

The Chachra LEGACY

Naming of the

VINOD CHACHRA IMPACT LAB

and Creation of the

CHACHRA IMPACT SCHOLARS PROGRAM

RADFORD UNIVERSITY



**The Vinod Chachra
IMPACT Lab** positions Radford University
to become a national and global leader in
CBE learning sciences research, development
and commercialization.

"Innovation is taking two things that
already exist and putting them together in
a new way."

— TOM FRESTON, FORMER CO-PRESIDENT OF VIACOM
AND BOARD CHAIRMAN OF THE ONE CAMPAIGN



Program Purpose

As the Vice President of Global Expansion of Innovative Interfaces Inc. and Senior Consultant for NCHEMS (National Center for Higher Education Management Systems), you have provided instrumental leadership and support, time and time again, to many business entities and higher education institutions with regard to the planning and implementing of information technology resources. Due to your dedicated service and unmatched expertise, Radford University recognizes your unwavering passion for the evolution of technological resources. In addition, as an internationally recognized lecturer and consultant in the field of information system planning, you have distinguished yourself as a highly successful entrepreneur and businessman in the technology sector.

As a premier university in the Commonwealth of Virginia, Radford University continues to boldly pursue technology innovations and fuel its passion for student success by increasing accessibility in order to meet students where they are and be responsive to societal needs. The University's commitment was recently evidenced by its successful launch of the Innovative Mobile Personalized Accelerated Competency Training (IMPACT) program, which utilizes a competency-based education (CBE) approach and platform. Indeed, Radford University shares your deep passion for training young professionals in new and profound ways, resulting in a well-prepared and viable workforce cultivated in Southwest Virginia.

It is with great respect that Radford University invites you, Vinod Chachra, Ph.D., to consider naming the Vinod Chachra IMPACT Lab at Radford University. The Vinod Chachra IMPACT Lab positions Radford University as a leader in the emergent field of competency-based education, which in turn will have a profound economic development impact locally, regionally and nationally.

This gift will result in the naming of the Vinod Chachra IMPACT Lab and the creation of the Chachra IMPACT Scholars Program, thereby strategically placing Radford University at the forefront of higher education technology innovation and providing lasting benefits in our region, across the Commonwealth of Virginia and throughout the nation and the world. This gift will be instrumental in Radford University's innovative efforts to continuously infuse technology in all facets of teaching and learning. Additionally, it will forever etch the internationally renowned Chachra name in the history of Radford University and inspire the next generation of Highlanders and others to make a significant and lasting impact in the cyber defense sector.

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Program Concept

One of the main objectives of the Vinod Chachra IMPACT Lab at Radford University is to continue to research, develop and commercialize CBE learning programs and associated products. CBE is a pedagogical approach that utilizes the direct assessment of student learning as credit for education rather than a proxy measurement of credit hours or seat time.^{1,2} CBE is considered a disruptive innovation by Clayton Christensen and other leading business experts, as the quality of the product (learning) will surpass the current models and eventually overtake and disrupt higher education.^{3,4}

Although there are several delivery mechanisms for CBE (e.g., synchronous, asynchronous, hybrid), the most effective and scalable, and thereby marketable and profitable, approach utilizes an online platform to deliver asynchronous, self-paced learning modules aligned with specific workplace competencies (i.e., skills and concepts). When learners demonstrate mastery at the prescribed level, they are awarded credit (e.g., badge, certificate, degree) for their learning, regardless of how long it may have taken them to attain and demonstrate this mastery. In effect, this innovative and non-traditional approach decouples learning from time-based models, such as three-hour courses and 14-week semesters, that utilize the Carnegie Unit as a metric for learning. Proponents of CBE assert that three interdependent outcomes accompany this shift away from time as a metric:

- 1. **Increase in education access due to greater flexibility for working adults;**
- 2. **Decrease in time to degree; and**
- 3. **Subsequent decrease in cost for the non-traditional adult learner.**

