYSTEMS</b> 105 Multiple-choice questions</p>	<p>➔ <b>BUILDING SYSTEMS</b> 95 Multiple-choice questions 1 Vignette <i>Mechanical &amp; Electrical Plan</i></p>
<p><b>CONSTRUCTION DOCUMENTS &amp; SERVICES</b> 115 Multiple-choice questions</p>	<p>➔ <b>CONSTRUCTION DOCUMENTS &amp; SERVICES</b> 100 Multiple-choice questions 1 Vignette <i>Building Section</i></p>
<p><b>PRE-DESIGN</b> 105 Multiple-choice questions</p>	<p>➔ <b>PROGRAMMING, PLANNING &amp; PRACTICE</b> 85 Multiple-choice questions 1 Vignette <i>Site Zoning</i></p>
<p><b>BUILDING PLANNING</b> 2 Vignettes <i>Interior Layout</i> <i>Schematic Design</i></p>	<p>➔ <b>SCHEMATIC DESIGN</b> 2 Vignettes <i>Building Layout</i> <i>Interior Layout</i></p>
<p><b>SITE PLANNING</b> 3 Vignettes <i>Site Design</i> <i>Site Grading</i> <i>Site Zoning</i></p>	<p>➔ <b>SITE PLANNING &amp; DESIGN</b> 65 Multiple-choice questions 2 Vignettes <i>Site Design</i> <i>Site Grading</i></p>
<p><b>GENERAL STRUCTURES</b> 85 Multiple-choice questions</p>	<p>➔ <b>STRUCTURAL SYSTEMS</b> 125 Multiple-choice questions 1 Vignette <i>Structural Layout</i></p>
<p><b>LATERAL FORCES</b> 75 Multiple-choice questions</p>	
<p><b>BUILDING TECHNOLOGY</b> 6 Vignettes <i>Accessibility / Ramp</i> <i>Building Section</i> <i>Mechanical &amp; Electrical Plan</i> <i>Roof Plan</i> <i>Stair Design</i> <i>Structural Layout</i></p>	

## GETTING FROM HERE TO THERE: THE TRANSITION FROM ARE 3.1 TO ARE 4.0

Candidates must have PASSED one division of the ARE by May 2008 to continue testing in ARE 3.1.

Candidates who have not completed all divisions in ARE 3.1 will transition to ARE 4.0 by the end of June 2009. They may need to repeat previously passed content under ARE 4.0.



- Sustainability should be emphasized within ARE content.
- The ARE should better integrate the practice environment. That is, the ARE should focus on what candidates will be doing once they are part of an office/firm.

Since 2001, the ARE has progressively moved closer to reaching those conclusions described above. In many ways, ARE 4.0 is the culmination of such goals.

### BENEFITS OF AN EVOLVING EXAM

With its emphasis on integration and reflecting day-to-day problem solving skills, ARE 4.0 visibly works toward evolving NCARB's exam model. For example, the combining of multiple-choice questions and graphic vignettes leads to an unexpected bonus: fewer divisions for candidates to prepare for and to take.

ARE Subcommittee Chair Ron Blitch explains, "Clearly, the major impact of ARE 4.0 is the reduction of the number of exam divisions from nine to seven." As a practical matter, "fewer divisions will reduce travel time and expenses for candidates who do not live near a test center," said Carol S. Sakata, FAIA, an architect from Honolulu, HI, and the current chair of the Committee on Examination.

Additionally, fewer divisions will help candidates to focus their efforts by studying subject matter holistically as opposed to piecemeal. And, of course, by shedding two divisions, ARE 4.0 reduces the overall testing time, saving candidates some time away from the office.

ARE 4.0 also will better assess candidate knowledge. Sakata explains, "The alternate item types—Check-All-That-Apply and Fill-in-the-Blank questions—will be more discriminating. Candidates will need to KNOW material and/or calculate answers rather than have a 25 percent chance of getting something correct by just guessing."

For Blitch, the emphasis on integration lends itself to a more precise assessment of candidate knowledge. He said, "As candidates take all structural content together, rather than in three separate seatings, a candidate's ability to grasp the entire content of the Test Specification and required knowledge of the division will be assessed more accurately."

Likewise, the format of ARE 4.0 and future versions, currently under development, more closely represents how projects are thought through in actual practice. In this case, Sakata points to inclusion of drop-down menus—pertinent reference materials that will make the exam more practice like.

"Having these materials available during testing, rather than forcing candidates to memorize information they would just look up in the office, will allow them to prepare more productively. It should also broaden the possibilities for writing questions that test a candidate's understanding of and ability to utilize the tools, resources, and references that architects actually use in practice to make appropriate decisions."

