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Vita

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VITA

COLLEGE OF SCIENCES AND HUMANITIES

BALL STATE UNIVERSITY

Part I. PERSONAL DATA

Name: **David L. Largent**
 Current Rank: Associate Lecturer of Computer Science
 Department: Computer Science

A. EDUCATION

Degree	Date earned	University	Major
Continuing education ¹	July 2018	Ohio Valley University	Flipped Learning
Master of Science	May 2010	Ball State University	Computer Science
Bachelor of Science	May 1979	Manchester University	Social Work
Associate of Art	May 1979	Manchester University	Computer Applications

B. PROFESSIONAL EMPLOYMENT PRIOR TO ARRIVAL AT BALL STATE

Position	Organization	City	Years
Graduate Assistant & Instructor	Ball State University	Muncie, IN	2008-2010
Information Services Manager	Townsend Tree Service Co., Inc.	Muncie, IN	1988-2007
Systems Analysis Supervisor	Townsend Tree Service Co., Inc.	Muncie, IN	1984-1988
Adjunct Faculty Member	Ivy Tech Community College	Muncie, IN	1981-1997
Computer Programmer	Townsend Tree Service Co., Inc. ²	Muncie, IN	1979-1984

C. INITIAL EMPLOYMENT AT BALL STATE

Date: May 2009 (summer only)	January 2010 (adjunct)	August 2010 (full time)
Rank: Instructor	Instructor	Instructor ³

¹ I received one graduate credit for completing Flipped Learning 3.0 Certification Level-I and Level-II through Flipped Learning Global Initiative (FLGI).

² I was initially hired by The N.G. Gilbert Corporation, which later merged with Townsend Tree Service Co., Inc.

³ My rank was administratively changed from Instructor to Assistant Lecturer on January 1, 2018 to reflect university-wide title changes for non-tenure line faculty.

D. PROMOTIONS AT BALL STATE

Effective date	From (rank)	To (rank)
August 2018	Assistant Lecturer	Associate Lecturer

E. FIELDS OF PROFESSIONAL SPECIALIZATION

- Pedagogy
- Computer science education
- Stages of group development
- Diversity and inclusivity
- Business computer applications

F. MY PRIMARY ROLE AS A FACULTY MEMBER AT BALL STATE

I view my primary role as a faculty member at Ball State University to be the creation and provision of environments which enable learners to learn. I understand this to mean that I am to provide course content to the enrolled learners in such a way that they are able to engage with, understand and integrate new knowledge into their lives. This means I must find ways to help them connect to the world of computer science. It also means I must find ways to connect to their world; I must make the course content relevant to their lives. As evidenced below in Part II, I have excelled in my teaching role, offering innovative, and engaging learning opportunities to learners.

Serving in a lecturer role, scholarship and service have not been required of me, but nor have they been discouraged. I have chosen to actively pursue both. Delving into scholarship has helped me learn, discover, and develop new teaching strategies. Exploring and validating new pedagogies is a major research focus for me. I have found experiential and immersive learning courses to be very beneficial for learners and me, and value the support Ball State provides for this type of course experience. Additionally, I focus my research on group development, and diversity, inclusivity, and equity topics. These three—pedagogy, groups, and diversity, inclusivity, and equity—combine nicely into what is needed for computer science education. I have provided details of this scholarship below in Part II.

For me, providing service has been both fulfilling and informative as I have progressed through my teaching career. I focused my service on sharing my knowledge and experience with others, both inside and outside of the university, and helping others do the same. As a result, you will find below in Part II that I have delivered a variety of workshop presentations, served as an advisor to an academic honorary and other student organizations, promoted the Computer Science Department, and served on a variety of committees and task forces.

Part II. ACCOMPLISHMENTS

A. EVIDENCE OF OUTSTANDING TEACHING

I believe learners learn best by doing. I also believe learners are much more likely to learn if they find the course material engaging and relevant to their lives. It is my responsibility as their teacher and mentor to find ways to help them connect to computer science, and for me to connect to their world. This may mean describing new concepts by using analogies to compare the concept to something with which they are familiar. It may mean utilizing physical activities that make the learner an active part of the learning process. Providing learners the latitude to expand projects and activities to match their interests may also be useful. It certainly involves an inclusive and open learning environment that encourages each learner to learn. As a teacher and mentor, I am to create an appropriate learning environment. This generally means that I should not lecture for long periods. This does mean I am to deliver course content, so learners are able to engage, understand, and integrate that knowledge into their lives. My quest is to find the “light switch” to turn on the “light bulb” for each learner.

I have been very open to change and have tried many pedagogical approaches. When I first started teaching, I was a lecture-only, “sage on the stage,” largely because that was all I knew. I soon found that learners quickly lost interest and often did not grasp the material as quickly and completely as I felt they should. I quickly transitioned into a “guide on the side,” primarily teaching courses either using flipped learning or discussion pedagogies, depending on the nature of the course. I include immersive learning opportunities any chance I get.

I utilize small groups (for discussions and presentations) to build a sense of community and encourage development of group work skills. I use analogies and physical demonstrations to introduce concepts that are likely foreign to the learners. To encourage class preparation, I administer formative quizzes as we start new topics, by using an electronic response system (clickers). For some classes, I also administer summative assessments, typically in the form of exams, at the end of, and often throughout, the semester. In most courses, I have learners submit reflective writing.

When teaching skill-based courses, I usually flip the learning by delivering the content outside the classroom, and having the learners work in pairs or small groups on content-reinforcing activities during class. This results in more time on task for most learners, which usually leads to a better understanding and retention of the material. I usually teach non-skill-based courses with discussion pedagogy. I expect the learners to come to class prepared to discuss the course material and alternate between large and small group discussions. I heavily utilize clickers in these courses, often using them to solicit opinions.

I make myself very available to learners, both during class, via email, and in my office (both physically and online). I often tell struggling learners that I will work as hard as they do to help them grasp the material, thus conveying that they have to try, but I will be right there with them. In all instances, my goal is to find a way to help learners understand, learn, and retain the material of the courses for which I am responsible. If I can find—and turn on—each learner’s “light switch” the world will be that much brighter and will reflect well on my efforts.

Based on formal peer and learner evaluations, my continued exploration of teaching methods, and my teaching and learning research, I believe my record shows that I have excelled in teaching.

1. Classroom instruction

I have taught the following courses, and their related labs, during my appointment at Ball State University. A course plan and schedule are available for each, upon request.

1. CS 104 **Introduction to Computers** (3 credit hours) service
2. CS 110 **Introduction to Computer Science and Web Programming** (3 credit hours) service
3. CS 120 **Computer Science 1** (4 credit hours) required freshman-level
4. CS 200 **Computers and Society** (3 credit hours) UCC Tier 2 Natural/Social Science elective
5. CS 204 **Personal Computing** (1 credit hour) service
6. CS 205 **Multimedia Programming** (1 credit hour) service
7. CS 206 **Digital Imaging for the Web** (1 credit hour) service
8. CS 222 **Advanced Programming** (3 credit hours) required sophomore-level
9. CS 239 **Social and Professional Issues** (1 credit hour) required sophomore-level
10. CS 339 **Computer Science, Education, and History: The British Isles Connection** (3 credit hours) international field study
11. CS 499 **Independent Study** Individual learners (3 credit hours) independent study
12. CS 499 **Computer Science for Muncie (and Surrounding) Schools (CS4MS+)**⁴ (1, 2, or 3 credit hours) immersive learning
13. HONR 296 **Computer Science and Algorithms to Live By** (3 credit hours) Honors College elective (Inquiries in the Physical Sciences)
14. HONR 390 **Science, Education, and Diversity (SED)** (3 credit hours) immersive learning
15. HONR 390 **2019-2054: 35 to 70 years after Orwell's Nineteen Eighty-Four. Is it inevitable?** (2 credit hours) Honors College colloquium
16. HONR 499 **Senior Honors Project** Individual learners (3 credit hours) Honors College senior project

Table 1 documents the courses (and how many sections) I taught each semester since my appointment at Ball State starting the fall of 2010. The dashed line separates those semesters before and after my consideration for promotion to Associate Lecturer.

Year	Semester	CS 104: Intro to Comp	CS 110: Intro to CS&Web	CS 120: CS 1: Prog Fund	CS 200: Comp & Society	CS 204: Personal Comp	CS 205: Multimedia Prog	CS 206: Dgtl Image Web	CS 222: Advanced Prog	CS 239: Soc & Prof Issues	CS 339: CS Ed & Hist	CS 499: Individuals	CS 499: CS4MS+	HONR 296:CS & Algo	HONR 390: SED	HONR 390: Orwell 1984	HONR 499: Individuals	Courses per semester
2020-2021	Spring			2					2			1	1	1			1	7
	Fall								2			1	1	1				4
2019-2020	Summer								1									1
	Spring			3										1			1	5
	Fall			1					2				1	1				5
2018-2019	Summer								1									1
	Spring			2	1				1	1								5
	Fall			1					3				1			1		6

⁴ I also taught CS4MS+ under the following two titles: Computer Science for Middle Schoolers Plus (CS4MS+) and Computer Science for Middle Schoolers (CS4MS).

Year	Semester	CS 104: Intro to Comp	CS 110: Intro to CS&Web	CS 120: CS 1: Prog Fund	CS 200: Comp & Society	CS 204: Personal Comp	CS 205: Multimedia Prog	CS 206: Dgtl Image Web	CS 222: Advanced Prog	CS 239: Soc & Prof Issues	CS 339: CS Ed & Hist	CS 499: Individuals	CS 499: CS4MS+	HONR 296:CS & Algo	HONR 390: SED	HONR 390: Orwell 1984	HONR 499: Individuals	Courses per semester
2017-2018	Summer								1									1
	Spring			3					1			1						5
	Fall			1					1	1			1					4
2016-2017	Summer				1				1									2
	Spring			2	1				1			1						5
	Fall			2					1	1					1			5
2015-2016	Summer								1									1
	Spring			2	1					3		1						7
	Fall			3					1									4
2014-2015	Spring	1		1	1					2							1	6
	Fall	1		2						1								4
2013-2014	Spring	1		1	1					2								5
	Fall	1		1	1					1								4
2012-2013	Spring	1			2					2								5
	Fall	1			2					2								5
2011-2012	Summer	1									1							2
	Spring	2	1			1	1	1										6
	Fall	2	2															4
2010-2011	Summer	1																1
	Spring	2	2															4
	Fall	2	1															3
Times taught	Since promo			12	1				12	3		1	4	4		1	2	40
	Total	8	14	27	11	1	1	1	18	18	1	3	5	4	1	1	3	117

Table 1: Courses taught by semester (numbers indicate how many sections)

a. Student ratings

Learners evaluate teaching faculty each semester, using a standard set of questions established by the university. Additionally, colleges and departments add questions to the evaluation. The questions established by the university, Department of Computer Science, and Honors College which were used to evaluate the courses I taught are provided in Table 2, Table 3, and Table 4 respectively. Learners' typed responses to questions UC1, UC2, CC1, and CC2 are not provided below, but are available upon request. All other questions were answered using a five-point Likert scale, with five being the best, and one the worst.

Code	Question
U01	My instructor explains the course objectives clearly.
U02	My instructor explains course content clearly.
U03	My instructor effectively engages me in the learning process. ⁵
U04	My instructor treats me with respect. ⁶
U05	My instructor provides opportunities for students to engage in the learning process. ⁷
U06	My instructor provides timely feedback. ⁸
U07	My instructor is available for consultation (e.g., email, office hours, by phone, by videoconference, or by appointment).
U08	This course has clear objectives.
U09	This course is effective in meeting its objectives.
U10	This course has assignments related to the objectives of the course.
U11	This course has a clear grading system.
U12	This course broadens my perspective and/or knowledge.
UC1	Please provide any additional written comments on the instructor's strengths and weaknesses.
UC2	Please provide any additional written comments on the strengths and weaknesses of the course. You may comment on such things as the use of assignments, text(s), exercises, exams, etc.

Table 2: Learner evaluation questions established by the university

Code	Question
C01	Presents the subject in an interesting manner
C02	Organizes material in an effective manner
C03	Responds helpfully to questions in and out of class
C04	Tests materials emphasized in the course
C05	Grades fairly
C06	Provides feedback on work evaluated
C07	Overall rating of instructor
C08	Before this term began, my desire to take this course.
C09	Amount I learned in this course
C10	Amount I studied for this course
C11	Degree to which I found this course challenging
CC1	What aspects of the course did you especially like?
CC2	How can the content and the instruction in this course be improved?

Table 3: Learner evaluation questions established by the Department of Computer Science

⁵ Prior to summer 2016, this question was “My instructor uses effective examples and illustrations.”

⁶ Prior to summer 2016, this question was “My instructor is respectful when I have a question or comment.”

⁷ This question was added starting with summer 2016.

⁸ Prior to summer 2016, this question was “My instructor provides feedback that helps me improve my performance in the class.”

Code	Question
H01	If I had opportunity to do so, I would take another course from this instructor.
H02	Compared with other Honors courses I have taken, this course was the ...
H03	This course met my expectations.
H04	This course was appropriately challenging.

Table 4: Learner evaluation questions established by the Honors College

Table 5 presents a summary of my learner evaluations since my appointment at Ball State starting the fall of 2010, since consideration for promotion to Associate Lecturer, and the last twelve months. Separate averages are provided for the university, department, and college questions. Both means and interpolated medians⁹ are provided. In this table, the darkest green is highlighting ratings of 4.75 or above, while the darkest red highlights ratings of 3.0 or below. Ratings highlighted in yellow are around 3.875, with other shades falling above or below that value.

Additional learner evaluation data for each course I have taught during the last five years are provided in appendix A. Data for the four most recently taught sections of each course, along with the overall averages for the course are provided. Data for prior courses are available upon request. The following data are excluded from these tables, due to there being no evaluations for them: online courses (prior to summer 2020), individual independent study, honors projects, and other courses with enrollment less than six learners.

Note that with extremely few exceptions, my learner ratings remained high for the spring 2020 semester—when all courses transitioned to emergency remote learning mid-semester, as did they remain high during the 2020-2021 academic year, when I taught some of my courses either synchronously or asynchronously online for the first time in that mode. In fact, most ratings were generally higher during these semesters, as compared to previous semesters.

b. Teaching evaluations

Formal peer teaching evaluations, all of which are positive, are available upon request.

c. Grade distribution

Grade distributions for all of the courses I taught since my appointment at Ball State starting the fall of 2010 are summarized in Figure 1. Data by semester and course are provided in Table 6. I have conflated plus and minus letter grades into their base latter grade. The dashed line separates those grades given before and after my consideration for promotion to Associate Lecturer. The following data are excluded from the figure and table due to them usually being a single learner: independent study, and honors projects.

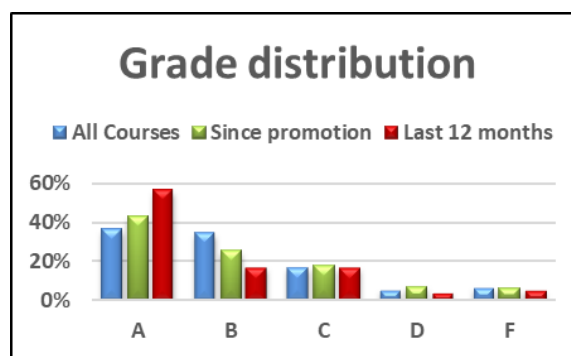


Figure 1: Grade distribution for all courses

Note that for the spring 2020 semester, learners were given the option of having their grades recorded as credit/no credit, rather than a letter grade, due to the COVID-19 pandemic interrupting their lives and ability to adequately focus on their courses. The data reported here reflects the letter grade I reported to the registrar. The conversion to credit/no credit occurred after my grade submission.

⁹ Why interpolated medians are provided, and how they are calculated is discussed in the appendix B.

