IA 694a: Instructional Practicum
Lesson Plan

Your Name: Karthik Srinivasan
Your Role: Co-instructor
Course Name and Number: Introductory workshop on data science
Topic/Lesson: Topics in Data science: Day 2, Session 2
Date, Time & Location: 9/20/2018, 6-7pm
Number of Students: 50-70

Materials Needed (room equipment, materials for activities, etc.):
1. Classroom
2. Projector
3. Laptop
4. Textbook
5. **Recording video for IA 697 mini-cohort discussions**

Instructional Objectives (learning behavior + content + means/strategies)

Learning objectives:
1) To be able to define Hadoop and its components
2) To be able to list Hadoop-based software applications and explain them briefly
3) To be able to do basic tasks in Hadoop-based software - import data, create database, run query
4) Learn how to plan on programming tasks for data science
5) Execute sample programs in R, Python and understand the program execution process

Lesson Plan

Time	Agenda	Instructional Objective(s)	Instructor - What I Will Do	Students – What They Do (How will they be actively engaged)
6:01-6:15	Group discussion	1, 2	Discussions what Hadoop is, and existing Hadoop-based tools	Discuss in groups of 5 and summarize in padlet
6:16-6:30	Discussion	1, 2	Summarize the discussion and explain basic concepts of Hadoop	Students share their inputs which are summarized
6:31-6:40	Discussion	3	Walk through sample tasks in hadoop	Students try to execute the commands in parallel
6:41-6:45	Discussion	4	Walk through basic programming tasks for data science	Student take notes and ask questions
6:46-6:55	Discussion	5	Hands-on using cloud based Python and R interface to run sample code	Students run programs in their machines and get hands on experience
6:56-7:00	Discussion		Summarize topics covered in the workshop	

Cite how your lesson is based in evidence-based practice.

Backward design: The lesson has list of learning objectives based on which class activities are planned.

Retrieval practice: Students are asked to recollect concepts covered and summarize in multiple instances.

Growth mindset: Students understand the importance of the science of decision-making, given the fact that they have been taking decisions all their life. Students learn to appreciate structured thinking as well as apply these concepts in real life examples.

Learning through problem-solving: Students are involved in problem-solving using techniques they learn in class

Collaborative learning: Students exchange ideas and discuss concepts in class, leading to collective learning experience and positive peer influence.

Active learning: Students not only try to memorize but are introduced into a process of continuous learning after getting introduced to hadoop and programming in data science.