There is intense interest in this area of “non-traditional” education as evidenced by approximately 500 colleges and universities either exploring or actively developing a CBE program, and this intense interest is expected to grow as the field matures.⁵

1. <https://www.cic.edu/p/Securing-Future/Documents/CICBrief1-CBE.pdf>
2. <https://www.aei.org/wp-content/uploads/2015/01/Landscape-of-CBE.pdf>
3. Christensen, Clayton. The innovator’s dilemma: when new technologies cause great firms to fail. Harvard Business Review Press, 2013.
4. Christensen, Clayton M., and Henry J. Eyring. The innovative university: Changing the DNA of higher education from the inside out. John Wiley & Sons, 2011.
5. Public Agenda. (2015, December). A research brief on the Survey of the Shared Design Elements & Emerging Practices of Competency-Based Education Programs. New York, NY: Author. Retrieved from http://www.publicagenda.org/files/SurveyOfSharedDesignElementsAndEmergingPracticesOfCBEPrograms_PublicAgenda_2015.pdf



OPPORTUNITY TO MEET AN EMERGING MARKET DEMAND

The most significant opportunity afforded to Radford University with its recent launch of the IMPACT program is the dramatic expansion of the potential market and corresponding revenue. The target market for CBE is not the residential student who comes to campus for a broad-based liberal arts education and a “coming of age” experience.⁶ Rather, the target market for successful CBE programs (e.g., Southern New Hampshire University, Western Governors University) consists of working adults who have some college credit, but not enough to secure a certificate or degree and thereby advance in their respective careers. The size of this potential “non-traditional” market is estimated to be between 28 and 40 million working

adults nationally. Current total enrollments in CBE programs nationally are estimated to be approximately 300,000 students, which leaves the vast majority of this population untapped.^{7,8} While the potential students represent the supply side of the equation, labor needs from specific sectors represent the demand side of the market opportunity. Specifically, the demand for skilled employees in certain areas (e.g., cybersecurity and geospatial intelligence) is at a very high level at this time and forecast to remain high for the foreseeable future. With the continued development of the Vinod Chachra IMPACT Lab, Radford University is well poised to capitalize on this labor deficit in these two areas among other key niche markets.

6. <https://www.bloomberg.com/news/articles/2013-05-09/southern-new-hampshire-a-little-college-thats-a-giant-online>
7. http://rpkgroup.com/wp-content/uploads/2016/10/rpkgroup_cbe_business_model_report_20161018.pdf
8. <https://www.census.gov/content/dam/Census/library/publications/2016/demo/p20-578.pdf>



OPPORTUNITY TO BECOME MARKET AND ACADEMIC LEADERS

The Vinod Chachra IMPACT Lab positions Radford University to become a national and global leader in CBE learning sciences research, development and commercialization. The emergence of CBE corresponds with the development of more sophisticated online-learning tools, as well as a maturation of data analytics and learning science fields.⁹ These developments provide profound insights into how people learn, which could potentially increase the efficacy of CBE at every level.¹⁰ The Vinod Chachra IMPACT Lab will be one of the first instructional design teams to embed learning science principles into every aspect of CBE design, thereby providing identity creation opportunities, which directly align with Radford University's traditional image and mission as a teaching university. Furthermore, with this approach, the Vinod Chachra IMPACT Lab has the opportunity to become a national leader in highly innovative and emergent fields of study (e.g., CBE instructional design, personalized learning, learning analytics, story-based learning environments,¹¹ gamification,¹² self-organizing learning environments and virtual reality¹³), which would in turn create intellectual property commercialization opportunities. Most importantly, since adopting this science-based and design-based approach, Radford University students, through the Vinod Chachra IMPACT Lab, will learn more deeply and with higher retention than students in competitors programs, which will in turn create a sustainable competitive advantage.