1: Strongly disagree 3: Neutral 5: Strongly Agree	All courses											
	Overall						Last 12 months					
	Fall 10-present		Since promotion		Last 12 months		Spring 2021		Fall 2020		Summer 2020	
	Mean	Median	Mean	Med	Mean	Med	Mean	Med	Mean	Med	Mean	Med
University												
U1: Explains objectives	4.33	4.52	4.43	4.62	4.41	4.67	4.40	4.56	4.60	4.80	3.67	4.75
U2: Explains content	4.24	4.41	4.28	4.48	4.38	4.60	4.38	4.57	4.60	4.67	3.50	4.50
U3: Engages me	4.28	4.47	4.38	4.57	4.51	4.76	4.51	4.74	4.77	4.87	3.50	4.50
U4: Respects me	4.66	4.80	4.71	4.85	4.70	4.88	4.75	4.87	4.90	4.94	3.67	4.75
U5: Opportunities	4.63	4.77	4.60	4.75	4.64	4.84	4.67	4.81	4.85	4.90	3.67	4.75
U6: Timely feedback	4.39	4.58	4.45	4.66	4.51	4.73	4.55	4.71	4.71	4.82	3.50	4.50
U7: Availability	4.64	4.73	4.69	4.82	4.67	4.85	4.72	4.82	4.83	4.92	3.67	4.75
U8: Clear objectives	4.22	4.35	4.46	4.63	4.45	4.68	4.42	4.58	4.68	4.82	3.67	4.75
U9: Course efficacy	4.23	4.39	4.32	4.53	4.36	4.63	4.36	4.57	4.54	4.70	3.67	4.75
U10: Assignments	4.43	4.56	4.45	4.62	4.49	4.75	4.54	4.72	4.63	4.80	3.67	4.75
U11: Grading system	4.16	4.36	4.03	4.27	4.16	4.50	4.07	4.38	4.43	4.63	3.67	4.75
U12: Broadens knowledge	4.36	4.55	4.42	4.63	4.47	4.74	4.46	4.68	4.69	4.84	3.67	4.75
University average	4.38	4.54	4.43	4.62	4.48	4.72	4.49	4.67	4.69	4.81	3.63	4.69
Responses Enrolled	1875	2934	514	820	142	224	70	123	66	94	6	8
Courses Response rate	103	64%	36	63%	11	63%	6	57%	4	70%	1	75%
Computer Science	Mean	Med	Mean	Med	Mean	Med	Mean	Med	Mean	Med	Mean	Med
C1: Interesting	4.04	4.18	4.07	4.25	4.21	4.51	4.23	4.48	4.39	4.54	3.50	4.50
C2: Organized	4.23	4.35	4.27	4.45	4.32	4.57	4.37	4.54	4.51	4.64	3.50	4.50
C3: Helpful responses	4.39	4.56	4.39	4.63	4.50	4.78	4.62	4.80	4.63	4.82	3.50	4.50
C4: Appropriate tests	4.15	4.33	4.17	4.35	4.31	4.60	4.37	4.58	4.41	4.60	3.67	4.75
C5: Grades fairly	4.32	4.50	4.13	4.36	4.21	4.47	4.26	4.45	4.46	4.71	3.17	3.83
C6: Provides feedback	4.27	4.46	4.36	4.56	4.41	4.68	4.42	4.62	4.69	4.83	3.50	4.50
C7: Instructor rating	4.33	4.52	4.32	4.55	4.45	4.70	4.44	4.62	4.72	4.82	3.67	4.75
C8: Desire to take	3.69	3.78	4.00	4.16	3.99	4.20	3.84	3.97	4.34	4.41	3.67	4.75
C9: Amount learned	3.93	4.07	4.01	4.20	4.01	4.28	3.92	4.07	4.34	4.56	3.50	4.50
C10: Amount studied	3.32	3.30	3.38	3.40	3.38	3.37	3.37	3.33	3.48	3.40	3.17	3.50
C11: Course challenging	3.60	3.62	3.74	3.75	3.61	3.61	3.55	3.49	3.86	3.85	3.17	3.50
CS average	4.02	4.15	4.08	4.24	4.13	4.34	4.13	4.27	4.35	4.47	3.46	4.33
Responses Enrolled	1785	2820	433	715	110	181	56	101	48	72	6	8
Courses Response rate	97	63%	31	61%	9	61%	5	55%	3	67%	1	75%
Honors College	Mean	Med	Mean	Med	Mean	Med	Mean	Med	Mean	Med	Mean	Med
H1: Repeat instructor	4.24	4.48	4.31	4.60	4.52	4.64	4.14	4.33	4.89	4.94		
H2: Honors comparison	3.71	3.77	3.74	3.79	3.90	3.88	3.79	3.75	4.00	4.00		
H3: Met expectation	4.34	4.54	4.38	4.58	4.59	4.69	4.50	4.62	4.67	4.75		
H4: Course challenge	4.39	4.56	4.40	4.56	4.71	4.83	4.64	4.80	4.78	4.86		
HC average	4.17	4.34	4.21	4.38	4.43	4.51	4.27	4.38	4.59	4.64		
Responses Enrolled	90	114	81	105	32	43	14	21	18	22		
Courses Response rate	6	79%	5	77%	2	74%	1	67%	1	82%		

Table 5: Learner evaluation summary for all courses

Year	Semester	Course	Section	Title	Enrolled	A	B	C	D	F
2020-2021	Spring	CS 120	1	CS1	18	5	3	5	2	3
2020-2021	Spring	CS 120	3	CS1	24	6	4	8	3	3
2020-2021	Spring	CS 239	1	Soc & Prof Iss	28	21	1	5	0	1
2020-2021	Spring	CS 239	2	Soc & Prof Iss	22	17	1	3	1	0
2020-2021	Spring	CS 499	1-3	CS4MS+	9	6	1	2	0	0
2020-2021	Spring	HONR 296	801	CS & Algorithms	21	18	1	1	1	0
2020-2021	Fall	CS 222	803	Adv Program	32	11	11	4	2	4
2020-2021	Fall	CS 222	804	Adv Program	30	8	14	7	0	1
2020-2021	Fall	CS 499	1-3	CS4MS+	10	9	1	0	0	0
2020-2021	Fall	HONR 296	2	CS & Algorithms	22	22	0	0	0	0
2019-2020	Summer	CS 222	1	Adv Program	8	4	1	3	0	0
2019-2020	Spring	CS 120	1	CS1	23	8	2	4	3	6
2019-2020	Spring	CS 120	2	CS1	21	8	5	5	2	1
2019-2020	Spring	CS 120	3	CS1	20	6	4	5	1	4
2019-2020	Spring	HONR 296	2	CS & Algorithms	24	22	1	0	1	0
2019-2020	Fall	CS 120	1	CS1	29	6	8	7	5	3
2019-2020	Fall	CS 222	1	Adv Program	31	11	17	2	1	0
2019-2020	Fall	CS 222	2	Adv Program	26	12	9	4	1	0
2019-2020	Fall	CS 499	2	CS4MS+	11	10	1	0	0	0
2019-2020	Fall	HONR 296	2	CS & Algorithms	23	19	2	1	1	0
2018-2019	Summer	CS 222	1	Adv Program	3	0	1	2	0	0
2018-2019	Spring	CS 120	1	CS1	26	6	3	7	4	6
2018-2019	Spring	CS 120	2	CS1	30	8	7	8	4	3
2018-2019	Spring	CS 200	1	Comp & Soc	32	8	13	10	0	1
2018-2019	Spring	CS 222	1	Adv Program	34	11	14	7	1	1
2018-2019	Spring	CS 239	1	Soc & Prof Iss	33	22	4	6	0	1
2018-2019	Fall	CS 120	3	CS1	29	2	10	8	5	4
2018-2019	Fall	CS 222	1	Adv Program	29	13	14	1	1	0
2018-2019	Fall	CS 222	2	Adv Program	19	2	8	2	7	0
2018-2019	Fall	CS 222	3	Adv Program	22	0	12	6	3	1
2018-2019	Fall	CS 499	2	CS4MS	10	10	0	0	0	0
2018-2019	Fall	HONR 390	8	Orwell 1984	15	14	1	0	0	0
2017-2018	Summer	CS 222	1	Adv Program	6	1	5	0	0	0
2017-2018	Spring	CS 120	1	CS1	24	7	5	7	2	3
2017-2018	Spring	CS 120	2	CS1	25	7	8	5	3	2
2017-2018	Spring	CS 120	3	CS1	28	4	7	7	6	4
2017-2018	Spring	CS 222	1	Adv Program	26	11	11	4	0	0
2017-2018	Fall	CS 120	1	CS1	31	8	16	5	2	0
2017-2018	Fall	CS 222	2	Adv Program	31	15	12	4	0	0
2017-2018	Fall	CS 239	1	Soc & Prof Iss	30	16	9	5	0	0
2017-2018	Fall	CS 499	1	CS4MS	11	5	5	0	1	0
2016-2017	Summer	CS 200	1	Comp & Soc	3	2	1	0	0	0
2016-2017	Summer	CS 222	1	Adv Program	7	4	2	1	0	0
2016-2017	Spring	CS 120	500	CS1	16	3	7	2	1	3
2016-2017	Spring	CS 120	501	CS1	27	6	6	9	2	4
2016-2017	Spring	CS 200	1	Comp & Soc	35	10	12	10	2	1
2016-2017	Spring	CS 222	2	Adv Program	29	15	12	1	1	0
2016-2017	Fall	CS 120	500	CS1	29	11	7	7	2	2
2016-2017	Fall	CS 120	502	CS1	29	10	9	7	2	1
2016-2017	Fall	CS 222	3	Adv Program	11	2	2	5	2	0
2016-2017	Fall	CS 239	1	Soc & Prof Iss	20	16	2	2	0	0

Year	Semester	Course	Section	Title	Enrolled	A	B	C	D	F
2016-2017	Fall	HONR 390	12	Sci,Ed,&Diversity	9	9	0	0	0	0
2015-2016	Summer	CS 222	1	Adv Program	8	1	4	2	0	1
2015-2016	Spring	CS 120	500	CS1	27	8	11	3	3	2
2015-2016	Spring	CS 120	501	CS1	23	8	9	3	1	2
2015-2016	Spring	CS 200	1	Comp & Soc	32	16	12	4	0	0
2015-2016	Spring	CS 239	1	Soc & Prof Iss	21	18	2	1	0	0
2015-2016	Spring	CS 239	2	Soc & Prof Iss	10	5	4	0	1	0
2015-2016	Spring	CS 239	3	Soc & Prof Iss	12	8	3	0	1	0
2015-2016	Fall	CS 120	2	CS1	23	7	9	4	2	1
2015-2016	Fall	CS 120	3	CS1	21	7	5	5	2	2
2015-2016	Fall	CS 120	4	CS1	15	1	10	2	2	0
2015-2016	Fall	CS 222	3	Adv Program	18	7	7	3	0	1
2014-2015	Spring	CS 110	1	Intro to CS	27	6	8	7	3	3
2014-2015	Spring	CS 120	3	CS1	26	7	14	4	1	0
2014-2015	Spring	CS 200	1	Comp & Soc	22	9	11	1	0	1
2014-2015	Spring	CS 239	1	Soc & Prof Iss	34	21	8	3	1	1
2014-2015	Spring	CS 239	2	Soc & Prof Iss	35	28	5	1	1	0
2014-2015	Fall	CS 110	1	Intro to CS	24	8	1	8	3	4
2014-2015	Fall	CS 120	1	CS1	21	4	7	3	2	5
2014-2015	Fall	CS 120	2	CS1	21	9	4	3	0	5
2014-2015	Fall	CS 239	2	Soc & Prof Iss	18	10	5	2	0	1
2013-2014	Spring	CS 110	1	Intro to CS	32	10	11	9	0	2
2013-2014	Spring	CS 120	2	CS1	34	7	11	10	1	5
2013-2014	Spring	CS 200	1	Comp & Soc	31	10	15	4	2	0
2013-2014	Spring	CS 239	1	Soc & Prof Iss	25	15	7	0	0	3
2013-2014	Spring	CS 239	2	Soc & Prof Iss	25	21	4	0	0	0
2013-2014	Fall	CS 110	1	Intro to CS	34	12	10	8	0	4
2013-2014	Fall	CS 120	3	CS1	22	5	10	6	0	1
2013-2014	Fall	CS 200	2	Comp & Soc	29	11	13	1	2	2
2013-2014	Fall	CS 239	1	Soc & Prof Iss	23	18	5	0	0	0
2012-2013	Spring	CS 110	1	Intro to CS	50	6	17	17	5	5
2012-2013	Spring	CS 200	1	Comp & Soc	37	10	17	9	1	0
2012-2013	Spring	CS 200	2	Comp & Soc	23	5	16	1	1	0
2012-2013	Spring	CS 239	1	Soc & Prof Iss	10	9	0	1	0	0
2012-2013	Spring	CS 239	2	Soc & Prof Iss	16	9	6	1	0	0
2012-2013	Fall	CS 110	1	Intro to CS	49	12	17	16	2	2
2012-2013	Fall	CS 200	1	Comp & Soc	30	12	13	4	0	1
2012-2013	Fall	CS 200	2	Comp & Soc	28	5	16	4	3	0
2012-2013	Fall	CS 239	1	Soc & Prof Iss	12	9	2	1	0	0
2012-2013	Fall	CS 239	3	Soc & Prof Iss	14	5	4	4	0	1
2011-2012	Summer	CS 110	880	Intro to CS	11	2	4	1	0	4
2011-2012	Summer	CS 339	2	CS, Ed, & Hist	5	3	1	0	0	1
2011-2012	Spring	CS 104	1	Intro Computer	72	4	31	20	7	10
2011-2012	Spring	CS 104	2	Intro Computer	79	18	44	12	2	3
2011-2012	Spring	CS 110	880	Intro to CS	12	1	4	1	0	6
2011-2012	Spring	CS 204	1	Per Comp	16	10	6	0	0	0
2011-2012	Spring	CS 205	1	Multimedia Prog	7	2	4	1	0	0
2011-2012	Spring	CS 206	1	Dgtl Img for Web	6	2	1	2	0	1
2011-2012	Fall	CS 104	1	Intro Computer	86	21	43	15	6	1
2011-2012	Fall	CS 104	2	Intro Computer	110	21	58	18	7	6
2011-2012	Fall	CS 110	3	Intro to CS	39	14	15	4	1	5
2011-2012	Fall	CS 110	880	Intro to CS	14	2	4	1	1	6
2010-2011	Summer	CS 110	880	Intro to CS	9	2	4	1	0	2

Year	Semester	Course	Section	Title	Enrolled	A	B	C	D	F
2010-2011	Spring	CS 104	1	Intro Computer	57	17	15	16	5	4
2010-2011	Spring	CS 104	2	Intro Computer	89	28	37	13	5	6
2010-2011	Spring	CS 110	1	Intro to CS	39	9	14	10	2	4
2010-2011	Spring	CS 110	880	Intro to CS	8	1	3	1	0	3
2010-2011	Fall	CS 104	1	Intro Computer	116	35	45	22	6	8
2010-2011	Fall	CS 104	2	Intro Computer	90	20	43	21	3	3
2010-2011	Fall	CS 110	2	Intro to CS	31	12	9	2	3	5

Totals and %	Courses	Enrolled	A	B	C	D	F
All Courses	111	2,999	1090	1030	520	163	196
			36%	34%	17%	5%	7%
Since promotion	37	823	355	210	146	60	52
			43%	26%	18%	7%	6%
Last 12 months	11	224	127	38	38	9	12
			57%	17%	17%	4%	5%

Table 6: Grade distribution by semester and course

d. Student enrollment

In Figure 2, I summarize learner enrollment data by semester for the 111 courses I have taught since my appointment at Ball State starting the fall of 2010. The average (mean) enrollment per course for all semesters is 27.0 learners. The first few semesters I taught very large sections of a few courses, resulting in a higher average enrollment per course. More recently, I have taught some Honors College and immersive learning

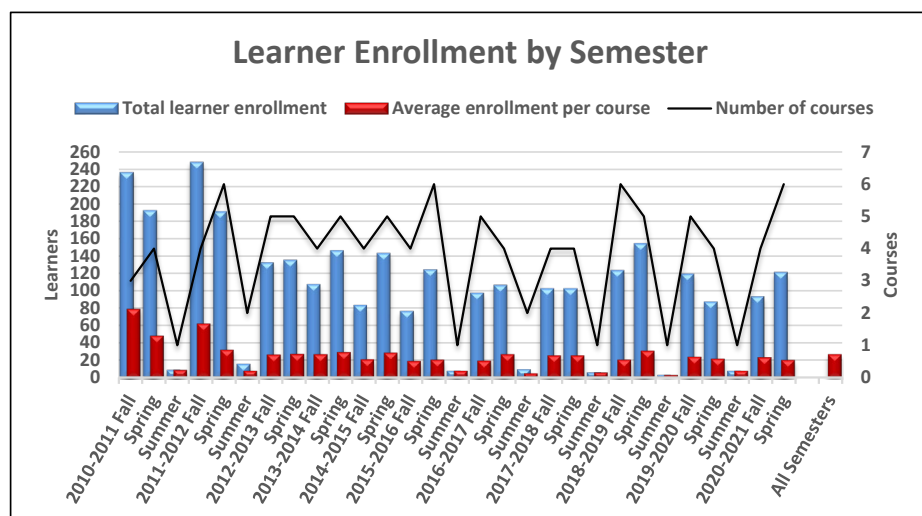


Figure 2: Learner enrollment by semester

courses (with typical enrollments of ten to twenty-five learners). Summer semester course enrollment has also been very low. These courses reduced the average enrollment per course during those semesters. The average enrollment per course for the last twelve months is 20.4 learners and is 22.2 learners since my consideration for promotion to Associate Lecturer. Data by course are available upon request. The following data are excluded from this figure and other statistics included in this paragraph due to typical enrollment being a single learner: independent study, and honors projects.

e. Impact of the COVID-19 pandemic

As it did for all teachers, starting mid-March 2020, the COVID-19 pandemic changed how I interacted with the learners in my courses and the learning environment I was able to provide for them. Although different each successive semester, these changes carried forward through spring 2021. I briefly itemize the impact on

my teaching and the pedagogical changes I made each semester in the following lists. My hope is that this will provide context for other parts of this document. A more thorough discussion of the impact is detailed in my blog post: davidlargent.blogspot.com/2021/06/ThanksCOVIDLeaveNow.html.