Finally, ARE 4.0 clearly is linked to the Practice Analysis: the significant format changes characterizing ARE 4.0 are no less than evolutionary. Dean Cronrath elaborates, "The two new enhanced vignettes that will be launched in ARE 4.0 join the combined vignettes launched in February 2006 . . . continue to evolve the graphics portion of the exam to be more like the kinds of design problems architects face everyday when they are solving a client's programmatic concerns."

The primary benefits of ARE 4.0 are best summarized by Blitch, who notes, "ARE 4.0 will be more concise and shorter in time; will organize subject matter together logically; and will allow Member Boards to assess a candidate's ability better."

### THE SIGNIFICANCE OF EXAM EVOLUTION

It's no secret that NCARB dedicates a majority of its resources—both monetary and volun-

# Reminiscing About the ARE

By Mark I. Aspaas, AIA

teer-wise—to developing and administrating the ARE. The people guiding the Council's ARE-related work are design professionals of all stripes, educators, and consultants who volunteer precious free time to sustain a living, evolving, and highly respected licensure examination.

Kenneth J. Naylor, AIA, an architect from Salt Lake City, UT, who represents Region 6 (Western Conference) on the NCARB Board of Directors, is one such volunteer. Naylor explains, "Hundreds of professionals volunteer countless hours researching and writing new items in an effort to improve and refresh the content of the exam. This very process provides a broad based, diversified platform of architectural knowledge to be applied to the exam every year. The result is a constantly improving, consistently defensible professional examination."

Ron Blitch adds, "The process of developing ARE 4.0 has been challenging and rewarding, and we should all be indebted to the various ARE committee volunteers and NCARB's Examination Services staff for a job well done."

The July 2008 launch of ARE 4.0 is the next significant step in meeting the Practice Analysis' simple directive: The ARE cannot be kept the same year after year; it must evolve. For Dean Cronrath, "The guiding principles for the continuing evolution of the ARE can be summarized as making the exam more reliable, making it more consistent, ensuring it is objectively graded, and making it a proper mirror of the skills and knowledge one finds in practice." **DC**

In the early '90s, before I was on my state board, I volunteered to grade the paper-and-pencil exam. It was a great experience, and I met many people who would end up being life-long friends. When I was appointed to the South Dakota Board in 1993, I immediately volunteered for the ARE and was appointed to the Pre-Design division as an item writer. I served on that committee for many years and as coordinator for a couple of years. I also served on a graphics committee for two years and as chair of the ARE Subcommittee, the Committee on Examination, and various exam-related task forces.

During the transition from paper-and-pencil to the computer-delivered exam, many of us struggled with vignettes and grading trees—frankly questioning whether the exam was as valid as the paper-and-pencil version. After all, with paper-and-pencil, you could actually see the candidate's drawing skills and how they approached an actual project on an actual site.

However, the more we found out about the grading systems, the test specifications, the Practice Analysis, and the tremendous amount of brilliant work that went into the new exam, the more we came to realize that the computerized ARE was indeed valid and fair. Most of us had never dealt with psychometrics before the ARE, but quickly came to appreciate its value along with the psychometricians who helped us retain the best questions or "items" to use on the exam.

As the ARE became more universally accepted by the profession, we as architects naturally strove to make it even better. We are always striving to make the exam the true test of a candidate's knowledge and abilities in order to protect the health, safety, and welfare of the public. In doing so, we are integrating the graphic vignettes into the corresponding multiple-

choice divisions of the exam to make the exam more robust. We are continuing to investigate other enhancements to the exam to make it more like how we work in our own offices.

The NCARB Examination Services staff, along with our test consultants from Thomson Prometric, work tirelessly to maintain the validity of the exam through data analysis field tests, pretesting, and improvements to the scoring engines and delivery software. Our exam is truly unique and is the result of thousands of hours of volunteer time along with the contributions of our staff and consultants.

As one who was once skeptical of the computer-delivered exam, I can say with confidence that the ARE is a true test of knowledge and ability for architectural registration—and will continue to advance as the premier high-stakes exam in the world of licensing.

As a member of NCARB's Board of Directors, I currently serve as a liaison to the Committee on Examination and the Committee on Professional Development (monographs). After all of these years, I still see the talents and abilities of our Member Board Members who serve on these volunteer committees and the excitement that new members bring to these critically important tasks. Should one become fortunate enough to be appointed to a state board, I would highly recommend that he/she volunteer for an NCARB committee assignment as soon as possible. It will change your professional and personal life for the better.

*Mark I. Aspaas, AIA, of Sioux Falls, SD, represents Region 5 (Central States Conference) on the NCARB Board of Directors. Aspaas is a former chair of several ARE-related groups, including the ARE Subcommittee and the Committee on Examination. **DC***