Teacher Preparation & Professional Learning

Teacher Education, Certification, and Professional Development

www.cuny.edu/teachered

Culturally Responsive and Sustaining Education

- “Many of our students have not had positive math experiences. This impacts their willingness to engage in mathematical experiences and is something they will need to overcome and be supported in so that they do not experience these same negative attributions and/or lack efficacy in mathematically based tasks in the early childhood setting”
- NYS CR-SE Framework

1. **Teacher Education**
2. Certification and Employment
3. Professional Development

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Pre-service teacher education

- Necessary stakeholders for CT integration
  - College Leadership: deans, department chairs
  - School of education: faculty, adjuncts, field supervisors
  - District: Superintendents, principals, teachers
  - Content experts: CS, math, science faculty? Outside vendors?
- What is being changed?
  - Programs: Early childhood and childhood education programs
  - Courses: content, methods, “ed tech”
- Motivation?
  - Grant funding
  - New state regulations or learning standards
  - Faculty research interest

Case Study: CT Integration into Methods Course

- Year 1: Math Methods integration Fall 19
  - Methods: Low faculty buy-in: related to overlaps with math concepts
    - ISTE virtual CT coaching, two faculty collaborating separately in-person
    - “CT doesn’t have anything to do with computers” - early childhood faculty
  - Field: Students felt unsupported on task of integrating CT into their student teaching
    - One day cooperating teacher training
    - No coordination with field supervisor or with district around curriculum

Case Study: CT Integration into Methods Course

- Year 2: Science Methods integration Fall 20
  - Higher faculty buy-in: clear call for CT and engineering in NGSS
  - Inclusion of field supervision faculty from the beginning of process
  - Integration focused on application of CT competencies as assessment
  - Considering how cooperating teachers may be better engaged as mentors without asking for a large, unremunerated time commitment

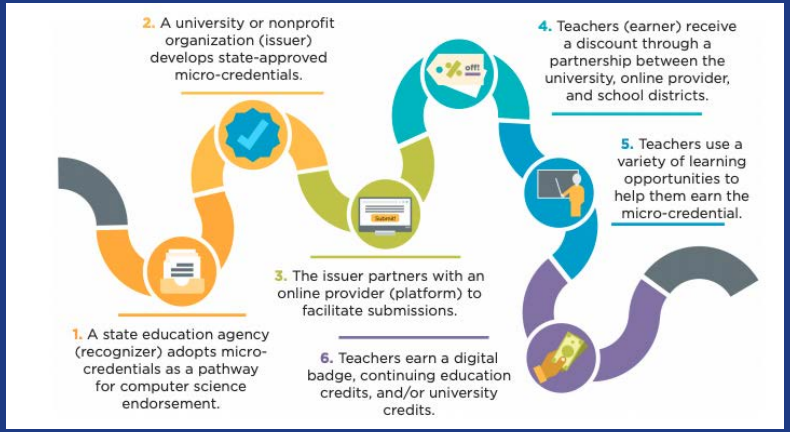
Case Study: CT Integration into Methods Course

- Competency-based Micro-credential
  - Three levels: CT Learner, Designer, and Facilitator
  - Validated specifically for pre-service audience

1. Teacher Education
2. **Certification and Employment**
3. Professional Development

Certification & Employment

- Alignment to High Need Areas
- Micro-credential currency/recognition
  - Micro-credentials at State University of NY
- Certification applicability and content specialty test



Code.org: Micro-Credentials Report

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1. Teacher Education
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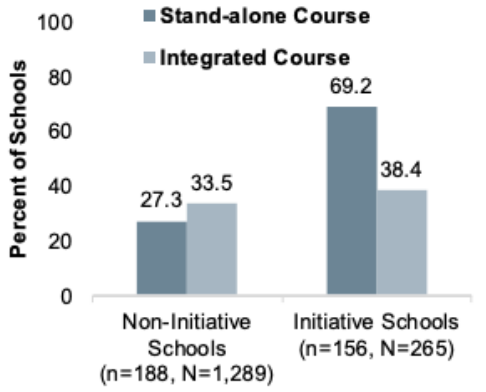
3. **Professional Development**

In-service PD: “Integrated Courses”

Summer training with school year follow up - mix of off-site PD and on-site ‘coaching’

- PL approach: Design based on personal experience
- Implementation: Teacher-driven, vaguely reported

Figure 8: Percent of Initiative and Non-Initiative Schools Offering Stand-Alone and Integrated Computer Science Instruction, 2016-2017 School



Source: Research Alliance calculations based on data obtained from the Research Alliance and EDC CS4All 2016-17 Landscape Survey.

Note: "n" indicates the number of schools in the survey sample and "N" indicates the number of schools the sample schools are representing.

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In-service PD: “Stand alone courses”

- PL Approach: CS pedagogical content knowledge
- Implementation: School driven, vague reporting

Video on CS Blueprint

Resource Links

CUNY Teacher Education Enrollment Brief

NYS CR-SE Framework

Micro-credentials at State University of NY

Code.org: Micro-Credentials

NYC Blueprint for CS Education

NYU Research Alliance CS4All Report, May 2018