1. General themes

There were a few overarching themes that are not specific to any one semester.

- Higher percentage of incompletes for learners, especially for the spring 2020 semester
- Conducted “office hours” via Zoom. Much more flexible about my availability to offer help, as I could do it from “anywhere.” I carried this forward, even after distancing restrictions were lifted.
- Much more compassionate and considerate of learners’ life circumstances. One example: provided flexible due dates for assignments and projects.
- More absences than usual, due to illnesses and need to quarantine. Accommodated with more flexible attendance policy.

2. Spring 2020

- Shifted from teaching four face-to-face, in-person courses to having all online as of March 16
- Made accommodations for a few learners who were not able to meet with the class via WebEx
- Received comments from many students that my course had transitioned the best of any of the courses they were taking that semester
- CS 120
 - Met synchronously with three sections of CS 120 via WebEx each Monday
 - Because of a flipped learning environment, learners were already used to working somewhat independent of direct instruction from me during class time
 - Recorded very brief videos introducing each activity they were assigned
 - Transitioned in-class chapter quizzes and exams to timed quizzes/exams in Canvas
 - Worked better than expected
- HONR 296
 - Previously, half discussion-based and half group, hands-on activities during class time
 - Met with learners synchronously via WebEx each week for half of the class time to facilitate discussion
 - Created detailed written instructions for learners to complete in-class activities individually

3. Summer 2020

- Taught CS 222 synchronously via WebEx
 - Few changes needed to delivery
 - Worked better than expected

4. Fall 2020

- CS 222
 - Taught two sections synchronously via Zoom
 - Minor adjustments, based on summer delivery
- CS4MS+
 - Met in-person in large classroom, so entire class could meet together
 - Minor adjustments to accommodate social distancing requirements
 - Major impact: learners were not able to physically meet with community partners’ teachers and students
- HONR 296
 - Met in-person in large classroom, so entire class could meet together
 - Minor adjustments to accommodate social distancing requirements

5. Spring 2021

- CS 120
 - Taught two sections in-person in classroom with clear protective barriers, so entire class could meet together
 - Normally, utilizes pair programming, (two learners share one computer to develop solutions). Still had learners work in pairs, but on separate computers. More of a consultant role than pair programming, but still worked acceptably well.
- CS 239
 - Taught two sections in-person in large classroom, so entire class could meet together
 - Normally uses small group discussions in class. Learners could still hold discussions even while maintaining appropriate distance from others
- CS4MS+
 - Taught in-person in large classroom, so entire class could meet together
 - Once again, the learners were not able to physically meet with community partners' teachers and students, although they did arrange a few Zoom presentations with middle school students during their classes
- HONR 296
 - Taught asynchronously online at request of Honors College administration
 - First time I delivered the course asynchronously online
 - A few in-class activities had been previously reworked in spring 2020. Updated the rest so they could be completed individually, or with roommates or family members, etc.
 - Shifted in-class discussions to Canvas discussion boards.
 - Major disappointment: not having learners present their final projects to the rest of the class
 - Received generally very positive student evaluations about my delivery of the course
 - Better taught in-person in classroom, but asynchronous online delivery worked much better than expected. Am willing to teach it in that modality again, if needed.
- Honors College Honors Thesis
 - Met weekly via Zoom to discuss progress

2. Other instructional activity

a. Implementer of instructional innovation

1. Project reflection papers in CS 120 (updated)

After completing the ACUE course, I updated the prompts used in the reflection papers in CS 120 (due with each project) to encourage the learners to reflect on their experience developing a solution to the project, and how they might improve next time. This also provides me insight into their experience working on the project. Fall 2020-Present.

2. Implemented Skills Infusion Program

After participating in the Skills Infusion Program (see section 3.a. below) during spring 2019, I have gradually implemented the concept in courses. As of spring 2020, I have incorporated it into all taught courses. Spring 2019-Present.

3. Specifications grading

I implemented specifications grading in CS 120 starting spring 2018, CS 200 starting spring 2017, CS 222 and CS 239 starting fall 2017, and all courses since then. Specifications grading can make grading faster, clearer, and more precise, allowing the instructor to focus more on promoting improvement in learners rather than worrying about justifying a grade. I created and shared with the learners a clearly

stated specification of what I expected for each assignment. My evaluation of learner work then generally determines that they either have met, or not met, the specifications, rather than assigning points or a letter grade for the assignment. Spring 2017-Present.

4. Piloted Canvas learning management system

I was one of twenty-five Ball State faculty to pilot the use of the Canvas learning management system during spring 2017. I continued using Canvas for all of my courses starting summer 2017. Spring 2017-Spring 2018.

The following items were evaluated for my promotion to Associate Lecturer.

1. Project reflection papers in CS 120 with freshman common reader connection

I extended the reflection paper requirement in CS 120 (see the Fall 2014 CS 120 item below) to include a response to a prompt based on excerpts from the freshman common reader. These reflections connected the learner's experiences in the course and related passages from the book, potentially making both more relevant. Fall 2015-Spring 2016.

2. iClicker Reef Polling

I used the iClicker Reef Polling System in all classes. I was one of two faculty members at Ball State, and one of twenty-four nation-wide to serve as beta testers for this (then) new product, which is a companion/replacement for iClicker remotes. Spring 2015.

3. Diversity and inclusivity component in CS 239

I introduced a significant diversity and inclusivity component into CS 239 that culminated in a CS department colloquium where the learners reported what they discovered while researching diversity and inclusivity in CS, and the experiences of international learners. This also led to the department formally adding diversity and inclusivity to the student learning objectives of CS 239. Fall 2014-Spring 2016.

4. Project reflection papers in CS 120

I introduced the use of reflection papers in CS 120 (due with each project) to encourage the learners to reflect on their experience developing a solution to the project, and how they might improve next time. This also provides me insight into their experience working on the project. Fall 2014-Present.

5. Learner-centered teaching

I started implementing learner-centered teaching pedagogy in my classes. Example activities include course policy negotiation, establishment of what a good learning environment is, exam and assignment corrections, and a mid-semester survey about the learning environment of the class. Starting fall 2019, the mid-semester survey was replaced with a mid-semester reflection paper which asks them to review how they are doing in the course and what they plan to do to earn the grade they want. There is also an opportunity for them to provide feedback to me. Fall 2014-Present.

6. Taught in Active Learning Classrooms

During nearly every semester since 2012, I have taught at least one course in one of the Active Learning Classrooms that include a variety of new technology and furniture. This is part of an extended study discussed further in the Advanced Study section below. (Prior to fall 2019, Active Learning Classrooms were called Interactive Learning Spaces.) Fall 2012-Present.

7. Flipped learning

I implemented a blended model in CS 110 and CS 120 by using flipped learning. In this context, flipping means that the initial content presentation is primarily done outside the classroom—via links to videos (I self-recorded and edited) provided in the learning management system—and the homework and project work—the activities when most of the learners' questions usually arise—is mostly done in the classroom. This hybrid model permits the classroom focus to be on the learners' questions and learning, both by the instructor, and via peer instruction in small groups while they work on topical

reinforcing activities in pairs and small groups. This has the advantage of allowing the learner to experience course material in the context of the lower third of Bloom's Taxonomy on their own, and the upper two-thirds (the harder part) while around others who can provide help. Fall 2012-Present.

8. Expert of the Week in course labs

Part of each student's learning experience in CS 110 was to serve as an "Expert of the Week" once during the semester. I assigned one lab to each learner when they were expected to study and complete the lab activity before their scheduled lab time. During their lab that week, they then served as an "expert" and assisted other learners. When I started teaching CS 120, I continued this practice with learners serving as an expert twice during the semester. Fall 2011-Present.

9. Electronic texts

I introduced and evaluated exclusively using electronic texts in all sections of CS 104. My conclusion was that it is appropriate to provide the option to learners, but not to require it. Fall 2011-Spring 2012.

10. Pre-lecture video

I introduced the use of pre-lecture video in one fall 2011 section of CS 104. This was part of the Panopto study discussed in more detail in External Grants of Section B below. Based on the generally positive response from the fall 2011 learners, I provided access to these videos for the learners in the spring 2012 sections of CS 104 as well. This was the genesis of my use of flipped learning during fall 2012. Fall 2011-Spring 2012.

11. Incorporated major-related (non-computer science) subject matter and skills

After consulting with other departments about their needs, I redeveloped CS 104 lab activities in an effort to incorporate major-related (non-computer science) subject matter and skills into the laboratory exercises. Fall 2011.

12. iClicker response system

I started using the iClicker response system in fall 2010 sections of CS 104. I have since used them in all sections of CS 104, CS 110, CS 120, CS 200, and CS 239 that I have taught. I was the first in the department to adopt this technology. Fall 2010-Present.

13. Use of a wiki for learner-created study guide

In summer 2009, I introduced the use of a standalone wiki in CS 104 in which the learners collectively created their own electronic study guide while learning how wikis work. I continued this practice in CS 104 during spring 2010. From spring 2011 to spring 2012, I used the wiki feature of the Blackboard learning management system to do the same in all sections of CS 104, CS 110, CS 204, CS 205, and CS 206 that I taught. Summer 2009-Spring 2012.

b. Initiator of new programs/courses

1. CS 341: Computer Science Community & School Outreach

I proposed and gained approval by the department, college, and university to formally establish a numbered course to be used for CS4MS+ and similar topics. CS 341 will be offered for the first time fall 2021. The course catalog description is as follows.

Partnering with schools or community organizations, students may research, develop, curate, or deliver instructional resources which incorporate Computer Science (CS) into educational offerings, and may work to advance teachers' understanding of CS or interact with their students as a teaching assistant. Students may deliver CS-related workshops to community organizations.

Establishment of the numbered course will increase its visibility to potential enrollees and make it easier for them to register for the course. This also further exemplifies the department's commitment to community outreach. 2020-Present.

2. CS 499: Computer Science for Muncie (and Surrounding) Schools (CS4MS+)

I started implementing and mentoring a three-year (fall and spring semester) Provost sustained immersive learning course/project during the fall 2020 semester. (This is an extension of the fall 2017-2019 CS4MS+ annual projects, described below.) Supported by a Provost Sustained Immersive Learning Course Grant. *For more details, see the internal grant section in Section B below.* 2020-Present.

Deliverables included:

- Created basic computer use resources
- Developed and delivered presentations (via Zoom) to community partner teachers and their students
- Developed a field trip plan for future implementation
- Redeveloped and expanded our website (www.cs.bsu.edu/cs4ms/) which provides public access to all curated materials
- Participated in the online spring 2021 Immersive Learning Showcase
 - A set of web pages was developed and is hosted by BSU Bracken Library
 - digitalresearch.bsu.edu/immersive-learning-showcase-2021/exhibits/show/cs4ms

3. HONR 296: Computer Science and Algorithms to Live By

I developed and taught (starting in fall 2019) a new Honors College Inquires in the Physical Sciences course titled *Computer Science and Algorithms to Live By*. The course description is as follows.

A broad survey of computer science including its history, applications, programming languages, and computer architecture. A strong emphasis will be placed on algorithms and the relationships of computer science to human concerns and society, including the social and ethical consequences raised by the application of technology in contemporary society.

I use discussion and active learning to teach this course, mostly utilizing “unplugged” computer science activities. Spring 2019-Present.

4. HONR 390: 2019-2054: 35 to 70 years after Orwell’s Nineteen Eighty-Four. Is it inevitable?

I developed and taught (fall 2018) a new Honors College colloquium course titled *2019-2054: 35 to 70 years after Orwell’s Nineteen Eighty-Four. Is it inevitable?* This course explored current and future technology trends, and our interaction with them. The emphasis was on discussion, reflection, individual projects, and ways of combining information from several sources. The course used two primary sources to guide discussions: George Orwell’s *Nineteen Eighty-Four*, and Kevin Kelly’s *The Inevitable: Understanding the 12 technological forces that will shape our future*. Orwell set his story 35 years into his future. Kelly makes predictions about 12 technological forces that he believes will inevitably determine our future 30 years from now. Spring-fall 2018.

5. CS 499: Computer Science for Middle Schoolers Plus (CS4MS+)

I developed and mentored an immersive learning course (CS 499) titled *Computer Science for Middle Schoolers Plus*¹⁰ (CS4MS+) during the fall semesters of 2017-2019. In past years, there has been a lack of learner exposure to Computer Science (CS) in elementary and high school. Via the regular school curriculum, learners are exposed to the physical sciences and mathematics, but seldom CS. As a result, learners are likely to have little idea of what it means to be a computer scientist, or if they have any interest in being one. With the recent adoption of CS K-12 academic standards in Indiana, this is changing, but most teachers have little, or no experience teaching these new topics. The focus of this immersive learning class was to expose learners, particularly underrepresented minorities and females, to CS and Computational Thinking (CT). During the semesters taught, our partners have been

¹⁰ The “Plus” was added to the project name in fall 2019, when we added community partner Muncie Central High School, to acknowledge that we were no longer only working with middle schools.

Northside Middle School, Daleville Junior/Senior High School, Burriss Laboratory School, and Muncie Central High School. The project team researched the specific needs of our partners, curated instructional resources, and developed activity templates and modules that will better incorporate CS experiences, with a focus on meeting the Indiana CS academic standards. The schools' administrators and teachers can utilize the compiled resources, and implement the completed modules during normal school classes, during the summer, after school, or during extended breaks, based on their needs. Supported by a Provost Immersive Learning grant. *For more details, see the internal grant section in Section B below.* Fall 2017-Present.

Deliverables included:

- Developed and delivered a workshop for teachers to introduce CS
- Compiled documents which contain resources for, and explanations of the Indiana state academic standards for grades 6-8 to assist teachers to successfully implement those standards
- Conducted an Hour of Code activity for each NMS computer class
- Participated in Immersive Learning Showcases each semester offered
- Created learner worksheets and activities on a variety of topics
- Created presentation slides on a variety of topics
- Served as assistants to classroom teachers
- Established a BSU student organization to informally continue the project efforts
- Developed and published a website providing access to all materials www.cs.bsu.edu/cs4ms/

News coverage of the project:

- February 27, 2020, Muncie, IN: *The Daily News*
<https://www.ballstatedailynews.com/article/2020/02/news-immersive-learning-computer-science-mcs>
- December 27, 2019, Lebanon, IN: *The Lebanon Reporter*
www.reporter.net/news/local_news/lebanon-native-helps-lead-new-computer-science-initiative/article_3a5588cc-265e-11ea-8519-07c7beb023a5.html
- February 18, 2019, Indianapolis, IN: RTV6
www.theindychannel.com/news/hiring-hoosiers/ball-state-muncie-schools-partner-to-expose-students-to-computer-science-opportunities

The BSU Office of Immersive Learning produced a video highlighting the project, which can be viewed at www.youtube.com/watch?v=SfQuN5uNCM.

The following items were evaluated for my promotion to Associate Lecturer.

1. **HONR 390: Science, Education, and Diversity (SED)**

Along with Lynn Stallings (English) and Carolyn Dowling (Geological Sciences), I co-developed and co-mentored an immersive learning Honors Collage colloquium course titled *Science, Education, and Diversity (SED)* during fall 2016. The focus of this course was to expose the learners at Northside Middle School to STEAM (Science Technology Engineering Art Math). Our project aimed to develop STEAM activity templates and modules that would better incorporate STEM and STEM experiences while also providing opportunities for learners to communicate about those experiences (the A in STEAM). We assembled an interdisciplinary team of learners who researched the specific needs of our community partner, evaluated their existing practices, developed new pedagogy and content, and delivered resources to the partner focused on STEAM. Learners engaged in culturally responsive pedagogy, inclusive pedagogy training, and team building exercises. (Equal effort by all three faculty members.) Supported by a Provost Immersive Learning grant. *For more details, see the internal grant section in Section B below.* Summer-Fall 2016.

2. CS 120 All-section “Art Show”

I proposed, organized, and promoted a CS 120 all-section “art show” where the best learner-created image collages (a project in the course) are selected from each section and exhibited each semester. This increases awareness of the department within the university, provides a venue in which learners can highlight their work to their peers and others, and motivates learners to be creative and engaged. I gained support from the department and other course instructors and coordinated our collective efforts. Each semester I create a supporting show handout, an entrant web page, a web page documenting the winners, and recruit judges from across the campus, and externally. I continue to organize and promote this event, which has become a department tradition each semester. This recently expanded to involve University Libraries which is providing a publicly available digital media repository of CS 120 student art. See below in the evidence of professional service section for more details. Fall 2013-Present.

