

Successful Scaling: Strategies to Expand the Capacity and Impact of Your Program

NCPN conference 2020



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Agenda

- Who we are
- What does it mean to scale?
- Scaling of our CoP
- Scaling of our BILT
- What You Can Do



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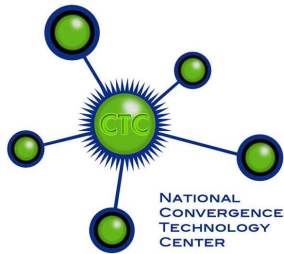
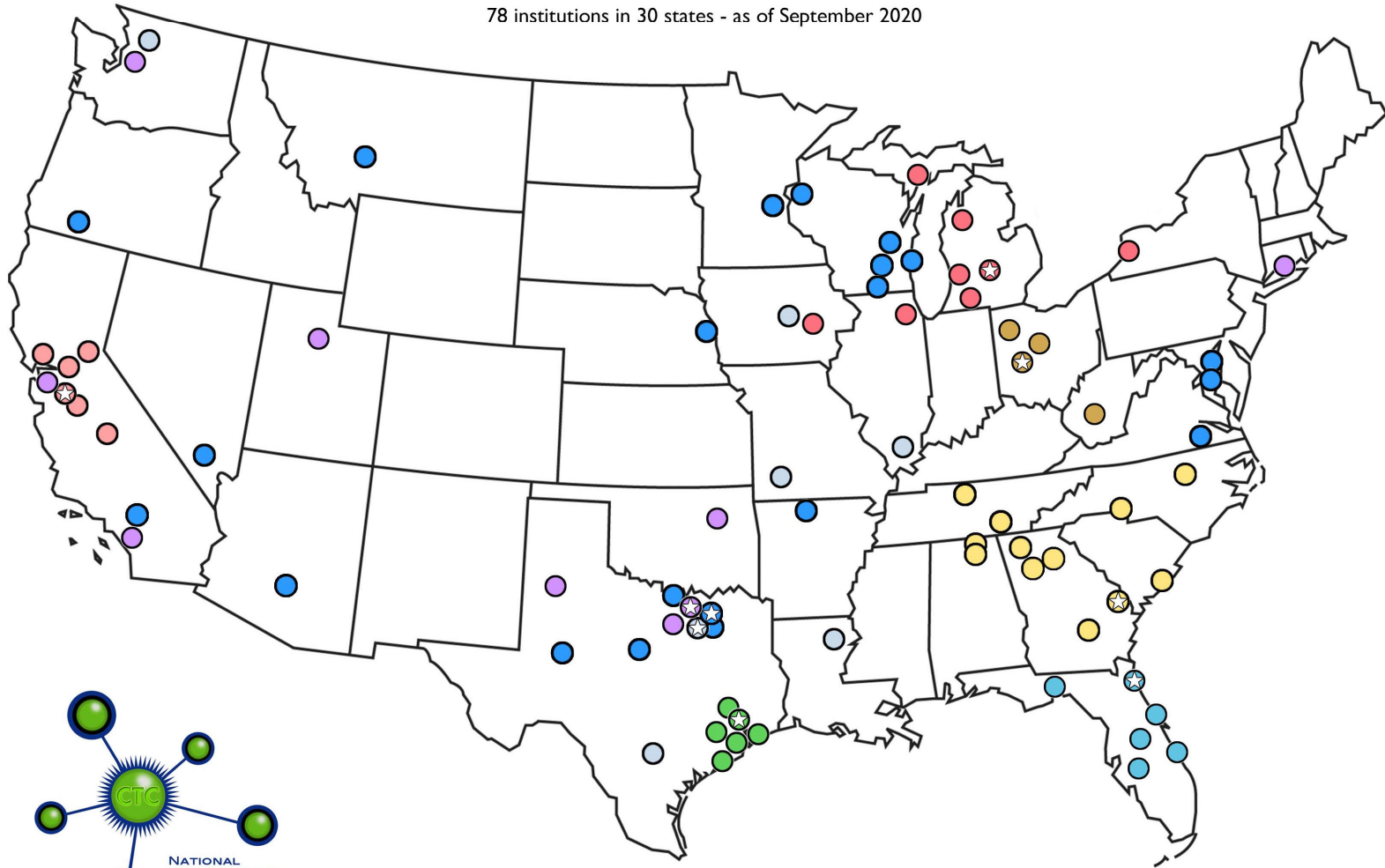
Who We Are

National Convergence Technology Center

- Collin College – Frisco TX
- Funded by a grant from National Science Foundation
- Regional ATE Center starting fall 2004
- National ATE Center starting fall 2012
- Support IT infrastructure programs across the country – align curriculum with employer need, increase enrollment/completion and job placement
- Community of practice – 78 schools
- Co-led by group of IT business/industry leaders
- Free professional development for IT faculty

The National Convergence Technology Center's CONVERGENCE COLLEGE NETWORK

78 institutions in 30 states - as of September 2020



This material is based upon work supported by the National Science Foundation under grant number 1700530. Any opinions, findings and conclusions, or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.