The overall instructional design of CBE products from the Vinod Chachra IMPACT Lab will adopt, when effective, the top grossing entertainment console and mobile game design strategies and be informed by the relevant cognitive psychology (e.g., intrinsic motivation research), game design literature (e.g., Schell), and instructional design literature (e.g., Wiggins & McTighe). For example, a meta-analysis conducted in 2011 reported that simulation training or teaching games are more

effective in increasing self-efficacy, declarative knowledge (facts), procedural knowledge (how to do things) and retention relative to comparison groups not utilizing simulation games for training or teaching. This meta-analysis focused on adults learning work-related skills via simulation games, which aligns with the target market for the Vinod Chachra IMPACT Lab at Radford University. While research is emerging on identifying the specific features and mechanics that increase learning simulation or game efficacy, there are no clear guidelines or frameworks that conclusively identify the simulation game features that significantly increase learning. However, the majority of the research to date supports several theories that "propose that the primary benefit of using simulation in training is their motivational potential."¹⁴ This is just one example of how relevant research was employed during the design process from the beginning of the proposed Vinod Chachra IMPACT Lab at Radford University.

Finally, Radford University, through the Vinod Chachra IMPACT Lab, has the potential to transform current antiquated practices within higher education. The current models of financing, pedagogy and culture are simply unsustainable, and the Vinod Chachra IMPACT Lab will not only explore innovative CBE approaches, but it will also serve as a testing environment for innovative business and financing models. Such initiatives include activity-based costing (ABC), responsibility-centered management (RCM)¹⁵ and revenue sharing, which incentivize data-driven and entrepreneurial behavior at every level of instruction and administration¹⁶ and could, in turn, be expanded to the larger Radford University community and beyond. In doing so, the Vinod Chachra IMPACT Lab will be the incubator that lays the foundation for the sustainable future of learning and business practices at Radford University and possibly other universities in the Commonwealth and across the country.

9. Sawyer, R. K. (Ed.). (2006). The Cambridge handbook of the learning sciences (Vol. 2, No. 5). New York: Cambridge University Press, p. xi.

10. <http://www.oecd.org/edu/ceri/40805146.Pdf>

11. Schank, R. 1992; <http://cogprints.org/624/1/V11ANSEK.html>

12. Kapp, Karl M. The gamification of learning and instruction: game-based methods and strategies for training and education. John Wiley & Sons, 2012.

13. <https://elearningindustry.com/instructional-design-strategies-virtual-reality-learning>

14. Sitzmann, T. (2011). A meta-analytic examination of the instructional effectiveness of computer-based simulation games. Personnel psychology, 64(2), 489-528.

15. <https://vimeo.com/97425591>

16. Soares, Louis, Patricia Steele, and Lindsay Wayt. "Evolving Higher Education Business Models." (2016)

**VINOD CHACHRA
IMPACT LAB**

Radford University will [redacted] name the Vinod Chachra IMPACT Lab with the objective of becoming and serving as transformational academic and market leaders in CBE product research, design, implementation and subsequent commercialization. Radford University is currently providing operating expenses for an immediate pilot of IMPACT, a CBE program, supporting three full-time faculty and staff positions, a graduate assistant position and other expenses, such as office space and computer equipment, in a newly established lab space physically separate from, but adjacent to, the main campus.

**CHACHRA IMPACT
SCHOLARS PROGRAM**

The Chachra IMPACT Scholars Program will be established [redacted]

[redacted] year once fully funded and will be utilized to recruit rising professionals, specifically Master of Business Administration students and post-doctoral students, to assist with CBE design, implementation and business development. Chachra Scholars will provide a continuous pipeline of some of the best, brightest and most qualified rising professionals to assist with this growing delivery model within the higher education landscape. Stipends for Chachra Scholars will be provided in the form of compensation for their professional services to the Vinod Chachra IMPACT Lab.