Access to all of the pages is available from this page:

www.cs.bsu.edu/homepages/dllargent/cs120/artShow/

News coverage of the event:

- November 10, 2020: Ball State’s *The Daily News*
www.ballstatedaily.com/article/2020/11/ball-state-computer-science-department-hosts-virtual-art-show
- November 9, 2020: *NewsLink Indiana*
youtu.be/Bh345exsohw?t=761
- November 4, 2016: Ball State’s *The Daily News*
www.ballstatedaily.com/article/2016/11/features-computer-science-exhibit
- November 2, 2016: Muncie, Indiana’s *The Star Press*
www.thestarpress.com/story/life/2016/11/02/bsu-student-art-selected-all-section-show/93115414/
- December 1, 2014: Ball State’s *The Daily News*
www.ballstatedaily.com/article/2014/12/students-use-technology-to-create-art

3. CS 339: Computer Science, Education, and History: The British Isles Connection

I envisioned, developed, and implemented a new international field study course with the approval and support of the department, college, and the Rinker Center for International Programs. I led the course, *Computer Science, Education, and History: The British Isles Connection* during May 2012. The course provided learners with opportunities to gain an appreciation for, and understanding of, computer science history, and to experience the nature of higher education in England, Ireland, Northern Ireland, and Scotland. Additionally, learners had opportunities to expand their worldview by their immersion in the cultures of these countries. A large variety of museums and historical venues provided insight into the history of computer science and the role the British Isles played in this history. We visited many universities where course participants had direct, in-person, interaction with learners, faculty, and professionals from the area. During this interaction, learners were encouraged to explore similarities and differences in the nature of higher education, the work environment, and local culture. Learners experienced international travel, and the culture of the visited areas. Summer 2011-Summer 2012.

c. Thesis/dissertation committee member or chairperson

I served as the thesis advisor for the following Honors College learners.

1. Beth Eyrick. Indiana Computer Science Academic Standards: Are they helping increase diversity in Computer Science? Honors College, Ball State University, 2021.
2. Madison Turley. Not All Computer Scientists: An Analysis of Computer Science Stereotypes in Popular Media. Honors College, Ball State University, 2020.
3. Seth Campbell. Exploring the feasibility and practicality of an abstract software development framework for maximizing project success. Honors College, Ball State University, 2020. cardinalscholar.bsu.edu/handle/123456789/202501
4. Rachel A. Harvey. An exploration in computer science diversity. Honors College, Ball State University, 2018. cardinalscholar.bsu.edu/handle/123456789/201585

The following items were evaluated for my promotion to Associate Lecturer.

1. Tanner L. Little. Hold on a Second: Social media and the resurgence of documenting one's life. Honors College, Ball State University, 2015. cardinalscholar.bsu.edu/handle/123456789/199796
2. Spencer Gray. The User's Guide to Online Safety. Honors College, Ball State University, 2015. cardinalscholar.bsu.edu/handle/123456789/199792

d. Research paper/creative project advisor

I have listed here those research and creative projects that were not part of regular coursework or ongoing immersive learning projects.

1. Opportunities for Undergraduate Research in Computer Science (OurCS)

I sponsored Anna Hawkins' participation in Opportunities for Undergraduate Research in Computer Science (OurCS) at Indiana University Bloomington, a three-day research-focused workshop providing opportunities for undergraduate women to work on exploratory problems in teams led by researchers from academia and industry. Ms. Hawkins presented a poster: *CS4MS: Adapting state computer science standards for middle schoolers*. October 2018. helloresearch.sice.indiana.edu/posters.html

2. Louis Stokes Alliances for Minority Participation (LSAMP)

I served as the faculty mentor for Monica Appel while she participated in the Louis Stokes Alliances for Minority Participation (LSAMP) program, an NSF-funded research program. Project: Sphero in the classroom. Summer 2018.

e. Special assignments, e.g., independent studies, coordination of courses**1. Independent study faculty mentor**

I served as the mentor for the following independent study projects.

- a. Iqra Almani Untitled. Summer 2021.

The following items were evaluated for my promotion to Associate Lecturer.

- a. Ryan Magley. Songbook. Spring 2017.
- b. Sam Bruns and Bugra Cinbat. Java Automated Response Verbal Intelligence System (JARVIS). Spring 2016.

The following items were evaluated for my promotion to Associate Lecturer.

2. Taught for faculty member on medical leave

I was assigned by the department chair to teach (as an overload) a section of CS 110 for a fellow faculty member who was on medical leave for six weeks. August-October 2011.

3. Coordinated CS 104 labs

I was assigned by the department chair to coordinate all CS 104 labs. This involved establishing the lab activities assigned to the learners and communicating this to the other professor(s), supervising assigned graduate assistants, hiring and supervising undergraduate lab assistants, and ensuring all learner lab work was graded. Fall 2008-Spring 2012.

f. Creative teaching grant

1. Funded proposals

None

2. Proposals not funded

The following item was evaluated for my promotion to Associate Lecturer.

- a. **Flipped learning:** An investigation and implementation of flipping a large computer science course. 2012. Requested: \$6,200.

3. Advanced study, additional accomplishments, and professional improvement

a. Trainings, workshops, and programs

1. Pandemic Challenge certificate course

Ball State Division of Online and Strategic Learning. Completed. January 2021.

2. Faculty Learning Community on Remote Synchronous Learning

Ball State Division of Online and Strategic Learning. Participated. Fall 2020.

3. Immersive Learning Certification training

Ball State Office of Immersive Learning. Completed the ten-module course. June 2020.

4. Virtual Course Design Seminar

ACUE, Participant. May 2020

5. Remote Teaching Bootcamp

Ball State Division of Online and Strategic Learning. Completed. April 2020.

6. Effective Online Instruction: Recording Effective Microlectures workshop

ACUE. Participant. April 2020.

7. Implicit Bias and Solutions Workshop

Ball State Office of Inclusive Excellence. Participant. In this half-day workshop, we explored understanding inclusive excellence and learning to identify implicit bias, and responding to implicit bias with supportive strategies for everyday solutions. May 2019.

8. Skills Infusion Program

Ball State Career Center. Faculty Fellow participant. In this program, we explored how to augment our courses and syllabi by mapping course outcomes to the National Association of Colleges and Employer's (NACE) transferable skills. Spring 2019.

The following items were evaluated for my promotion to Associate Lecturer.

1. Canvas Instructor Orientation

Instructure, Inc., through iLearn. Participant. Completed three-hour online course. July 2017.

2. Writing Pathways to Disciplinary Learning

A Writing Across the Curriculum Conference. IUPUI. Attendee. September 2016.

3. Entrepreneurial Learning Academy (ELA)

Ball State Office of Entrepreneurial Learning. Supported by an Academic Excellence Grant. Participant. We explored the entrepreneurial learning mindset, created active learning course outcomes, and applied this work to our course syllabi. The ELA participants also meet regularly during the academic year as the Faculty Entrepreneurial Learning Community. Summer 2016-Spring 2017.

4. Faculty Learning Community on Specifications Grading

Ball State Office of Educational Excellence. Participant. Explored what specifications grading is, and what it might do for our learners and us. Based on my experience, I started implementing specifications grading for CS 200 spring 2017, and other courses in later semesters. Fall 2016.

5. Faculty Academy for Contract Faculty

Ball State. Participant. A professional development opportunity designed with contract faculty needs in mind. We met five times for three hours each during weeks 2, 4, 6, 8, and 10 of the semester. Topics included academic ethics and grade appeals, teaching to promote entrepreneurial learning, assessment, technology in teaching, “new” pedagogy, and balancing work and home life, etcetera. Spring 2016.

6. Blended Learning Certificate Course

Ball State iLearn. Completed. A ten-hour face-to-face and online course focused on blended learning. September 2015.

7. Workshop on Integrating the Freshman Common Reader into Your Course

Ball State Freshman Connections. This three-session workshop guided participants through the review and assignment creation process. Summer-Fall 2016 and Summer-Fall 2015.

8. Blackboard Certificate Course

Ball State iLearn. Completed. Ten-hour online course. March-April 2015.

9. Diversity Associate

Ball State Office of Institutional Diversity. Participant. Year-long mentor-mentee relationship with David Concepción. I developed inclusive pedagogy focused on increasing diversity and decreasing disparities in expectations in computer science courses. Helped learners explore how to create a welcoming and inclusive environment in the department, especially for those currently underserved, and explored differing expectations of computer science faculty and learners. Resulted in the learners presenting their findings and suggestions at a CS Department Colloquium in April 2015 and 2016. See special lectures in Section B below. Fall 2014-Spring 2015.

10. Faculty Seminar on Teaching First-Year Students

Ball State Freshman Connections, and the Office of Educational Excellence. Participant. Informed by the focus of the seminar (learner-centered teaching), I implemented pedagogical changes in my classes starting fall 2014. Spring 2014.

11. Active Learning Community of Practice

Ball State Division of Online and Strategic Learning. Participant. We meet on a regular basis to discuss challenges and opportunities related to teaching in the active learning classrooms. (Prior to fall 2019, Active Learning Classrooms were called Interactive Learning Spaces, and this was a Faculty Learning Community on Interactive Learning Spaces.) Fall 2012-Present.

12. Interactive Learning Space Initiative

Ball State Office of Educational Excellence. Participant. Purpose included strengthening learning through pedagogy, learning space design, and technology. In this environment, the course focus moves from content to application, and supports the implementation of engaged learning methodologies such as Inquiry Based Learning, Team Based Learning, and Problem Based Learning. I began teaching in

one of the new interactive learning spaces in fall 2012. (The Interactive Learning Space Initiative was renamed to Active Learning Academy as of fall 2019.) Summer 2012-Present.

13. Faculty Learning Community on Creative Teaching

Ball State Office of Educational Excellence. Participant. We explored what it means to teach creatively as well as how it looks in specific academic disciplines. Spring 2012.

14. Developing Pedagogies to Enhance Excellence and Diversity Seminar

Ball State Office of Institutional Diversity. Participant. Informed by this seminar, I identified, developed, and implemented pedagogical changes for CS 110. Changes included inviting learners for a short get-to-know-me meeting at the start of the semester, weekly experts in the lab, extensive use of groups in the classroom, and adding content to the final programming project dealing with minorities. I have adapted most of these changes for use in other courses. Resulted in a white paper describing my experience. Summer 2011.

b. Certifications (teaching-related)

1. ACUE's Certificate in Effective College Instruction (2021)

Association of College and University Educators. This certificate signifies my completion of a 25-module course in effective teaching practices requiring the implementation of evidence-based instructional approaches. The credential is co-issued by the American Council on Education and distinguishes faculty for their commitment to educational excellence and student success. ACUE's online course addresses over 200 evidence-based teaching practices organized around the following topics:

- designing an effective course and class,
- establishing a productive learning environment,
- using active learning techniques,
- promoting higher order thinking, and
- assessing to inform instruction and promote learning.

2. Flipped Learning Global Initiative (FLGI). International.

www.credential.net/profile/davidlargent/transcript

- Flipped Learning 3.0 Level-II Certification. 14-hour online course. 2018-2021. Expired: 03/02/2021. International.
- Flipped Learning 3.0 Level-I Certification. 10-hour online course. 2017-2021. Expired: 03/02/2021. International.
- Flipped Learning Trainer Certification Level-I. 3.5-hour online course. 2017-2018. Expired: 12/24/2018. International.

c. Ball State workshops and seminars

To further my knowledge, I have participated in over one hundred thirty Ball State-provided workshops and seminars on a variety of topics since 2008. I have listed teaching-related activities from the last year in Table 7 (most recent activity listed first). A complete list is available upon request.

Course Name	Sponsor	Date Completed	Duration
Webinar: Building Inclusive Pedagogy Online	Strategic Learning	04/13/21	1.5 Hours
Provost's Faculty Summit on Inclusive Teaching	Strategic Learning	03/19/21	8.0 Hours
Webinar: An Innovative Approach to Universal Design Learning: Engaging All Learners	Strategic Learning	02/16/21	1.5 Hours
Keeping Students Engaged During A Pandemic: 5 Day Certificate Course	Strategic Learning	1/24/21	5.0 Days

Course Name	Sponsor	Date Completed	Duration
Webinar: Building Inclusive Pedagogy Online	Strategic Learning	04/13/21	1.5 Hours
Provost's Faculty Summit on Inclusive Teaching	Strategic Learning	03/19/21	8.0 Hours
Webinar: An Innovative Approach to Universal Design Learning: Engaging All Learners	Strategic Learning	02/16/21	1.5 Hours
Webinar: Make Your Canvas Course Accessible	Strategic Learning	10/22/20	1.0 Hours
Webinar: Canvas Tips and Tricks 30-Min. 'Quick Clinic' with Q&A	Strategic Learning	10/21/20	1.0 Hours
Webinar: Canvas and Office 365	Strategic Learning	09/01/20	1.0 Hours
Webinar: Zoom Pedagogy - Creating Engaging Virtual Learning Experiences	Strategic Learning	08/26/20	1.0 Hours
Webinar: Organizing Your Course Content in Canvas	Strategic Learning	08/25/20	1.0 Hours
FLC Remote Synchronous, Cohort 1, Meeting 1, 8/19/2020	Strategic Learning	08/19/20	1.5 Hours
Webinar: Zoom Basics	Strategic Learning	08/17/20	1.0 Hours
FLC Remote Synchronous, Meet and Greet, 8/12/2020	Strategic Learning	08/12/20	1.5 Hours
Webinar: HyFlex Engagement Opportunities	Strategic Learning	07/16/20	1.0 Hours
Webinar: HyFlex Assessments	Strategic Learning	06/26/20	1.0 Hours
Webinar: HyFlex Lecture Recording	Strategic Learning	06/10/20	1.0 Hours
Webinar: HyFlex Course Organization	Strategic Learning	06/09/20	1.0 Hours

Table 7: Ball State workshops and seminars (related to teaching)

B. EVIDENCE OF SCHOLARSHIP

As a lecturer, there is little expectation that I will publish or present work. In addition to my full-time teaching load, I have chosen to do so, nonetheless. What I have documented here is my academic work, along with work I produced while I worked in industry. It seems I have always had an interest in researching and disseminating newfound information to others. Most, but not all, of the publications and presentations from my time in industry are technical in nature.

My Master's thesis focused on the formation and interaction of programming teams in a college course setting. I continued data collection for many years after completion of my thesis. This line of research resulted in my first academic conference presentation in 2010 at ICER (a well-respected international computer science education research conference) in Aarhus, Denmark. Later, in 2016, I published an updated version of my conference paper—with additional years' data—in the Association for Computing Machinery's (ACM) *Transactions on Computing Education* (a well-respected international journal dealing with computer science education). This journal article was included on the *ACM Computing Reviews 21st Annual Best of Computing: Notable Books and Articles* list in 2017.

I have focused my recent scholarship almost exclusively on pedagogy, CS education, and diversity and inclusivity. This focus has allowed me to improve my (and others) teaching and permitted me to explore how to understand and (start to) remedy the lack of diversity and inclusivity issues of computer science, and other areas. A variety of internal and external grants have allowed me to perform, apply, and disseminate this research.

According to Google Scholar, as of June 16, 2021, my body of scholarship has an h-index of 6 and an i10-index of 4; that is, I have six articles that have garnered at least six citations to them (h-index), and I have four articles with at least ten citations to them (i10-index). Google Scholar counts my publications as having been cited 96 times. My [Google Scholar profile](#) is public and linked to my dllargent@bsu.edu identity. According to ACM's [Digital Library service](#), my 12 ACM publications have been downloaded 7,802 times (1,465 times in the last twelve months) and have 25 citations, as of June 16, 2021.

1. Refereed publications (excluding abstracts), published or accepted for publication

Acceptance rates for refereed publications are provided where they have been available.

a. Refereed journal articles

The following articles have been published in peer-reviewed journals. Publications in the *Journal of Computing Sciences in Colleges* were also presented at the annual Midwest regional meeting.

1. Petra Zimmermann, Lynne Stallings, Rebecca Pierce, and David L. Largent. Classroom interaction redefined: Multidisciplinary perspectives on moving beyond traditional classroom spaces to promote student engagement. In *Journal of Learning Spaces*, 7(1). ISSN 21586195. University of North Carolina at Greensboro, Greensboro, NC, 17 pages. libjournal.uncg.edu/jls/article/view/1601. Equal effort from all authors. (2018)

This collaborative journal article grew out of our 2013 Lilly International Conference on College Teaching poster presentation, and describes our experiences teaching in an interactive learning space, providing both our observations, as well as student attitudinal data.

The following items were evaluated for my promotion to Associate Lecturer.

1. David L. Largent. Measuring and understanding team development by capturing self-assessed enthusiasm and skill levels. In *ACM Transactions on Computing Education*, 16(2), article 6. ACM, New York, NY, USA, 27 pages. [dx.doi.org/10.1145/2791394](https://doi.org/10.1145/2791394). Acceptance rate: 27.5%. (2016)
2. David L. Largent. Flipping a large CS0 course: An experience report about exploring the use of video, clickers and active learning. In *The Journal of Computing Sciences in Colleges, papers of the CCSC: Midwest 2013 conference* (CCSC:MW 2013). (Findlay, OH, September 20-21) Consortium for Computing Sciences in Colleges, Monroe. LA, USA, 84-91. dl.acm.org/citation.cfm?id=2527164. Acceptance rate: 69.2%. (2013)
3. David L. Largent. A tale of two courses: An experience report about student engagement related to the use of an electronic student response system and pre-lecture videos. In *The Journal of Computing Sciences in Colleges, papers of the CCSC: Midwest 2012 conference* (CCSC:MW 2012). (Charleston, IL, October 5-6) Consortium for Computing Sciences in Colleges, Monroe. LA, USA, 47-54. dl.acm.org/citation.cfm?id=2379712. Acceptance rate: 62.5%. (2012)

b. Refereed conference papers

The following papers were peer-reviewed for presentation, and subsequently published in the conference proceedings.