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What does it mean “to scale”?

Scaling means achieving more efficient, effective, and widespread adoption of an innovation.

Getting a huge bang for the time and money invested.

from Fast Company “Mapping Out A Successful Scaling Strategy” Paul Bloom, 2012

What does it mean “to scale”?

Scaling is the replication of a successful approach, but it's not a recipe.

Must evaluate the approach to be able to adjust it to new contexts.

from Edutopia “How to Scale School Success” Chris Dede and Allyson Knox, 2010

Edutopia's “Five Dimensions” of Scaling

Depth – identify what is essential about the innovation

Sustainability – focus on the effectiveness of the goal

Spread – make modifications to lower cost

Shift – change in ownership

Evolution – ready to adapt in next iteration

from Edutopia “How to Scale School Success” Chris Dede and Allyson Knox, 2010

Forbes' “Six Steps” of Scaling

Commit to grow

Build management skill set

Foster collaborations

Establish standard processes

Identify core competence

Articulate strength

from Forbes “The Six Steps to Scaling a Business” Philip Salter, 2016



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Two Case Studies of Scaling

1. The Convergence College Network (CCN)
community of practice

2. The “BILT Model” (Business and Industry Leadership Team)

What is a “Community of Practice”?

A “Community of Practice” (CoP) is a group of people who...

share a concern, a set of problems, or a passion about a topic, and who...

deepen their knowledge and expertise in this area by **interacting** on an ongoing basis



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What is a “Community of Practice”?

- Middle Age guilds – group of professionals honing knowledge, learning from each other



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What is a “Community of Practice”?

- Xerox repairmen
 - Couldn't rely on manual or formal training
 - Sharing stories, joint problem-solving
 - Knew more about repair together than manuals provided



<http://www.digibarn.com/collections/printers/xerox-9700>

Evolution of the CTC's Community

- Sharing curriculum, materials and processes developed by the grant
- Curriculum in a Box – disseminated on website (syllabus, learning modules, labs, classroom slides and assessments)

Evolution of the CTC's Community

- Sharing curriculum, materials and processes developed by the grant
- Curriculum in a Box – disseminated on website (syllabus, learning modules, labs, classroom slides and assessments)
- **Problem:**
 - Adopters all had questions
 - One size does not fit all
 - Adapt and adopt or just adopt

What lab equipment is needed?
How does curriculum fit within my existing IT degrees?
How does convergence fit into the existing context of IT?
Do businesses hire students with convergence training?
How do I bring my faculty up to speed in this technology?

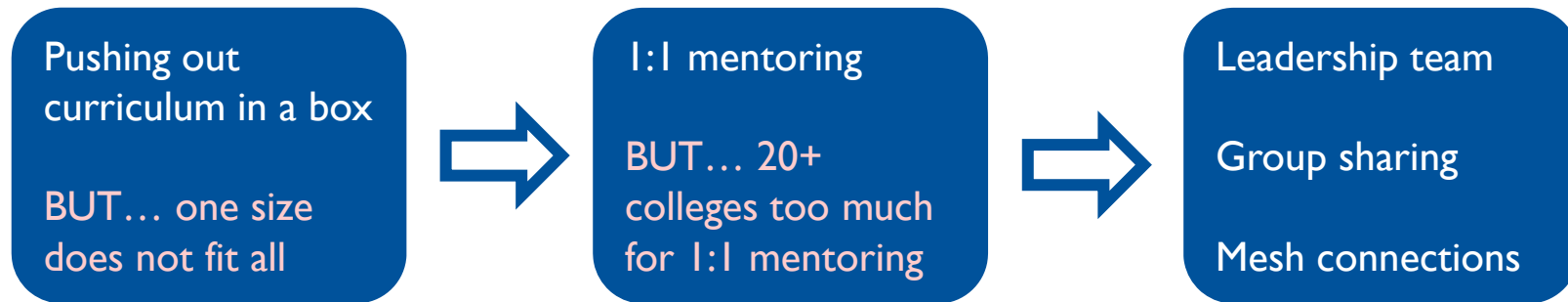
Evolution of the CTC's Community

- Solution: enlist other mentors
- National Visiting Committee wanted us to expand beyond just those three partners and get six more schools to join our community (circa 2006)
 - I:I assistance – grant staff and first partners helping the schools
- Problem: Cannot mentor 20 schools I:I

