Computer Science Teacher Certification
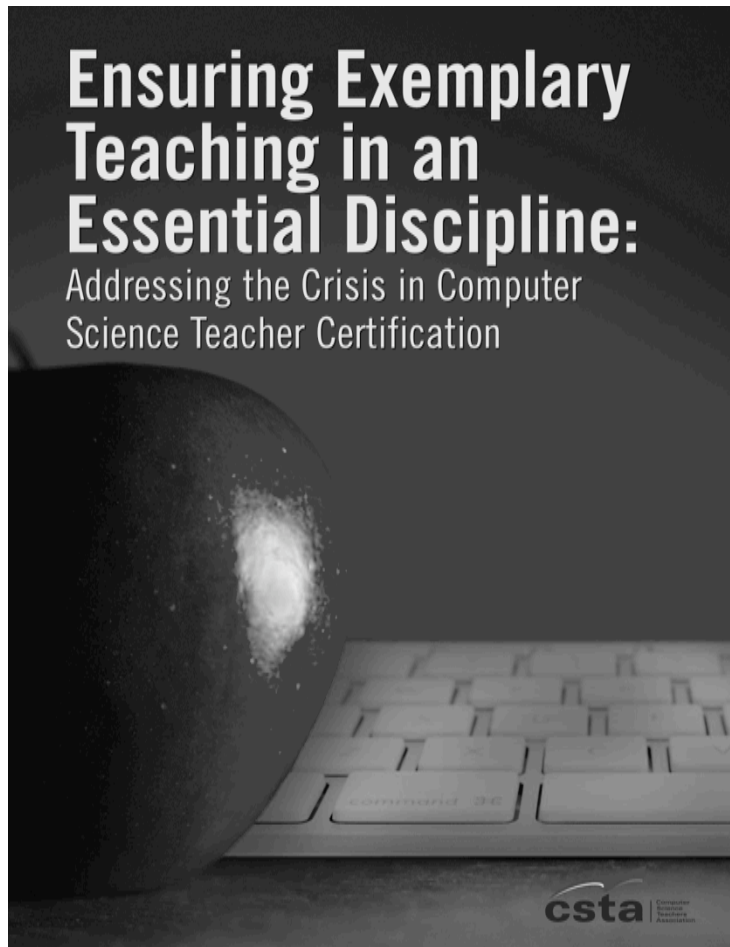
Dr. Chris Stephenson

CS Teacher Certification is a Hot Mess

- Many states have:

  - no requirements so anyone can teach computer science

  - requirements with absolutely no connection to computer science content or teaching

  - requirements that are impossible to meet (requiring teachers to have taught courses that do not exist)

Obstacles to CS Certification

- State level administrators don't know what their own requirements are

- Policy-makers confuse "having computers" with teaching computer science

- Teacher preparation programs not preparing CS teachers because they are designed to prepare teachers for professional certification

- State standards often do not include CS

- National curriculum movements ignore CS

csta | Computer Science Teachers Association

Required Knowledge and Skills

Ensuring Exemplary Teaching in an Essential Discipline:
Addressing the Crisis in Computer Science Teacher Certification

- CSTA has developed a comprehensive model for CS certification for:

  - Pre-service teachers

  - Teachers with CS teaching experience

  - Teachers with no CS teaching experience

  - People coming from industry

The CS AP Principles Course

- AP audits are serious business meant to ensure that courses (and teachers) meet AP requirements

- Successful implementation requires a large community of AP CS-ready teachers (10K)

- Huge push for PD for CS teachers and those from other fields who want to teach CS (universities & industry need to step up)

- Teachers must take it upon themselves to lobby for and take advantage of every relevant PD event they can and push for AP CS courses in their schools

- Recruit, recruit, recruit

csta | Computer Science Teachers Association

Making CS a Priority

- ACM Education Policy Committee working on making K-12 CS education a federal priority (changed legislation, CSED Week, CS Education Act)

- NSF funding development of AP CS Principles course and more research and PD (10K)

- CSTA Leadership Cohort has members at state level advocating for CS education (still need two people from Indiana!)

- Universities and colleges must be proactive advocates for K-12 CS education and provide relevant PD for teachers

- We have to educate state-level policy makers about critical need for CS education and for teacher certification that is rigorous and fair

- Help students (parents and guidance counselors) understand the opportunities that CS provides for students in all disciplines (thinking outside the nerdbox)

csta | Computer Science Teachers Association

THANK YOU!

Chris Stephenson
Executive Director, CSTA
Phone: 1-541-687-1840

cstephenson@csta.acm.org

CSTA website: csta.acm.org