The following items were evaluated for my promotion to Associate Lecturer.

1. David L. Largent and Chris Lürer. “You mean we have to work together!?”: a study of the formation and interaction of programming teams in a college course setting. In *Proceedings of the Sixth international workshop on computing education research* (ICER '10). (Aarhus, Denmark, August 9-10) ACM, New York, NY, USA, 41-50. [doi.acm.org/10.1145/1839594.1839603](https://doi.org/10.1145/1839594.1839603). Effort: 80% Largent. Acceptance rate: 32%. (2010)
2. Carrie Arnold, Todd Fleming, David L. Largent, and Chris Lürer. DynaTable: a Wiki extension for structured data. In *Proceedings of the 5th International Symposium on Wikis and Open Collaboration* (WikiSym '09). (Orlando, FL, October 25-27) ACM, New York, NY, USA, Article 26, 2 pages. [doi.acm.org/10.1145/1641309.1641347](https://doi.org/10.1145/1641309.1641347). Equal effort from all authors. Acceptance rate: 36%. (2009)

The following items were presented and published prior to my appointment at Ball State University.

1. David L. Largent. 101 (more or less) moral things to do with HPSusan and the other MPE/iX predefined variables in the harem. In *Proceedings of the 19th Annual HP User Conference and Expo* (Interex '93). (San Francisco, CA, September 19-23) Interex, Sunnyvale, CA, USA, Paper 5021, 37 pages. (International) Accepted based on committee review of abstract. (1993)
2. David L. Largent. Tutorial: A beginner's guide to UDCs and JCWs: How to use them to your benefit (MPE XL edition). In *Tutorial Workbook of the 1992 INTEREX HP Users Conference* (Interex '92). (New Orleans, LA, August 23-27) Interex, Sunnyvale, CA, USA, Paper T315, 66 pages. (International) Accepted based on committee review of abstract. (1992)
3. David L. Largent. When is a RUG not something you walk on or beat? In *Proceedings of the 1991 INTEREX HP Users Conference* (Interex '91). (San Diego, CA, August 5-8) Interex, Sunnyvale, CA, USA, Paper 6102, 22 pages. (International) Accepted based on committee review of abstract. (1991)
4. David L. Largent. JCWs: An underutilized feature. In *Proceedings of the 1990 INTEREX HP Users Conference* (Interex '90). (Boston, MA, August 20-23) Interex, Sunnyvale, CA, USA, Paper 3074, 20 pages. (International) Accepted based on committee review of abstract. (1990)
5. David L. Largent. Using the HP 3000: What I wish I had checked into sooner. In *Proceedings of the 1989 INTEREX HP Users Conference* (Interex '89). (San Francisco, CA, September 11-14) Interex, Sunnyvale, CA, USA, Paper 4500, 6 pages. (International) Accepted based on committee review of abstract. (1989)
6. David L. Largent. Tutorial: A beginner's guide to UDCs and JCWs: How to use them to your benefit. In *Tutorial Workbook of the 1989 INTEREX HP Users Conference* (Interex '89). (San Francisco, CA, September 11-14) Interex, Sunnyvale, CA, USA. (International) Accepted based on committee review of abstract. (1989)
7. David L. Largent. A beginner's guide to UDCs and JCWs: How to use them to your benefit. In *Proceedings of the 1988 Conference of HP Business Computer Users* (Interex '88). (Orlando, FL, August 7-12) Interex, Sunnyvale, CA, USA. (International) Accepted based on committee review of abstract. (1988)

c. Refereed book chapters

The following book chapters were peer-reviewed for inclusion.

1. David L. Largent. To write dirty, you have to know what clean is. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with Critical Thinking: A step-by-step guide*. New Forums Press. Stillwater, OK. 70-72. ISBN: 978-1-58107-336-2. Acceptance rate: 84%. (2019)
2. David L. Largent. Finding relevancy in the news. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with Critical Thinking: A step-by-step guide*. New Forums Press. Stillwater, OK. 84-86. ISBN: 978-1-58107-336-2. Acceptance rate: 84%. (2019)
3. David L. Largent. Forcing students to make an informed choice. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with Critical Thinking: A step-by-step guide*. New Forums Press. Stillwater, OK. 99-101. ISBN: 978-1-58107-336-2. Acceptance rate: 84%. (2019)
4. Paul Gestwicki and David L. Largent. Improving course plans via standardized committee review. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with High Impact Practices: A step-by-step guide*. New Forums Press. Stillwater, OK. 13-14. ISBN: 978-1-58107-320-1. Equal effort from both authors. Acceptance rate: 70%. (2018)
5. David L. Largent. Team work does not have to be a bad thing. In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with High Impact Practices: A step-by-step guide*. New Forums Press. Stillwater, OK. 63-65. ISBN: 978-1-58107-320-1. Acceptance rate: 70%. (2018)
6. David L. Largent. Highlight your student's work: Art show (but not by artists)! In C. Sweet, H. Blythe, & R. Carpenter (Eds.), *It Works for Me with High Impact Practices: A step-by-step guide*. New Forums Press. Stillwater, OK. 132-134. ISBN: 978-1-58107-320-1. Acceptance rate: 70%. (2018)

The following items were evaluated for my promotion to Associate Lecturer.

1. David L. Largent. Try out your new pedagogy. Find out it works. Share it with the world. Hold on! Not so fast.... In H. Blythe, C. Sweet, & R. Carpenter (Eds.), *It Works for Me with SoTL: A step-by-step guide*. New Forums Press. Stillwater, OK. 58-60. ISBN: 978-1-58107-307-2. Acceptance rate: 50%. (2017)
2. Scott S. Hall, David L. Largent, and Mary Lou Vercellotti. Building institutional support for SoTL. In H. Blythe, C. Sweet, & R. Carpenter (Eds.), *It Works for Me with SoTL: A step-by-step guide*. New Forums Press. Stillwater, OK. 56-58. ISBN: 978-1-58107-307-2. Equal effort from all authors. Acceptance rate: 50%. (2017)
3. David L. Largent. A case study on Computer Science. In L. Santos Green, J. R. Banas, & R. Perkins (Eds.), *The flipped college classroom: Conceptualized and re-conceptualized*. Springer. New York, NY, 163-167. ISBN: 978-3-319-41853-7. Acceptance rate: 24%. (2017)
4. David L. Largent. Helping students identify a healthy learning environment. In H. Blythe, C. Sweet, & R. Carpenter (Eds.), *It Works for Me, Metacognitively: Shared Tips for Effective Teaching*. New Forums Press. Stillwater, OK, 97-98. ISBN: 978-1-58107-293-8. Acceptance rate: 45%. (2016)
5. David L. Largent. Asking novice computer programmers to reflect on their experience writing code. In H. Blythe, C. Sweet, & R. Carpenter (Eds.), *It Works for Me, Metacognitively: Shared Tips for Effective Teaching*. New Forums Press. Stillwater, OK, 131-132. ISBN: 978-1-58107-293-8. Acceptance rate: 45%. (2016)
6. David L. Largent. Introducing Computer Science majors to (the lack of) diversity and inclusivity. In *Special report on Diversity and Inclusion in the College Classroom*. Madison, WI. Faculty Focus, Magna Publications, 29-30. www.facultyfocus.com/free-reports/diversity-and-inclusion-in-the-college-classroom/. Accepted based on editorial review of article. (2016).

2. Contract, grants, and funding for research/creative endeavors

Below is a comprehensive list of the grant and contract proposals I have submitted or been part of. I have divided the list along two axes: internal/external and funded/unfunded.

a. External

1. Funded proposals

- a. Karen Morris (University of Notre Dame). IndianaComputes! (in response to RFP 20-009: K-12 Teacher Professional Development in Computer Science). Indiana Department of Education, 2019. Total contract: \$578,608. Awarded. BSU portion is \$20,366.

BSU is participating in the development and administration of the *IndianaComputes!* program, which is a K-12 program to deliver state-wide, rigorous, evidence-based, comprehensive and cost-effective Computer Science (CS) professional development (PD) for teachers. The program initially ran for seventeen months (with development starting in February 2020 and training in July 2020), with 12 universities across the state participating. The main goal of the program is the coaching of K-12 teachers in content knowledge and pedagogy in computer science. A no-cost extension was awarded to extend the program through July 2022. The University of Notre Dame serves as the host institution for administration of the project. Karen Morris, AP-TIP IN Program Director at UND, serves as project director. I served as the BSU Site Coordinator.

- b. David L. Largent. Travel grant to attend SIGCSE '19: The 50th ACM Technical Symposium on Computer Science Education in Minneapolis, MN. Association of Computing Machinery, 2019. Grant awarded: \$825.

I was one of fifty first-time SIGCSE attendees who received this grant, which covered the symposium registration and some travel expenses.

The following item was evaluated for my promotion to Associate Lecturer.

- a. Gary Pavlechko (PI), David L. Largent, et al. Use of pre-lecture capture software (Panopto) in conjunction with audience response devices (i>clicker). Macmillan New Ventures, and Panopto, Inc., 2011. Grant awarded: \$15,000; my share: \$2,500.

I was one of eight co-investigators that explored the use of pre-lecture capture (using the Panopto system) to see what effect its use has on student retention, learning and engagement. The purpose of this study was to develop best-practice methodologies for integrating pre-lecture capture software and audience response devices to create greater and more effective student learning. Among other artifacts, the involved faculty produced a white paper detailing the study, their findings, and experiences. My decision to “flip” CS 110 was heavily influenced by my experiences during this study.

2. **Proposals under review**

None

3. **Proposals not funded**

- a. Katie M. Lawson (PI), Jocelyn Bolin (Senior Personnel), and David L. Largent (Senior Personnel). Daily Experiences of Underrepresented Minority Women Employed in Computer Science. National Science Foundation, 2019. Requested: \$453,846.

In alignment with Track II of the EHR Core Research grant (Broadening Participation in STEM), the goal of this project was to better understand the daily work and home demands and resources of underrepresented minority (URM) women employed in computer science (CS)—including work-life conflict and microaggressions—as predictors of their work engagement (CS interest, feelings of belonging, and performance/achievement). In addition, this project would examine organizational resources, such as work-life policies and supervisor support, that may help buffer the negative effects of work and home demands on CS work engagement.

- b. Krista Stith (PI), Carolyn Hitchens, David L. Largent, Kate Shively, and Rojin Vishkaie. Examining elementary students’ digital literacy: Integrating computational thinking through plugged and unplugged activities. National Science Foundation, 2019. Requested: \$1,016,099.

This three-year STEM+C project was to investigate 3rd to 5th grade students’ computational thinking (CT) concepts, practices, and perspectives in cross-disciplinary environments through the integration of learning activities with and without electronic platforms.

The following items were evaluated for my promotion to Associate Lecturer.

- a. David L. Largent (PI), Miki Hamstra. Application for seed funds for starting or extending computing summer camp: iCode Academy 2015 Computer Programming Camp. Georgia Tech College of Computing, 2015. Requested: \$4,990.
- b. Miki Hamstra (PI), David L. Largent. Decoding Computer Science: Increasing student and adult facilitator self-efficacy and interest in informal Computer Science learning environments. National Science Foundation, 2014. Requested: \$248,616.

b. Internal**4. Funded proposals**

- a. David L. Largent. Computer Science for Muncie (and Surrounding) Schools (CS4MS+). Provost Sustained Immersive Learning Course Grant, 2020. Three years from fall 2020 through 2023. Grant awarded: \$23,733.

Partnering with local schools, the project team researched, developed, curated, and delivered instructional resources which incorporated Computer Science (CS) into educational offerings, with a focus on the Indiana CS academic standards, and worked to advance teachers' understanding of CS and/or interacted with their students as a teaching assistant. Although CS student focused, an interdisciplinary project team was sought, with another project focus being to expose underrepresented minorities and females to CS.

- b. David L. Largent. Non-tenure line faculty travel funding to present at the ACM Technical Symposium on Computer Science Education (SIGCSE '20) in Portland, OR. Provost, 2020. Grant awarded: \$750.

This grant helped cover registration and travel expenses to present at the conference.

- c. David L. Largent. Computer Science for Middle Schoolers Plus (CS4MS+). Provost Immersive Learning Grant, 2019. Grant awarded: \$10,979.

Partnering with selected schools, our project team researched and curated instructional resources that better incorporate Computer Science (CS) and Computational Thinking (CT) into educational offerings, with a focus on the new Indiana CS academic standards. Partners can utilize compiled resources, and implement them, based on their needs. Another focus is to expose underrepresented minorities and females to CS and CT. Also served as assistants for the classroom teachers.

- d. David L. Largent. Contract faculty travel funding to present at the 2018 Lilly International Conference on College Teaching in Oxford, OH. Provost, 2018. Grant awarded: \$500.

This grant helped cover registration and travel expenses to present at the conference.

The following items were evaluated for my promotion to Associate Lecturer.

- a. David L. Largent. Computer Science for Middle Schoolers (CS4MS). Provost Immersive Learning Grant, 2018. Grant awarded: \$10,696.
- b. David L. Largent. Contract faculty travel funding to present at the Lilly International Conference on College Teaching. Provost, 2017. Grant awarded: \$500.
- c. David L. Largent. Computer Science for Middle Schoolers (CS4MS). Provost Immersive Learning Grant, 2017. Grant awarded: \$9,960.50.
- d. Lynne Stallings (PI), David L. Largent, and Carolyn Dowling. Developing SED (Science, Education, and Diversity) modules. Provost Immersive Learning Grant, 2016. Grant awarded: \$20,600.
- e. Gary Pavlechko (PI), David L. Largent, et al. Interactive learning space initiative teaching grant. Office of Educational Excellence, 2012-2013. Grant awarded: \$56,000; my share: \$2,000.
- f. David L. Largent. Junior faculty workshop incentive. Five-part *Grant Writing Essentials* workshop series. Sponsored Programs Office, 2012. Grant awarded: \$250.
- g. David L. Largent. Travel grant to present at the WikiSym 2009 conference. ASPIRE, 2009. Grant awarded: \$100.

5. Proposals not funded

The following item was evaluated for my promotion to Associate Lecturer.

- a. David L. Largent. Travel grant to present master's thesis at a conference. ASPIRE, 2009. Requested: \$500.

3. Papers presented at professional meetings (invited or refereed)

It is common in my discipline that conference papers are rigorously peer-reviewed and published, and so I have listed the majority of these in section B.1. The entries below are exceptions that were presented in other settings, and not published.

- a. Karen Morris, Michele Roberts, and David Largent (equal effort). Zombie Contagion, Business Teachers, and IndianaComputes! (Oh my!). Indiana Business Educators Association Conference. Online, November 21, 2020. Invited presentation.
- b. David L. Largent. Holding Students Responsible With Specifications Grading. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 19-21, 2020. *Conference was cancelled due to COVID-19, and thus this presentation was not delivered.* Accepted based on blind peer review of an extended abstract.
- c. David L. Largent. Holding Students Responsible With Specifications Grading. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 21-23, 2019. Accepted based on blind peer review of an extended abstract.
- d. David L. Largent. Holding Students Responsible With Specifications Grading: An Implementation Workshop. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 21-23, 2019. Accepted based on blind peer review of an extended abstract.
- e. David L. Largent. Another year of giving students choice, and then holding them responsible: Combining specifications grading with learner-centered teaching. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 15-18, 2018. Accepted based on blind peer review of an extended abstract.
- f. David L. Largent and Monica Appel (equal effort). Computer science unplugged K-8. Innovative Educator Conference, Muncie, Indiana, June 20, 2018. Invited presentation.
- g. Paul Buis (moderator), David L. Largent, and Susie Cunningham (panelists). Computer Science Panel. Innovative Educator Conference, Muncie, Indiana, June 20, 2018. Invited presentation.

The following items were evaluated for my promotion to Associate Lecturer.

- a. David L. Largent. Giving students choice, and then holding them responsible: Combining learner-centered teaching and specification grading. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 16-19, 2017. Accepted based on blind peer review of an extended abstract.
- b. David L. Largent. Increasing awareness of diversity and inclusivity issues in computer science (and other) courses. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 17-20, 2016. Accepted based on blind peer review of an extended abstract.
- c. David L. Largent. Towards changing the climate: How I got Computer Science majors to embrace diversity and inclusivity (It could work for your discipline too!). Diversity Research Symposium. Indiana University Southeast, New Albany, Indiana, October 21-22, 2016. Accepted based on peer review of an abstract.
- d. David L. Largent. Towards building community by embracing diversity (in Computer Science and all disciplines). Edward C. Moore Symposium on Excellence in Teaching. IUPUI, Indianapolis, Indiana, March 25, 2016. Poster accepted based on peer review of an abstract.
- e. David L. Largent. Towards building community in Computer Science (and other disciplines) by embracing diversity. Diversity Research Symposium. Indiana State University, Terre Haute, Indiana, October 23-24, 2015. Accepted based on peer review of an abstract.

