(http://csmatters.org/pd-new) I - 02

0bI - 0b10

Getting Started Right

Unit Introductions, Check-Ins, and Reflections

Revision Date: Sep 07, 2019
Duration: 105 50-minute sessions

Lesson Summary

Summary: In this lesson, teachers will review the curriculum pacing. They will also discuss assignments and preparation. Then, they will become the students and have lesson 0.3 modeled to them. Finally, they will work with a partner to discuss prepping one of two lessons (0.1 or 0.2) and provide a summary of the lesson to the teachers at their table.

Outcomes:

- Teachers will discuss the following: starting off the year, possible summer assignments, and preparing lab resources.
- Teachers will be shown lesson 0.3, where they become the students.
- Teachers will work with partners to discuss prepping one of two lessons (0.1 or 0.2) and provide a summary of the lesson to the teachers at their table.
- Teachers will be introduced to the idea of gamification.
- Teachers will have strategies to reach diverse learners and recruit under-represented groups.

Overview:

Total: 105 min

1. Access resources: college board, csmatters.org, workshop materials. Discuss syllabus and pacing guide (15 min)
2. Overview of Big Ideas -> Enduring Understandings -> learning Objectives -> Essential Knowledge. (10 min)
3. Introduce Unit 0 goals and concepts. Consider journaling as a tool (15 min)
4. Model Lesson 0-3 and reflect. (30 min)
5. Consider gamification to increase student engagement (10 min)
6. Develop plans to teach lessons 0-1 and 0-2 and share (30 min)
7. Creating a positive class culture and recruitment (25 min)

Learning Objectives

CSP Objectives

Big Idea - Professional development includes learning experiences and resources to ensure that teachers understand how the subject(s) they teach addresses the Maryland content standards and the relationships between the subjects they teach and other subjects in the curriculum.

- LO 1a - Professional development includes learning experiences and resources to ensure that teachers understand how the subject(s) they teach addresses the Maryland content standards and the relationships between the subjects they teach and other subjects in the curriculum.

Big Idea - Professional development provides ongoing opportunities for teachers to practice working with colleagues, including other teachers, principals, counselors, social workers, and others, and emphasizes that collaboration is a means and not an end in addressing issues related to school improvement and improved student learning.

- LO 3a - Professional development provides ongoing opportunities for teachers to practice working with colleagues, including other teachers, principals, counselors, social workers, and others, and emphasizes that collaboration is a means and not an end in addressing issues related to school improvement and improved student learning.

Big Idea - Professional development relies on communication technologies to broaden the scope of collaboration.

- LO 3c - Professional development relies on communication technologies to broaden the scope of collaboration.

Big Idea - Individuals who plan professional development (1) identify the kinds of evidence about teaching and student learning that will be collected and used as indicators of the success of professional development, and (2) consistent with

progress benchmarks and goals, determine how and when the data will be collected and reported.

- LO 8b - Individuals who plan professional development (1) identify the kinds of evidence about teaching and student learning that will be collected and used as indicators of the success of professional development, and (2) consistent with progress benchmarks and goals, determine how and when the data will be collected and reported.

Big Idea - Professional development relies on information technologies to provide more extensive and diverse content, and it also relies on communication technologies to expand access and participation and to create virtual professional learning communities.

- LO 9d - Professional development relies on information technologies to provide more extensive and diverse content, and it also relies on communication technologies to expand access and participation and to create virtual professional learning communities.

Key Concepts

Teachers ought to understand:

- The "big picture" pacing of the curriculum.
- Value of setting a positive classroom culture at the beginning.
- The importance of journals.
- How to prep for lessons using the materials in CS Matters.
- The idea of gamification.
- How to recruit diverse students

Teacher Resources

Student computer usage for this lesson is: **required**

Getting Started Right Folder (https://drive.google.com/open?id=0B5vAY-fhOT-iZTRDRkE3RU84RFk)

College Board video on diverse students in CS-P https://youtu.be/dVPUumrPZ48

Lesson Plan

TOTAL: 105 minutes

Access Resources: college board, csmatters.org, Workshop Materials. Discuss Syllabus and Pacing Guide (15 min)

The instructor should follow slides 1-2 of the Getting Started Right Ppt (https://docs.google.com/presentation/d/1O3MQxMihYt27hBwjBInknPxrFG84BDY8FJfNcREpD8I/edit#slide=id.g249873665b_0_5) and have a pacing guide on hand

For this session, the instructor should:

- Be sure that all teachers have access to all of the materials. Have them add to their to-do list if they need to get access to:
  - the college board site to submit their syllabus
  - the CS Matters teacher resources (point out the person in charge to talk to during the break)
  - the workshop resources.
- Look at the general pacing guide and point out that in week 2 they will have time to customize it in detail once they are very familiar with the content of the curriculum for the entire year.

Note: There are multiple pacing guide samples: one is based on 50 minute periods and another is for 90 minute periods.

The instructor should follow slides 4-5 of the Getting Started Right Ppt (https://docs.google.com/presentation/d/1O3MQxMihYt27hBwjBInknPxrFG84BDY8FJfNcREpD8I/edit#slide=id.g249873665b_0_5), and the CS Matters Curriculum

Instructor directions:

1. Highlight the relationship between the Framework (purple book) and the CS Matters Curriculum. Every concept through essential knowledge and practice is covered in multiple lessons.
2. Explain how the Learning Objectives, Essential Knowledge, and Enduring Understandings work:
   - High level - Learning Objective and Enduring Understanding
   - Low level - Essential Knowledge outline specific parts of Learning Objectives
3. Curriculum - show location of resources, overview, and correlation matrix

Introduce Unit 0 goals and Concepts, Consider Journaling as a Tool (5 min)

The instructor should follow slides 6-8 of the Getting Started Right Ppt (https://docs.google.com/presentation/d/1O3MQxMihYt27hBwjBInknPxrFG84BDY8FJfNcREpD8I/edit#slide=id.g249873665b_0_5)

Instructor directions:

1. Discuss possible summer assignments. Do teachers have a way to connect with students over the summer?
2. Look at the resources list to see what to request for the school year.
3. Emphasize the importance of starting off the school year being inclusive to all and creating a positive classroom climate.