Program Contribution

	Operating Budget Line	Operating Budget Line	Total
Year 1	\$50,000	\$50,000	\$100,000
Year 2	\$50,000	\$50,000	\$100,000
Year 3	\$50,000	\$50,000	\$100,000
Year 4	\$50,000	\$50,000	\$100,000
Year 5	\$50,000	\$50,000	\$100,000
Year 6	\$50,000	\$50,000	\$100,000
Year 7	\$50,000	\$50,000	\$100,000
Total	\$350,000	\$350,000	\$700,000

Program Budget

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Operating Budget Line	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Operating Budget Line	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Total Program Budget: \$700,000							

Rich Heritage of Excellence

Radford University is a comprehensive public university of more than 9,400 students that has received national recognition for many of its undergraduate and graduate academic programs, as well as its sustainability initiatives. Radford University was founded by the Virginia General Assembly in the spring of 1910. The State Normal and Industrial School for Women at Radford grew out of a late 19th-century effort to expand Virginia's public school system and prepare a sufficient number of teachers.

The Radford University of today offers students many opportunities to get involved and succeed inside and outside of the classroom. The University offers 67 degree programs in 38 disciplines and five certificates at the undergraduate level; 22 master's programs in 17 disciplines and three doctoral programs at the graduate level; 11 post-baccalaureate certificates and one post-master's certificate. A Division I member of the NCAA and Big South Athletic Conference, Radford University competes in 16 men's and women's varsity sports. With over 270 clubs and organizations, Radford University offers many opportunities for student engagement, leadership development and community service.

Proven Record of Success

Radford University is where students find their academic passion and set a course for their professional lives. Alumni consistently say that Radford University provided them the opportunities to reach beyond what they thought possible, push their academic limits and be innovative in collaboration with their faculty mentors. They say the reason behind their success is Radford University, especially citing their strong relationships with faculty and the mentorship that they are provided.

The University will continue to build upon its outstanding accomplishments and limitless enthusiasm for its bold and promising future as it transforms into an innovative, premier university in the Commonwealth of Virginia and beyond, with a keen focus on teaching, research and service.

Radford University continues to be recognized for the strength of its academic programs, success of its sustainability efforts and dedication to excellence:

"College of Distinction"

— Colleges of Distinction, 2016-2017

"Best Colleges and Universities in the Southeast"

— The Princeton Review, 2004-2017

"Best Regional Universities" in the South

— U.S. News & World Report, 2013-2018

"Best Colleges for Veterans - South"

— U.S. News & World Report, 2016-2017

"Best Business Schools"

— The Princeton Review, 2012-2017

Radford University has enhanced its living and learning environments through extensive renovation and new construction. In 2008, the Douglas and Beatrice Covington Center for

Visual and Performing Arts opened. In 2012, the College of Business and Economics opened Kyle Hall, which features the latest technological and financial research capabilities. In the spring of 2016, the Center for the Sciences welcomed its first classes in the building's state-of-the-art laboratories and classrooms. Beginning the fall of 2016, the College of Humanities and Behavioral Sciences is housed under one roof in the largest and newest academic building on campus.

Radford University is committed to educating the whole student, both inside and outside the classroom. In 2014, the Student Recreation and Wellness Center opened to provide additional space for wellness and recreation opportunities. This new facility has become a popular destination for many health-minded students.



Transformation to Serve the Commonwealth and Beyond

Radford University serves the Commonwealth of Virginia and the nation through a wide range of academic, cultural, human service and research programs. First and foremost, the University emphasizes innovative approaches to teaching and learning in its commitment to the development of mature, responsible, well-educated citizens.

Radford University develops students' creative and critical thinking skills, teaches students to analyze problems and implement solutions, helps students discover their leadership styles

and fosters their growth as leaders. Toward these ends, the University is student-focused and promotes a sense of caring and meaningful interaction among all community members.

Research is viewed as a vital corollary to the teaching and learning transaction, as it sustains and enhances the ability to teach effectively. The University believes in the dynamics of change and maintains a strong commitment to continuous review, evaluation and improvement of the curriculum and all aspects of the University to stay current with the evolving needs of our society.

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