- f. David L. Largent. Increasing diversity in Computer Science: a work in progress. Consortium of Computing Sciences in Colleges: Midwest (CCSC:MW) 2015. University of Evansville, Evansville, Indiana, October 2-3, 2015. Accepted based on peer review of an abstract.
- g. David L. Largent, Rebecca Pierce, Lynne Stallings, and Petra Zimmermann (equal effort). Classroom interaction redefined: A multidisciplinary perspective on moving beyond traditional classroom spaces to promote student engagement. Lilly International Conference on College Teaching. Miami University, Oxford, Ohio, November 22-24, 2013. Poster accepted based on blind peer review of an extended abstract. celt.miamioh.edu/lillycon/presenters.php?session=2209&year=2013.
- h. Joshua Gruver, Jerome Kotecki, David L. Largent, Angela Nickoli, Tyler Smith, Jennifer Young, Kathleen Jacobi-Karna, Gary Pavlechko, and Brian Pickerill (equal effort). Enhancing student engagement through the use of content capture and i>clicker. Clickers 2012. Chicago, Illinois, October 25-26, 2012. Accepted based on peer review of an abstract.
- i. Brian Pickerill, Jerome Kotecki, David L. Largent, Angela Nickoli, and Jennifer Young (equal effort). Effect of pre-lecture video and student response systems on learning outcomes and course success. 26th Annual Conference of the Indiana Association for Institutional Research. West Lafayette, Indiana, March 22-23, 2012. Accepted based on peer review of an abstract.

4. Professional/creative endeavor presentations (invited/sponsored)

The following item was evaluated for my promotion to Associate Lecturer.

- a. David L. Largent. Flipped and interactive: My experiences exploring the use of video, clickers, active learning and an interactive learning space. Dr. Catherine Cassara, COMM 6200 Communication Pedagogy course, Bowling Green State University. Bowling Green, Ohio, October 31, 2013. Invited presentation.

5. Development of exceptional curricular and course materials, such as textbooks, interactive systems, and videos

- a. **Instructional videos for HONR 296**
Self-recorded and edited two videos totaling thirty minutes in length for use with HONR 296 online learning. 2020-Present.
- b. **Instructional videos for CS 120**
Self-recorded and edited 41 videos totaling nearly six- and one-half hours in length for use with CS 120 flipped learning. See Implementer of instructional innovation in Section A above. 2013-Present.

The following items were evaluated for my promotion to Associate Lecturer.

- a. **Instructional videos for CS 110**
Self-recorded and edited eighty-seven videos totaling nearly fourteen hours in length for use with CS 110 flipped learning. See Implementer of instructional innovation in Section A above. 2012-2014.
- b. **Instructional videos for CS 104**
Self-recorded sixteen pre-lecture videos totaling nearly four hours in length for CS 104. See Implementer of instructional innovation in Section A above. 2011.

6. Audio, video, film, software, etc.

None

7. Non-refereed publications

I have grouped items into three categories: Master's thesis, white papers, and academic and trade magazines.

a. *Master's thesis*

The following item was evaluated for my promotion to Associate Lecturer.

1. David L. Largent. "You mean we have to work together!?!": *A study of the formation and interaction of programming teams in a college course setting*. Master's thesis. Ball State University, Muncie, IN USA. 125 pages. cardinalscholar.bsu.edu/handle/123456789/193667 (2010)

b. *White papers*

The following items were evaluated for my promotion to Associate Lecturer.

1. Joshua B. Gruver, Jerome E. Kotecki, David L. Largent, Angela M. Nickoli, Tyler A. Smith, Jennifer R. Young (equal effort). Assisted by Kathleen Jacobi-Karna, Gary M. Pavlechko, and Brian K. Pickerill. Enhancing student engagement through content capture software (Panopto) and an audience-response system (i>clicker). A Ball State University white paper. Ball State, Muncie, IN, USA. 17 pages. (2012)
2. David L. Largent. A pedagogical innovation for Introduction to Computer Science—CS 110. Submitted to the Office of Institutional Diversity after participating in the Developing Pedagogies to Enhance Excellence and Diversity seminar. Ball State, Muncie, Indiana. 3 pages. (2011)

c. *Academic and trade magazines*

1. David L. Largent. Kicking the paint bucket down the road: Checking in with our learners. *Faculty Focus: Higher Ed Teaching Strategies from Magna Publications (website)*. Madison, WI. Magna Publications. www.facultyfocus.com/articles/teaching-and-learning/checking-in-with-our-learners/ Accepted based on editorial review of article. (2019).

The following item was evaluated for my promotion to Associate Lecturer.

1. David L. Largent. Getting and staying agile. *XRDS: Crossroads, The ACM Magazine for Students* 17, 1 (September 2010). ACM, New York, NY, USA, 38-41. doi.acm.org/10.1145/1836543.1836555 Accepted based on editorial review of article. (2010)

The following items were published prior to my appointment at Ball State University.

1. David L. Largent. An introduction to the MPE/iX predefined variables. *INTERACT* 14, 5 (May 1994). Interex, Sunnyvale, CA, USA, 42-61. Accepted based on editorial review of article. (1994)
2. David L. Largent. Dashboard for Windows. *INTERACT* 13, 4 (April 1993). Interex, Sunnyvale, CA, USA, 118-125. Accepted based on editorial review of article. (1993)
3. David L. Largent. JCWs: An introduction. *INTERACT* 11, 4 (April 1991). Interex, Sunnyvale, CA, USA, 36-51. Accepted based on editorial review of article. (1991)
4. David L. Largent. What I wish I had checked into sooner. *INTERACT* 9, 5 (May 1989). Interex, Sunnyvale, CA, USA, 121-122. Accepted based on editorial review of article. (1989)
5. David L. Largent. A beginner's guide to UDCs and JCWs: How to use them to your benefit (Part 3). *INTERACT* 9, 5 (May 1989). Interex, Sunnyvale, CA, USA, 130-144. Accepted based on editorial review of article. (1989)
6. David L. Largent. A beginner's guide to UDCs and JCWs: How to use them to your benefit (Part 2). *INTERACT* 9, 4 (April 1989) Interex, Sunnyvale, CA, USA, 50-67. Accepted based on editorial review of article. (1989).

7. David L. Largent. A beginner's guide to UDCs and JCWs: How to use them to your benefit (Part 1). *INTERACT* 9, 3 (March 1989). Interex, Sunnyvale, CA, USA, 100-114. Accepted based on editorial review of article. (1989)
8. David L. Largent. Why should your regional users group affiliate with Interex? - Thoughts from a new Affiliate Council Steering Committee Member. *INTERRUPT* 7, 1 (January 1989). Interex, Sunnyvale, CA, USA, 24. Accepted based on editorial review of article. (1989)
9. David L. Largent. Function key labeling. *INTERACT* 8, 2 (February 1988). Interex, Sunnyvale, CA, USA, 15. Accepted based on editorial review of article. (1988)

8. Published abstracts (excluding those included in papers in B1 above)

- a. David L. Largent, Christian Roberson, and Carlo Sgro (equal effort). Transform your Computer Science course with specifications grading (a workshop). Abstract in *Proceedings of the 52nd ACM Technical Symposium on Computer Science Education (SIGCSE '21)*. ACM, New York, NY, USA, 1355. DOI: doi.org/10.1145/3408877.3432505 Peer reviewed. Acceptance rate: 83%. (2021)

This peer-reviewed abstract describes a three-hour conference workshop I co-presented at SIGCSE '21. We described what specifications grading is, provided examples, and then helped attendees start to adopt it into one of their courses. (Submissions were less than half the usual volume, thus the acceptance rate was much higher than normal.)

- b. David L. Largent, and Christian Roberson (equal effort). Transform your Computer Science course with specifications grading (a workshop). Abstract in *Proceedings of the 51st ACM Technical Symposium on Computer Science Education (SIGCSE '20)*. ACM, New York, NY, USA, 1396. DOI: doi.org/10.1145/3328778.3367002 Peer reviewed. Acceptance rate: 47%. (2020)

This peer-reviewed abstract describes a three-hour conference workshop I was supposed co-presented at SIGCSE '20. We would have described what specifications grading is, provided examples, and then helped attendees start to adopt it into one of their courses. *Unfortunately, the conference was cancelled before our presentation time arrived, due to COVID-19.* Afterwards, Christian and I recorded videos of much of what we would have presented and sent links to the videos to those who had registered for the workshop.

- c. James W. McGuffee, David L. Largent, and Christian Roberson (equal effort). Transform your Computer Science course with specifications grading (a workshop). Abstract in *Proceedings of the 50th ACM Technical Symposium on Computer Science Education (SIGCSE '19)*. ACM, New York, NY, USA, 1234-1234. DOI: doi.org/10.1145/3287324.3287528 Peer reviewed. Acceptance rate: 53%. (2019)

This peer-reviewed abstract describes a three-hour conference workshop I co-presented at SIGCSE '19. We described what specifications grading is, provided examples, and then helped attendees start to adopt it into one of their courses.

- d. David L. Largent. Using an art show in CS1 to spark interest in Computer Science. Abstract in *Proceedings of the 50th ACM Technical Symposium on Computer Science Education (SIGCSE '19)*. ACM, New York, NY, USA, 1281-1281. DOI: doi.org/10.1145/3287324.3293861 Peer reviewed. Acceptance rate: 63%. (2019)

This peer-reviewed abstract describes a poster I presented at SIGCSE '19. The poster described our CS 120 art show, and the effect it has on learners and judges.

- e. Jeff Kinne, and David L. Largent. The status of CS education in Indiana. Abstract in *The Journal of Computing Sciences in Colleges, papers of the CCSC: Midwest 2018 conference* (CCSC:MW 2018). (Muncie, IN, September 28-29) Consortium for Computing Sciences in Colleges, Monroe. LA, USA. dl.acm.org/citation.cfm?id=3280508. 70% Kinne/30% Largent. Peer reviewed. (2018)

This peer-reviewed abstract describes our presentation at the Work in Progress session at CCSC:MW 2018. We briefly discussed the status of CS K-12 education in Indiana, recent standards and legislation, and what we were doing to help school administrators and teachers to prepare.

The following item was evaluated for my promotion to Associate Lecturer.

- a. David L. Largent. My exploration of specifications grading in a discussion-based course. Abstract in *The Journal of Computing Sciences in Colleges, papers of the CCSC: Midwest 2017 conference* (CCSC:MW 2017). (Grand Rapids, MI, September 22-23) Consortium for Computing Sciences in Colleges, Monroe. LA, USA, 89. dl.acm.org/citation.cfm?id=3144623. Peer reviewed. (2017)

9. Sponsorship of student grants

None

10. Advanced study, additional accomplishments, and professional improvement

a. *Advanced study*

The following items were evaluated for my promotion to Associate Lecturer.

1. Faculty Learning Community on the Scholarship of Teaching and Learning (SoTL). Office of Educational Excellence. Met periodically during the semester to discuss SoTL issues and opportunities. Spring 2017.
2. Scholarship of Teaching and Learning (SoTL) Fellowship. Office of Educational Excellence. An intensive week-long workshop during May 2013 that introduced the basics of SoTL and facilitated my development of a research proposal implemented during the next year. May 2013-May 2014.

b. *Memberships*

I hold membership and am active (in varying degrees) in the following organizations:

1. Computer Science Teachers Association (CSTA). International. 2014-Present.
2. Consortium for Computing Sciences in Colleges (CCSC). Regional/national. 2010-Present.
3. IEEE Computer Society. International. 2009-Present.
4. Association of Computing Machinery (ACM). Senior member. Additional memberships in the Special Interest Group on Computer Science Education (SIGCSE), and Committee on Women (ACM-W). International. 2008-Present.

The following memberships transpired prior to my appointment at Ball State University.

1. International Association of Hewlett-Packard Computing Professionals (Interex). International. 1983-2005.
2. Indiana Regional Users Group for Hewlett-Packard Computer Users (INRUG). State. 1980-2007.

c. Ball State workshops and seminars

To further my knowledge, I have participated in over one hundred thirty Ball State-provided workshops and seminars on a variety of topics since 2008. Table 8 lists scholarship-related activities from the last year (most recent activity listed first). A complete list is available upon request.

Course Name	Sponsor	Date Completed	Duration
None in last year			

Table 8: Ball State workshops and seminars (related to scholarship)

d. Conference participation

I have attended the following conferences (many of them repeatedly) for professional development purposes. Often, I also had other obligations such as presenting a paper or serving on organizing committees. The list is organized alphabetically by the sponsoring organization.

1. Association of Computing Machinery (ACM)
 - a. International Workshop on Computing Education Research (ICER); 2010
 - b. International Symposium on Wikis and Open Collaboration (WikiSym); 2009
 - c. Technical Symposium on Computer Science Education (SIGCSE); 2010, 2019, 2020, 2021
2. Ball State University
 - a. Learning Technologies for Innovation; 2013, 2014
3. Ball State University, Indiana State University, and Indiana University Southeast
 - a. Diversity Research Symposium; 2014, 2015, 2016
4. Consortium for Computing Sciences in Colleges (CCSC): Midwest
 - a. CCSC:MW Conference; 2010 through Present, except 2019
5. Golden Key International Honour Society
 - a. International Summit; 2012, 2014, 2017
 - b. Leadership Summit; 2018, 2019
 - c. Regional Summit; 2013, 2014, 2015
6. Indiana University/Purdue University--Indianapolis
 - a. Edward C. Moore Symposium on Excellence in Teaching; 2015, 2016
 - b. Writing Pathways to Disciplinary Learning: A Writing Across the Curriculum Conference; 2016
7. Indiana University, University of Indianapolis, and Indiana Department of Education
 - a. Flipping the Switch: Integrating Computer Science Across Indiana's K-8 Curriculum; 2017, 2019
8. Innovate WithIN
 - a. Innovative Educator Conference; 2018
9. Macmillan Learning
 - a. Clickers Conference; 2012
10. Miami University
 - a. Lilly International Conference on Collage Teaching; 2013, 2016, 2017, 2018, 2019
11. Purdue Polytechnic Institute
 - a. Undergraduate Learning Innovation Summit; 2019

11. Other

a. Certifications (scholarship-related)

1. Collaborative Institutional Training Initiative (CITI)

- a. Responsible Conduct of Research for Engineers/Technology Sciences. 2018-Present: Expires: N/A. International.
- b. Social & Behavioral Research—Basic/refresher curriculum. 2010-2019. Expired: 09/05/2019 (currently renewing). International.

b. Blog

Since October 2017, I have maintained a blog of reflective practice at davidlargent.blogspot.com/. It contains 33 posts as of June 16, 2021. The blog covers a range of topics, including writing about my teaching experiences, technical and research findings, and my transition from working in industry to teaching in higher education. As of June 16, 2021, my blog has received over 7,300 page views. Of the top five most-viewed posts, four deal with my scholarship and one with my transition to teaching. The top five posts are:

1. Ten years after having a dark storm cloud arrive on my scene. October 2017; 520 views.
2. Breaking up discussions: My 2019 redesign of CS 239. July 2019; 285 views.
3. 1,623 e-mail messages and 44 days later.... August 2019; 264 views.
4. Eat that elephant! October 2017; 247 views.
5. Of plants and students: a community conversation in the stairway, February 8, 2020; 229 views.

c. Twitter

Since February 2020, I have maintained a Twitter account of (mostly) reflective practice which can be found at twitter.com/ProflLargent. As of June 16, 2021, I have sent 588 tweets, and have attracted 123 followers. During the last 91 days, I have earned over 77,000 views, which averages 848 per day, with an average engagement rate of 2.0%, including 456 “likes.”

d. Work submitted, but not yet accepted for publication

None

e. Work in progress

1. Impact of a public art show

Ongoing study to explore the impact a public art show has on the learners in the CS 120 course. Also exploring the impact it has on judges of the art show. Data collection ongoing. June 2018-Present.

2. Specifications Grading

Ongoing study to explore the use of Specifications Grading in Computer Science courses to determine its efficacy, as compared to traditional points-based grading. Additionally, learners’ perception of Specifications Grading, as compared to traditional points-based grading is being sought. Data collection ongoing. June 2018-Present.

The following items were evaluated for my promotion to Associate Lecturer.

1. Combined effectiveness and characteristics of the flipped classroom pedagogy and an ILS classroom

Ongoing study to determine the combined effectiveness and characteristics of the flipped classroom pedagogy and an ILS classroom when applied to a Computer Science course. Seeks to answer questions such as: As a result of CS 120 being taught in an ILS classroom with flipped pedagogy, are there measurable gains in learning outcomes, learner engagement, learner satisfaction, learner confidence, etc. as compared to a traditional classroom and pedagogy? Are learners more likely to complete CS 121 or earn a higher course grade for CS 121 because they took CS 120 when it was taught in an ILS classroom with flipped pedagogy? Additionally, this study seeks to determine if there are differences between computer science majors and non-majors enrolled in CS 120, and seeks to answer questions such as: Over the course of a semester, are there measurable gains in learning outcomes, learner engagement, learner satisfaction, learner confidence, etc. that are different between CS majors and non-majors who are enrolled in CS 120? Data collection complete; awaiting analysis. December 2013-Present.