Evolution of the CTC's Community

- Solution: share the mentoring with four of the more mature schools (Leadership Group called Mentored College Board)
- Make it more of a mesh network (both: mentor new members, more mature share and lead)
- We don't have all of the answers
- "Mentored College Network" became the "Convergence College Network"

Evolution of the CTC's Community





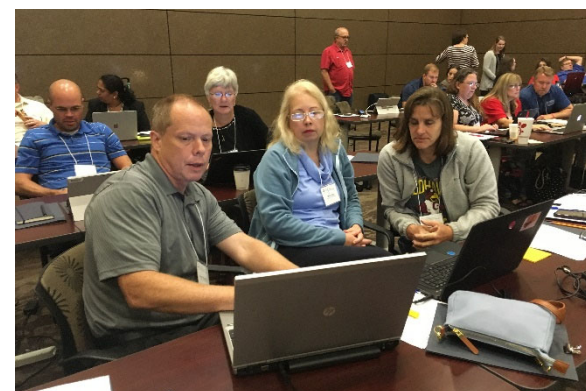
- 78 schools
- 30 states



July 2019 in-person meeting – 34 schools, 71 attendees



- What CTC offers CCN:
 - Free professional development (Working Connections)
 - Travel reimbursement help
 - Robust resource wiki
 - Way to plug into active network of IT faculty
 - Access to National BILT meeting content
(meet quarterly, plus the annual updated KSA list)
 - Help maximizing your own local BILT relationship
 - Virtual labs
 - Feedback from CTC leaders on grant proposals





- Responsibility of CCN Members:
 - Engage with the group/share expertise
 - Develop an active Business & Industry Leadership Team that meets regularly and to prioritize KSAs and guide programs
 - Attend CCN meetings/activities
 - Help recruit other schools to CCN
 - Submit yearly CCN report





- Community engagement
 - Four quarterly webinars (3 web, 1 in person)
 - One-off webinars
 - Conferences
 - E-mail strings
 - Resource wiki
 - Off line
- Sustainable beyond the grant through creation of regional hubs (after the CTC sunsets)
- Shared passion





- Two strategies for engagement
- We do have the carrot of grant funds
- Levels
 - Two levels of engagement:
 - Level 1 – receive more benefits/more responsibilities
 - Level 2 – receive fewer benefits/fewer responsibilities
- More engagement = more benefits
- “Frequent flyer miles”
- Points



Edutopia's “Five Dimensions” of Scaling

Depth – identify what is essential about the innovation

Supporting IT programs through mutual sharing of know-how

Connecting faculty and employers across the country to solve common challenges

Addresses budget and knowledge gaps

Edutopia's “Five Dimensions” of Scaling

Sustainability – focus on the effectiveness of the goal

Different, customized levels of engagement and participation depending on program

No “one size fits all”

Variations are a good thing



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Edutopia's “Five Dimensions” of Scaling

Spread – make modifications to lower cost

Evolution of the CCN from 1:1 mentoring
to a more efficient mesh network

Low-cost digital tools (wikis, email, Zoom meetings)



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Edutopia's “Five Dimensions” of Scaling

Shift – change in ownership

Others assume responsibility for success

Leadership group helps steer the group

Member faculty drive meeting agenda content



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Edutopia's “Five Dimensions” of Scaling

Evolution – ready to adapt in next iteration

Regional hub development to shift
centralized management

Evaluate this evolution to find possible
improvements

What is a “BILT”?

A “Business and Industry Leadership Team” (BILT) energizes a traditional business advisory council by demanding that the employers **co-lead** the program.



What is a “BILT”?

- The Seven Essential Elements
 - Convene 2-3 times a year.
 - Allow time on the agenda for the BILT to discuss industry trends.
 - Assemble focused “single-discipline” BILTs rather than larger cross-discipline groups.
 - Invite faculty to attend the meeting so they can hear first-hand from employers.
 - Prioritize (via votes) once a year a detailed list of the KSAs employers want graduates to have in 12-36 months.
 - Map that list to current curriculum to make sure it aligns.
 - Give regular feedback to the BILT regarding the implementation of their recommendations.



What is a “BILT”?