Discussion: what is the value of journaling?

Model Lesson 0-3 and Reflect (30 min)

1. Show the 3 lessons in unit 0 that are intended to introduce foundational concepts. (Optional: it depends on the need of the student population, and there are many opportunities to extend these lessons to a higher level.)
    - The instructor should use slides 9 and 10 of the Getting Started Right Ppt (https://docs.google.com/presentation/d/1O3MQxMihYt27hBwjBInknPxrFG84BDY8FJfNcREpD8I/edit#slide=id.g249873665b_0_5)
2. Sample Lesson: Intelligent Paper (0.3) Encourages discussion and thought on intelligence, the potential of artificial intelligence
    1. Group activity - each table gets a paper. This lesson has lots of room for expansion
    2. Model TLO. (Teacher/Learner/Observer) The facilitator is the teacher. Teachers become students and participate in the lesson. Designate another facilitator to be an observer to comment on how engaged the "students" were and what they saw as the strong and weak points in the lesson. Discuss extensions and adaptations to the lesson that teachers would recommend.

    Note: The instructor should use the Intelligent Paper powerpoint (https://docs.google.com/presentation/d/11AVj3OHPi3kktDGQpclUhbX8JY6rt4uP10jPwKE_fXg/edit#slide=id.p24) and the intelligent paper directions (https://drive.google.com/drive/u/0/folders/0B5vAY-fhOT-iZTRDRkE3RU84RFk) for this section

Consider Gamification to Increase Student Engagement (5 min)

The instructor should follow slides 12-14 of the Getting Started Right Ppt (https://docs.google.com/presentation/d/1O3MQxMihYt27hBwjBInknPxrFG84BDY8FJfNcREpD8I/edit#slide=id.g249873665b_0_5)

Note: More classroom techniques to differentiate for different levels and motivate students will be coming up in the workshop.

The instructor should:

- Ask if this is a topic that people would like to do more of in the flexible sessions later in the workshop.
- Point out some of the potential negatives to the overuse or incorrect use of gamification.

Journal: think about ways to increase student engagement and ownership of their own learning. Share and discuss.

Develop Plans to Teach Lessons 0-1 and 0-2 and Share (30 min)

The instructor should use slide 15 (might flip back to 9 and 10) of the Getting Started Right Ppt (https://docs.google.com/presentation/d/1O3MQxMihYt27hBwjBInknPxrFG84BDY8FJfNcREpD8I/edit#slide=id.g249873665b_0_5)

In tables (15 min)

- Teachers work for 15 minutes in pairs or threes to prepare to teach lesson 0-1 or 0-2. Be sure everybody knows how to access classroom materials, student handouts, and discusses options for distributing student materials.
- Discuss within each table. How would you grade or assess student work?

Class discussion (15 min) - Teachers share their thoughts with the rest of the class.

Creating a positive class culture (20 min)

The instructor should follow slides 16-19 of the Getting Started Right Ppt (https://docs.google.com/presentation/d/1O3MQxMihYt27hBwjBInknPxrFG84BDY8FJfNcREpD8I/edit#slide=id.g249873665b_0_5)

Discussion:

1. Highlight Seth Reichelson's story going from 0 to hundreds of students in AP CS in Florida by changing his perspective.
2. Show the video about attracting girls to CS (2:45)
3. Discuss ideas and share in todaysmeet.com
4. Show the College Board video https://youtu.be/dVPUumrPZ48 on diverse learners in CS-P and discuss ways to approach counselors and others to recruit diverse students who are academically prepared.
5. In pairs, act out an elevator speech with a counselor or administrator explaining why diversity in computer science is important.

Journal: What can you do consciously to be sure all students feel welcome at the start of the year? Who is your best ally as a counselor?

Options for Differentiated Instruction

Think-pair-share: teachers will work with a partner to discuss prepping one of two lessons (0.1 or 0.2) and provide a summary of the lesson to the teachers at their table.

The lesson provides a sample Python program that can be copied and pasted into https://repl.it/languages/python3 (https://repl.it/languages/python3) or another Python 3 environment and run as-is to play tic tac toe against the computer. This is an excellent opportunity to talk about programing language features in general and Python in particular in a way that is inviting to all students in the classroom.

Evidence of Learning

Formative Assessment

Journal: the value of journaling, gamification ideas, how to create a positive classroom climate

Share plans to deliver introductory lessons.

Summative Assessment

Teachers will create a list of best practices and ideas to help start the year right: the value of journaling, using school resources to recruit diverse learners, creating a positive classroom culture, how to use CS matters resources to plan and deliver lessons, possibilities for gamification, summer assignments and classroom set up.

(http://www.umbc.edu/) (http://www.umd.edu/) (http://www.nsf.gov/)

Authored by: CS Matters in Maryland
Website: csmatters.org (http://csmatters.org)
Email: csmattersinmaryland@gmail.com (mailto:csmattersinmaryland@gmail.com)