2. Effectiveness and characteristics of flipped classroom pedagogy when applied to a large computer science class

Ongoing study to determine the effectiveness and characteristics of flipped classroom pedagogy when applied to a large computer science class. Seeks to answer questions such as: What are learners' perceptions of the effectiveness of flipping? Do learners like a flipped class more than non-flipped? What aspects of a flipped classroom help learners learn better? Are there measurable gains in learning outcomes, learner engagement, learner satisfaction, etc.? Data collection complete; awaiting analysis. August 2012-Present.

C. EVIDENCE OF PROFESSIONAL SERVICE

As evidenced below, I have actively sought ways to provide service to my department, college, university, and community, in addition to teaching full time, even though there is no expectation that I do so as a lecturer. I seek out and enjoy service opportunities that allow me to apply my knowledge and experience in computing, the science of teaching and learning, diversity, inclusivity, and equity, and small group formation and interaction. Providing this service has been both fulfilling and informative. By sharing my knowledge and experience with others, both inside and outside of the university, I have been able to help others, as well as strengthen my own understanding of that which I have shared. I have detailed my varied service activities below, which include presenting a variety of workshops, serving as an advisor to an academic honorary and other student organizations, serving on conference committees, and serving on a variety of committees and task forces.

My service to the department, college, and university has primarily taken the form of serving on curriculum committees. Within the department, I have served on both the Service and Foundations Curricular Committees and served as chair of the committee that developed the department's non-tenure line faculty promotion policy. At the university level, I served on the Academic Planning Taskforce which made academic-related recommendations concerning how the university should address the myriad of issues related to COVID-19. I also served on the committee that developed the proposed Computer Science Teaching major, and as a summer academic advisor for incoming freshman many summers. To promote the department, I initiated the CS 120 "Art Show" and have continued to serve as the coordinator each semester. Serving as the chapter advisor for the Ball State chapter of Golden Key International Honour Society has provided a way to support and interact with learners in a different way.

I have been active for many years with the conference committee for the Consortium for Computing Sciences in Colleges Midwest Region. Our annual conferences bring together faculty and students primarily from

Indiana, Ohio, Michigan, Illinois, and Kentucky to discuss current topics in computing and computing education. During my time working in industry, I was active in both a regional and international Hewlett Packard computer users' group, serving on a variety of committees and boards. I am a regular reviewer for several conferences in my area of expertise.

Starting the summer of 2019, I am serving as a member of the *IndianaComputes!* executive committee. *IndianaComputes!* is a K-12 program to deliver state-wide, rigorous, evidence-based, comprehensive, and cost-effective Computer Science Professional Development for teachers. The main goal of the program is the coaching of K-12 teachers in content knowledge and pedagogy in computer science.

My experiences with immersive learning have provided a form of professional service, as well. These projects have been undertaken with local schools as community partners. This has given me and the learners in the immersive learning course the opportunity to share our knowledge in computing. Not only are we positively impacting the community, but the learners bring these experiences and community connections forward into their own careers as well, which I hope builds in them a sense of professional service obligation and satisfaction.

1. Service to the academic community

a. *Committee work: department, college, university*

1. Department

My service to the department lasting more than one year is summarized in Table 9. The dashed line separates those semesters before and after my consideration for promotion to Associate Lecturer. The Service Curriculum, and Foundations Curriculum committees are standing committees of the department and are not described further. Other departmental service is described below.

Academic Year	Service Curriculum Committee	Foundations Curriculum Committee	CS 120 "Art Show"	CCSC:MW Student Involvement	Social Media Committee
2020-2021		S	C	C	C
2019-2020		S	C	C	
2018-2019		S	C		
2017-2018		S	C	C	
2016-2017		S	C	C	
2015-2016		S	C	C	
2014-2015	S		C	C	
2013-2014	S		C		
2012-2013	S			C	
2011-2012	M (Fall)/S (Spring)				
2010-2011	M				

Table 9: Service in departmental committees as chair/coordinator (C), secretary (S), or member (M)

- a. **Immersive Learning faculty Awards.** Reviewer of submissions. 2021.
- b. **Welcome Back department video.** Compiled and edited video clips from department faculty to produce a welcome (back) video for CS majors. 2020.
- c. **Department ad hoc Social Media Committee:** Chair. Committee's task is to manage the department's social media accounts (LinkedIn, Facebook, Twitter, Instagram). May 2020-Present.
- d. **Department ad hoc Office Hour Policy Committee:** Member. Committee's task was to draft an office hour policy for the department's adoption. September-November 2018.

- e. **Department ad hoc Contract Faculty Committee:** Chair. Committee's task was to draft a Contract Faculty Promotion Document for the department's adoption. I had primary responsibility for drafting the document, with guidance from the committee. April-December 2017.
- f. **CS 120 digital media repository project:** I worked with University Libraries (Archives and Special Collections) staff to establish an online digital media repository that provides open and free access to submitted student work from the CS 120 Art Show project. This repository provides public recognition for the learners' work and promotes what the department has to offer. All learners in CS 120 are encouraged to submit their Art Show work for archiving. dmr.bsu.edu/digital/collection/CSStdArt November 2016-Present.
- g. **Performed peer review of department faculty**
 - 1. Jason Buie, 2018
 - 2. Paul Gestwicki, 2016
 - 3. Nicolas Renet, 2015
 - 4. Josh Meek, 2013

The following items were evaluated for my promotion to Associate Lecturer.

- a. **CS 120 All-section Art Show winner posters:** Proposed and gained approval from the department chair to create and post printed panels that contain the CS 120 All-section Art Show winners from each semester. I post the two most recent semesters' panels in a display case in a first-floor hallway of the Robert Bell Building. Older panels are framed and hanging in a Computer Science classroom in Robert Bell Building. I create and post a new panel after the selection of each semester's winners. The display of these panels provides local public recognition for the learners' work, and locally promotes what the department has to offer. May 2016-Present.
- b. **CS 120 Art Show Coordinator:** Each semester, I serve as the coordinator of the CS 120 All-section Art Show. See the Initiator of new programs/courses section of Part II, Section 2 for more details. Fall 2013-Present.
- c. **CCSC:MW Student Involvement:** Recruited, made travel arrangements, or transported students to compete in a regional student programming competition which was part of the Consortium of Computing Sciences in Colleges (CCSC) Midwest Conference. Students also attended the conference before the competition, which included research presentations, a keynote and banquet address, and workshops. Additionally, they participated in the Student Showcase and Research Poster competition. Online, 2020; Benedictine University, 2019; Calvin College, 2017; Taylor University, 2016; University of Evansville, 2015; Olivet Nazarene University, 2014; Eastern Illinois University, 2012. Fall 2012-Present.

2. College and university

My service to the college and university lasting more than one year is summarized in Table 10. The dashed line separates those semesters before and after my consideration for promotion to Associate Lecturer. Most of the committees are standing committees of either the college, or the university, and are not described further. Other college and university service is described below.

- a. **Academic Planning Taskforce:** Served as the College of Sciences and Humanities representative on the taskforce which made academic-related recommendations concerning how the university should address the myriad of issues and opportunities related to COVID-19. Summer 2020-Spring 2021.
- b. **Disability Services Faculty Mentor:** Serving as a mentor to assigned students who are registered with the Office of Disability Services. Fall 2019-Present.
- c. **College of Sciences and Humanities Innovative Teaching Task Force:** Appointed by the Dean. Member. Fall 2018-Spring 2019.

- d. **Computer Science Teacher Education Major:** Serving as the “point person” for development of the major. Appointed by the CS department chair. Working with the CS Chair, other CS faculty, and individuals from the Dean’s offices of the College of Sciences and Humanities, and the Teachers College. Fall 2017-Present.
- e. **Medallion Scholar Faculty Review Committee:** Student: Corey Halbert. Member. Summer 2017-Spring 2019.
- f. **Performed peer review of Honors College faculty**
 1. James Olesen, spring 2021
 2. Robin Scott-Snow, fall 2020

The following items were evaluated for my promotion to Associate Lecturer.

- a. **SoTL Knowledge Group:** SoTL fellowship evolved into a knowledge group Spring 2016. (Currently inactive.) Member. Webmaster since summer 2016. Spring 2015-Present.
- b. **Robert Bell Interactive Learning Space Classroom Advisory Group:** For the redesign of classroom space in the Robert Bell Building. Member. Fall 2014-Spring 2015.
- c. **Information Technology Committee of the University Council:** Graduate student member. Fall 2009-Spring 2010.

Academic Year	College	University					
	Teacher Education Committee	Disability Services Faculty Mentor	Commencement Faculty Marshal	CS Teacher Education Major	Medallion Scholar Faculty Review	Faculty Council Academic Technology	SOTL Knowledge Group
2020-2021		M	M	M			M
2019-2020	M	M	M	M			M
2018-2019	M		M	M	M	M	M
2017-2018			M	M	M	M	M
2016-2017							M
2015-2016							M
2014-2015							M (Spring)
2013-2014							
2012-2013							
2011-2012							
2010-2011							

Table 10: Service in college and university committees as chair/coordinator (C), secretary (S), or member (M)

b. Special lectures, interdepartmental contributions

1. **Panel Discussion of Syllabi Changes that Made a Difference in Fall 2020:** Provost Office and Division of Online and Strategic Learning. Panelist, February 12, 2021.
2. **Boy Scout Troop 22:** Digital images, art, and programmatic altering of images. December 14, 2020. (Muncie, IN)
3. **College of Sciences and Humanities Non-tenure Line Faculty Promotion Panel Discussion:** Answered questions from non-tenure line faculty about the preparation and review of materials for promotion. Invited presentation. April 26, 2019.
4. **Ball State Provost Faculty Summit, Iron Chef Pedagogy Competition:** Participated in a competition and demonstration of pedagogical creativity. April 12, 2019.
5. **Ball State Scholarship of Teaching and Learning (SoTL) Studio:** Discussed my experiences turning teaching into scholarship. Invited presentation. January 22, 2019.

6. **Golden Key International Hounor Society Leadership Summit:** Forming, Storming, and Norming, OH MY! A look at Tuckman's stages of small group development. Invited presentation. February 16, 2019 (Chicago, IL) and March 17, 2018 (Jersey City, NJ).
7. **Computer Science Department Faculty Colloquia Series:** What good is an internship, and why should I do one? I organized panel of three student presenters: Rachel Harvey, Anna Hawkins, and Nicole Porten. Invited presentation. January 31, 2018.

The following items were evaluated for my promotion to Associate Lecturer.

1. **Ball State Integrated Learning Institute (iLearn) What's all the buzz about? Workshop series:** Learning the ins and outs of SPECS grading. Invited presentation. October 12, 2017.
2. **Computer Science Department Faculty Colloquia Series:** Student attitudes toward diversity and inclusion in Computer Science courses: A presentation by the spring 2016 CS 239 students. Invited presentation. April 27, 2016.
3. **Ball State All Campus Leadership Conference:** Forming, Storming and Norming, OH MY! Invited presentation. February 6, 2016, February 7, 2015, and February 8, 2014.
4. **Computer Science Department Faculty Colloquia Series:** Towards increasing diversity and decreasing disparities in expectations in Computer Science courses: A presentation by the 2014-2015 CS 239 students. Invited presentation. April 22, 2015.
5. **Golden Key International Hounor Society Regional Summit:** Forming, Storming, and Norming, OH MY! A look at Tuckman's stages of small group development. Invited presentation. March 13-15, 2015 (Chicago, IL) and March 14-16, 2014 (St. Louis, MO).
6. **Computer Science Department Faculty Colloquia Series:** Engaging students with a flipped classroom. Invited presentation. October 8, 2014.
7. **Ball State Integrated Learning Institute (iLearn) Faculty Technology Studio:** Engaging students with a flipped classroom. Invited presentation. September 9, 2014.
8. **Faculty Development Videoconference for Ferris State University:** Use of MediaScape in ILS classroom and Ball State faculty development in support thereof. Organized by Ball State Office of Educational Excellence. Invited panelist. August 7, 2014.
9. **Ball State Office of Educational Excellence Interactive Learning Space Faculty Development Week:** The flipped classroom. Invited presentation. Presenters: Marsha Burden, Kimberly Hurley, Fred Kitchens, and David L. Largent (equal effort). May 6-10, 2013.
10. **Computer Science Department Faculty Colloquia Series:** Topics included iClicker use, flipped classroom pedagogy, and new Blackboard features. Invited presentation. March 20, 2013.
11. **Ball State All Campus Leadership Conference:** A day in the life of your group. What can you expect next?: A look at Tuckman's stages of small group development. Invited presentation. February 18, 2012.
12. **Ball State Information Technology Professional Development Workshop:** Case in Point: Preparing test question files for loading into Blackboard. Invited presentation. September 14, 2011.
13. **Golden Key International Hounor Society Regional Summit:** So your group's just formed. Now what can you expect? Invited presentation. April 8-10, 2011 (Dells, Wisconsin).
14. **Golden Key International Hounor Society Regional Summit:** Chapter member participation points: How we track and award them. Invited presentation. April 8-10, 2011 (Dells, Wisconsin).
15. **Ball State All Campus Leadership Conference:** So your group's just formed. Now what can you expect?: A look at Tuckman's stages of small group development. Invited presentation. February 12, 2011.

c. Administrative and counseling/advising duties

The following items were evaluated for my promotion to Associate Lecturer.

1. **Ball State summer academic advisor for incoming freshmen:** Academic advisor. Summers, 2016-2019.
2. **Verified CS major's eligibility to enroll in the major capstone course:** Spring 2015-Spring 2016.
3. **American Cancer Society, Colleges Against Cancer, Ball State chapter:** Faculty advisor. Main annual event was Relay for Life. Fall 2014-Fall 2016.
4. **Department academic advisor:** Fall 2014-Spring 2016.
5. **Golden Key International Honour Society (GKIHS), Ball State chapter.** 2008-Present.
 - a. Faculty advisor. 2010-Present.
 - b. International Summit: Attended (2017, 2014, and 2012) and facilitated student attendance (2017, 2016, 2014, and 2012).
 - c. Leadership Summit: Attended and facilitated student attendance. 2018-2019.
 - d. Regional Summit: Attended and facilitated student attendance. 2011-Spring 2015.
 - e. Webmaster. Fall 2008-Spring 2010.

2. Service-related grants

Below is a comprehensive list of the grant proposals I have submitted. I have divided the list along two axes: internal/external and funded/unfunded.

a. External**1. Funded proposals**

The following items were evaluated for my promotion to Associate Lecturer.

- a. David L. Largent. Travel grant to attend the International Summit in Las Vegas, NV. Golden Key International Honour Society (GKIHS). 2017. Grant awarded: \$500.
- b. David L. Largent. Travel grant to attend the International Summit in Australia. Golden Key International Honour Society (GKIHS). I declined the funding because of a scheduling conflict. 2015. Grant awarded: \$1,750.
- c. David L. Largent. Travel grant to attend the International Summit in Boston, MA. Golden Key International Honour Society (GKIHS). 2014. Grant awarded: \$500.

2. Proposals not funded

None

b. Internal**1. Funded proposals**

The following items were evaluated for my promotion to Associate Lecturer.

- a. David L. Largent. Travel grant for student participation in CCSC:MW. Student Curricular Activities Fund. 2014. Grant awarded \$200.
- b. David L. Largent. Travel grant for student participation in CCSC:MW. Student Curricular Activities Fund. 2012. Grant awarded \$500.

2. Proposals not funded

The following items were evaluated for my promotion to Associate Lecturer.

- a. David L. Largent. Travel grant for student participation in CCSC:MW. Student Curricular Activities Fund. 2017. Requested \$606.50.
- b. David L. Largent. Travel grant for student participation in CCSC:MW. Student Curricular Activities Fund. 2016. Requested: \$325.

3. Editorships, review panels

a. Editor of newsletter

The following service occurred prior to my appointment at Ball State University.

1. Indiana Regional Users Group for Hewlett-Packard Computer Users (INRUG): Newsletter editor. 1997-2004 and 1989-1993.

b. Reviewer of journal and conference submissions

1. Indiana Louis Stokes Alliances for Minority Participation (IN-LSAMP) research conference. 2020.
2. Grace Hopper Celebration faculty scholarship reviewer. 2020.
3. Diversity Research Symposium. 2017.
4. ACM Transactions on Computing Education (TOCE). 2016 and 2021.
5. Innovation and Technology in Computer Science Education (ITiCSE) conference. 2012-Present.
6. Association for Computing Machinery Special Interest Group on Computer Science Education (SIGCSE) technical symposium. 2010-Present.
7. Consortium for Computing Sciences in Colleges: Midwest (CCSC:MW) conference, proceedings of which are published in *Journal of Computing Sciences in Colleges*. 2010-Present.

c. Reviewer of books

The following items were evaluated for my promotion to Associate Lecturer.

1. *Your Office (first edition)*. Amy S. Kinser, et al. Reviewed pre-publication of book. Also conducted a class test of a laboratory module from the pre-publication edition of the book. 2011.
2. *Using Information Technology: Complete Edition (ninth edition)*. Brian Williams and Stacey Sawyer. Reviewed entire book in preparation for the tenth edition. 2011.