- The BILT needs to understand the job skills required by entry-level workers:
 - High-level technical executives
 - First-line hiring managers
 - Technicians
- An engaged BILT benefits everyone:
 - Students are first to be considered for internships and job openings
 - Faculty have assurance they're teaching the skills the workforce demands
 - Programs develop a pool of industry experts for job fairs and guest speaking
 - Employers connect with a pipeline of “workforce ready” candidates



Evolution of the CTC's BILT

- Dotcom bust of 2000 plus 9/11, IT job market shrank
- Demand to lay off IT faculty
- Need to find the next big thing in IT to plan for future
- Assembled BILT to identify VoIP and develop program around that
- Variation of DACUM and PCAL methods of creating curriculum

Evolution of the CTC's BILT

- Regional BILT connected to regional NSF grant
- Many national companies have branch offices or headquarters in Dallas-Fort Worth
- CCN member college adoption (in 2019, 19 schools follow all BILT seven essentials, with another 16 following at least one)

Evolution of the CTC's BILT

- Disseminating the “BILT Model” across the country

- Online tools

- 60-minute “BILT Basics” webinar bit.ly/BILTbasic

- 16-page “Implementing the BILT Model of Business Engagement” <https://bit.ly/BILT-guide>

- 10-minute “Your Annual Job Skills Validation Vote” webinar <http://bit.ly/jobskillsvote>

- “An Inside Look at the BILT” brochure – <http://bit.ly/BILTInside>

- “Using Google Tools to Tally and Average Your KSA Vote” process document – <https://bit.ly/GoogleKSA>

- August 2020 updated KSA list for IT infrastructure – <http://bit.ly/2020KSAs>

- Conference presentations

- 20 national conference presentations/panels to 660+ attendees over last three years

- 1:1 workshops and mentoring



In 2019...

- 29 active companies
- 3 web meetings
- 1 in-person KSA vote meeting
- 11 “Tiger Team” meetings (20 hours) to develop hosted cloud special project – 7 companies



Evolution of the CTC's BILT



Forbes' “Six Steps” of Scaling

Commit to grow

Need faculty and administrator buy-in
for the BILT model

Need to persuade employers to commit
time and energy



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Forbes' “Six Steps” of Scaling

Build management skill set

Teach the process to faculty, employers,
and administrators

Set expectations

Assemble a team of champions



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Forbes' “Six Steps” of Scaling

Foster collaborations

Frequent meetings strengthen relationships
(faculty-employer and also employer-employer)

Engage employers outside of the meetings:
guest speakers, job fairs, internships,
capstone judging

Forbes' “Six Steps” of Scaling

Establish standard processes

Clear process developed for annual job skills vote

Toolkit developed with detailed implementation steps for educators



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Forbes' “Six Steps” of Scaling

Identify core competence

Keeping curriculum aligned with evolving workforce needs

The annual job skills list is the cornerstone of the BILT

Frequent trends updates

Forbes' “Six Steps” of Scaling

Articulate strength

Clearly communicate successful impacts of the BILT

Be sure faculty, administrators, employers understand the value

Regular feedback to the BILT – make them feel valued and heard



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WHAT CAN YOU DO?

- Understand why your program works – what is the goal?
- Commit to growing and scaling
- Assemble a team of champions
- Identify ways to make adjustments without losing effectiveness
- Consider modifications to lower the cost and time/energy
- Develop (and teach) clear processes
- Foster networking and collaboration
- Look for ways to encourage a “shift” in ownership
- Be ready to adapt for the next iteration
- Share your success stories

Thank you!

“How to Scale School Success,” Chris Dede and Allyson Knox, Edutopia.org
<https://www.edutopia.org/scale-processes-replication-strategy>

VIDEO: “Big Thinkers: Chris Dede on Scaling Success,” Edutopia.org
<https://www.edutopia.org/video/big-thinkers-chris-dede-scaling-success>

“Mapping Out a Successful Scaling Strategy,” Paul Bloom, FastCompany.com
<https://www.fastcompany.com/1844268/mapping-out-successful-scaling-strategy>

“The Six Steps to Scaling a Business,” Philip Salter, Forbes.com
<https://www.forbes.com/sites/philipsalter/2016/05/02/the-six-steps-to-scaling-a-business/#551cc20e1ca9>

“Scale-up UK: Growing Businesses, Growing Our Economy,” Barclays
<https://home.barclays/content/dam/home-barclays/documents/who-we-are/our-strategy/Scale-up-UK-Growing-Businesses-Growing-our-Economy.pdf>

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