4. Offices held in local, regional, state, national, and international professional organizations

- a. **IndianaComputes!:** Executive committee member. 2019-Present.
- b. **Indiana Computer Science Higher Education Advisory Board for K-12 Computer Science:** Member. 2018-Present.
- c. **Innovative Educator Conference:** Conference planning committee member. 2018.
- d. **Diversity Research Symposium (DRS):** Symposium planning committee member. 2016-2017.
- e. **Consortium for Computing Sciences in Colleges: Midwest (CCSC:MW) conference:** 2010-Present.
 1. Conference Site Chair: 2017-2018
 2. Conference committee Past Chair: 2017-2018

3. Conference committee Chair: 2015-2017
4. Conference committee Vice Chair: 2014-2015
5. Co-chair for the Student Showcase: 2010-2015
6. Chair for Publicity: 2010-Present
7. Conference committee member: 2010-Present

The following service occurred prior to my appointment at Ball State University.

- a. **International Association of Hewlett-Packard Computing Professionals (Interex):** 1983-2005.
 1. Board of Directors: member (Secretary, and Policy and Procedure Chair): 1994-1996
 2. Various committees: 1983-1997
- b. **Indiana Regional Users Group for Hewlett-Packard Computer Users (INRUG):** President, vice president, conference speaker chair, and newsletter editor. 1980-2007.

5. Other service to the profession/professional organizations

None

6. Service to the local, state, regional, national, and international communities

- a. **Ball State Daily News:** quoted in article. Ball State experiences campus-wide internet outage to block potential intrusion. 2021. www.ballstatedaily.com/article/2021/02/news-ball-state-experiences-campus-wide-internet-outage-to-block-potential-intrusion
- b. **Ball State Daily News:** quoted in article. Ball State students, faculty reflect on switch to virtual meetings. 2020. www.ballstatedaily.com/article/2020/04/news-ball-state-students-faculty-reflect-on-switch-to-virtual-meetings.
- c. **Computer Science for Middle Schoolers Plus (CS4MS+)** student organization: Faculty Advisor. (Currently inactive) 2019-Present.
- d. **Adventure Camp (at Camp Kikthawenund), Crossroads of America Council, Boy Scouts of America:** Consultant. Provided camp-opening installation and on-call support of computer systems and networks in their office and trading post. During July 2017, I collaborated with Paul Buis to upgrade their networking capabilities and functionality. Frankton, IN. 2016-2018.
- e. **East Central Indiana Regional Science Fair:** Judge. Muncie, IN. 2012-Present (except 2019).

The following items were evaluated for my promotion to Associate Lecturer.

- a. **Colleges Against Cancer (Ball State Chapter) Relay for Life:** Organized a team of Ball State instructors to participate in this fundraiser for American Cancer Society. 2012-2015.
- b. **Ball State Freshman Common Reader Discussion Group:** Group discussion leader. 2011-2016.
- c. **Webelos Adventure Camp (at Camp Kikthawenund), Crossroads of America Council, Boy Scouts of America:** Business Manager. Expanded the trading post's usage of computers and enhanced their point-of-sale database by developing new queries and reports. Installed a wireless repeater to extend their wireless network range. Frankton, IN. 2011-2012 (summers).
- d. **Ball State Friendship Family program** (through the Ball State Rinker Center for International Programs): Provided support to an assigned international student. 2010-2017.
- e. **Krietenstein Scout Camp, Crossroads of America Council, Boy Scouts of America:** Camp Director. Introduced and implemented the use of Google Docs, and generally increased the camp staff's use of computers. Center Point, IN. 2010.

The following service occurred prior to my appointment at Ball State University.

- a. **Ransburg Scout Reservation, Crossroads of America Council, Boy Scouts of America:** Ridge Commissioner and Assistant Camp Commissioner. Assisted with the computerization and automation of many of the management's previously manual processes. Bloomington, IN. 2008-2009 (summers).
- b. **Golden Eagle District, Crossroads of America Council, Boy Scouts of America:** Computers Merit Badge Counselor. Muncie, IN. 1996-Present.
- c. **Union Grove Church of the Brethren:** Treasurer. Computerized what had been previously a manual process. Muncie, IN. 1994-2006.
- d. **Ivy Tech Community College Computer Programming Technology Program Advisory Committee** (Muncie campus): Member. Muncie, IN. 1983-1997.

7. Advanced study, additional accomplishments, and professional improvement

The following item was evaluated for my promotion to Associate Lecturer.

- a. **How to Run a Sustainable Computing Summer Camp - Logistics workshop:** led by Barbara Ericson, Director of Computing Outreach, Institute for Computing Education (ICE), Georgia Tech College of Computing. (6 hours). December 2014.

8. Ball State workshops and seminars

To further my knowledge, I have participated in over one hundred thirty Ball State-provided workshops and seminars on a variety of topics since 2008. Table 11 lists service-related and miscellaneous activities from the last year (most recent activity listed first). A complete list is available upon request.

Course Name	Sponsor	Date Completed	Duration
None in last year			

Table 11: Ball State workshops and seminars (related to service)

D. ADDITIONAL ACCOMPLISHMENTS

1. Recognitions

The following items were evaluated for my promotion to Associate Lecturer.

- a. **Association for Computing Machinery (ACM):** Recognized as a Senior Member. The Senior Member Grade recognizes those ACM members with at least ten years of professional experience and five years of continuous Professional Membership in ACM who have demonstrated performance through technical leadership, and technical or professional contributions. 2017.
awards.acm.org/senior-members
- b. **ACM Computing Reviews 21st Annual Best of Computing: Notable Books and Articles list:** [Measuring and understanding team development by capturing self-assessed enthusiasm and skill levels.](#) ACM Transactions on Computing Education 16, 2 (Mar. 2016), Article No. 6 was included in the "software" category of the list. July 2017.
www.computingreviews.com/recommend/bestof/notableitems.cfm?bestYear=2016.
- c. **National Residence Hall Honorary, Ruth Peters (Ball State) Chapter:** Independently nominated by two students for my "dedication to academic excellence and student success." April 2017.

These recognitions occurred prior to my appointment at Ball State University.

- a. **Ball State University, Graduate School:** Dean's Citation for Academic Excellence (4.0 GPA at graduation). 2010.
- b. **Golden Key International Honour Society:** Inducted. 2008.

2. Awards

- a. **Immersive Learning Faculty Award** for CS4MS+. The purpose of this award is to recognize faculty for demonstrating excellence in the creation, mentoring, and execution of immersive learning projects. Full announcement video may be viewed at youtu.be/e4EjH7NrVWY. Announcement of my award is here: youtu.be/e4EjH7NrVWY?t=262. 2020.

The following awards were received prior to my appointment at Ball State University.

- a. **International Association of Hewlett-Packard Computing Professionals (Interex):** Distinguished Service Award. 1992.
- b. **International Association of Hewlett-Packard Computing Professionals (Interex):** Golden Scroll Award (best regional users group newsletter). 1993, 1992, 1990, and 1989.
- c. **International Association of Hewlett-Packard Computing Professionals (Interex):** Best Paper Award (conference paper). 1990 and 1988.

Part III. **APPENDIX**

A. **LEARNER EVALUATION SUMMARIES BY COURSE**

1. **Overview**

The tables in this appendix present summaries of my learner evaluation summaries for each course I have taught during the last five years. Data for the four most recently taught sections of each course, along with the overall averages for the course are provided. Data for prior courses are available upon request.

Separate averages are provided for the university, department, and college questions. Both means and interpolated medians¹¹ are provided. In these tables, the darkest green is highlighting ratings of 4.75 or above, while the darkest red highlights ratings of 3.0 or below. Ratings highlighted in yellow are around 3.875, with other shades falling above or below that value.

The following data are excluded from these tables, due to there being no evaluations for them: online courses (prior to summer 2020), individual independent study, honors projects, and other courses with enrollment less than six learners.

Note that with extremely few exceptions, my learner ratings remained high for the spring 2020 semester—when all courses transitioned to emergency remote learning mid-semester, as did they remain high during the 2020-2021 academic year, when I taught some of my courses either synchronously or asynchronously online for the first time in that mode. In fact, most ratings were generally higher during these semesters, as compared to previous semesters.

¹¹ Why interpolated medians are provided, and how they are calculated is discussed in appendix B.

2. Learner evaluation summary for CS 120: Computer Science 1

1: Strongly disagree 3: Neutral 5: Strongly Agree	CS 120									
	2010-present		20-21 Spr s3		20-21 Spr s1		19-20 Spr s3		19-20 Spr s2	
University	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
U1: Explains objectives	4.38	4.56	4.82	4.89	3.55	4.00	4.25	4.64	4.67	4.90
U2: Explains content	4.11	4.29	4.76	4.85	3.45	4.00	4.00	4.17	4.58	4.75
U3: Engages me	4.26	4.45	4.94	4.97	3.45	4.00	3.92	4.64	4.42	4.50
U4: Respects me	4.67	4.80	5.00	5.00	4.45	4.58	4.82	4.89	4.75	4.95
U5: Opportunities	4.60	4.76	4.94	4.97	4.09	4.33	4.25	4.64	4.75	4.90
U6: Timely feedback	4.44	4.62	4.76	4.85	3.91	4.12	4.50	4.64	4.57	4.83
U7: Availability	4.71	4.82	4.88	4.97	4.36	4.40	4.42	4.64	5.00	5.00
U8: Clear objectives	4.46	4.58	4.71	4.79	3.91	4.12	4.00	4.17	4.75	4.90
U9: Course efficacy	4.36	4.53	4.71	4.79	3.45	4.00	3.75	4.17	4.58	4.75
U10: Assignments	4.60	4.70	4.88	4.93	4.09	4.33	4.33	4.50	4.83	4.90
U11: Grading system	4.08	4.32	3.88	4.33	2.73	2.75	3.58	3.75	3.92	4.50
U12: Broadens knowledge	4.43	4.62	4.88	4.93	3.27	3.75	4.00	4.25	4.67	4.83
University average	4.43	4.59	4.76	4.86	3.73	4.03	4.15	4.43	4.62	4.81
Computer Science	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
C1: Interesting	4.08	4.21	4.65	4.73	3.27	3.67	3.25	3.50	4.17	4.17
C2: Organized	4.29	4.41	4.53	4.56	3.82	4.00	3.92	4.17	4.64	4.81
C3: Helpful responses	4.46	4.65	5.00	5.00	4.09	4.38	3.92	4.50	4.67	4.83
C4: Appropriate tests	4.29	4.48	4.69	4.77	3.91	4.20	4.00	4.50	4.67	4.83
C5: Grades fairly	4.31	4.51	4.35	4.65	3.27	3.20	4.00	4.50	4.08	4.30
C6: Provides feedback	4.38	4.52	4.71	4.79	4.27	4.40	4.36	4.58	4.42	4.64
C7: Instructor rating	4.37	4.59	4.82	4.89	3.45	3.75	3.73	4.25	4.55	4.81
C8: Desire to take	4.07	4.28	4.41	4.56	3.73	3.88	3.58	3.50	4.08	4.70
C9: Amount learned	4.21	4.39	4.76	4.89	3.36	3.75	3.67	3.83	4.17	4.50
C10: Amount studied	3.51	3.50	4.12	4.14	3.64	3.75	3.17	3.12	3.42	3.64
C11: Course challenging	3.86	3.86	4.24	4.29	4.09	4.08	3.67	3.50	3.92	3.90
CS average	4.16	4.31	4.57	4.66	3.72	3.91	3.75	4.00	4.25	4.47
Responses Enrolled	397	662	17	24	11	18	12	20	12	21
Courses Response rate	27	60.0%	1	70.8%	1	61.1%	1	60.0%	1	57.1%

3. Learner evaluation summary for CS 200: Computers and Society

1: Strongly disagree 3: Neutral 5: Strongly Agree	CS 200									
	2010-present		18-19 Spr s1		16-17 Spr s1		15-16 Spr s1		14-15 Spr s1	
University	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
U1: Explains objectives	4.01	4.47	4.06	4.06	4.28	4.54	4.16	4.43	4.75	4.90
U2: Explains content	4.28	4.45	3.88	4.10	4.20	4.36	4.11	4.42	4.75	4.83
U3: Engages me	4.26	4.47	3.88	4.10	3.96	4.25	4.26	4.43	4.67	4.83
U4: Respects me	4.55	4.68	4.50	4.61	4.28	4.61	4.63	4.82	4.92	4.95
U5: Opportunities	4.35	4.50	4.38	4.38	4.32	4.61	n/a	n/a	n/a	n/a
U6: Timely feedback	4.24	4.48	3.94	4.07	4.44	4.67	4.16	4.64	4.42	4.83
U7: Availability	4.48	4.67	4.36	4.62	4.42	4.64	4.42	4.71	4.67	4.83
U8: Clear objectives	4.22	4.32	4.00	4.06	4.04	4.22	4.00	4.25	4.58	4.75
U9: Course efficacy	4.17	4.29	3.63	3.70	3.92	4.08	4.05	4.29	4.58	4.83
U10: Assignments	4.33	4.14	3.81	3.93	4.20	4.44	4.21	4.55	4.75	4.83
U11: Grading system	4.09	4.20	2.81	2.70	3.08	3.25	4.21	4.55	4.83	4.90
U12: Broadens knowledge	4.15	4.31	3.63	3.67	3.80	4.06	3.84	4.08	4.75	4.83
University average	4.26	4.41	3.91	4.00	4.08	4.31	4.19	4.47	4.70	4.85
Computer Science	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
C1: Interesting	4.36	4.71	3.63	3.67	3.52	3.31	3.95	4.55	4.42	4.64
C2: Organized	4.46	4.58	3.88	3.83	4.09	4.25	4.05	4.22	4.75	4.90
C3: Helpful responses	4.42	4.50	4.19	4.30	4.04	4.42	4.42	4.64	4.75	4.90
C4: Appropriate tests	4.42	4.50	3.81	3.79	3.88	4.31	4.11	4.42	4.67	4.75
C5: Grades fairly	4.50	4.50	3.44	3.75	3.32	3.29	4.32	4.64	4.75	4.90
C6: Provides feedback	4.75	4.83	3.75	3.75	3.79	3.83	3.89	4.12	4.50	4.75
C7: Instructor rating	4.09	4.08	3.75	3.83	3.76	4.00	4.21	4.64	4.58	4.83
C8: Desire to take	3.58	3.36	2.94	3.25	3.24	3.18	3.68	3.58	3.73	4.00
C9: Amount learned	4.00	4.00	3.31	3.25	3.51	3.41	3.42	3.57	4.08	4.07
C10: Amount studied	3.42	3.67	2.81	2.90	3.00	3.00	3.11	3.06	3.17	3.17
C11: Course challenging	3.50	3.70	2.94	2.94	2.72	2.78	3.06	3.00	3.17	3.05
CS average	4.14	4.22	3.50	3.57	3.53	3.62	3.84	4.04	4.23	4.36
Responses Enrolled	186	299	16	32	25	32	19	32	12	22
Courses Response rate	10	62.2%	1	50.0%	1	78.1%	1	59.4%	1	54.5%

4. Learner evaluation summary for CS 222: Advanced Programming

1: Strongly disagree 3: Neutral 5: Strongly Agree	CS 222									
	2010-present		20-21 Fall s804		20-21 Fall s803		19-20 Sum s801		19-20 Fall s1	
University	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
U1: Explains objectives	4.41	4.57	4.74	4.82	4.50	4.70	3.67	4.75	3.33	3.33
U2: Explains content	4.26	4.48	4.57	4.62	4.25	4.33	3.50	4.50	3.43	3.67
U3: Engages me	4.28	4.49	4.78	4.86	4.44	4.70	3.50	4.50	3.43	3.57
U4: Respects me	4.65	4.85	4.83	4.89	4.75	4.88	3.67	4.75	4.10	4.55
U5: Opportunities	4.55	4.73	4.78	4.86	4.69	4.77	3.67	4.75	3.86	4.06
U6: Timely feedback	4.35	4.57	4.52	4.68	4.38	4.61	3.50	4.50	3.67	3.94
U7: Availability	4.63	4.78	4.74	4.86	4.69	4.88	3.67	4.75	4.13	4.35
U8: Clear objectives	4.31	4.54	4.74	4.82	4.50	4.70	3.67	4.75	3.48	3.69
U9: Course efficacy	4.19	4.43	4.74	4.82	4.20	4.31	3.67	4.75	3.41	3.50
U10: Assignments	4.27	4.53	4.61	4.78	4.38	4.61	3.67	4.75	3.52	3.81
U11: Grading system	4.08	4.36	4.30	4.65	3.69	4.00	3.67	4.75	2.96	2.88
U12: Broadens knowledge	4.33	4.57	4.73	4.81	4.38	4.70	3.67	4.75	3.91	4.09
University average	4.36	4.58	4.67	4.79	4.40	4.60	3.63	4.69	3.60	3.79
Computer Science	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
C1: Interesting	4.06	4.24	4.35	4.54	4.13	4.30	3.50	4.50	3.39	3.44
C2: Organized	4.16	4.34	4.35	4.54	4.38	4.50	3.50	4.50	3.22	3.29
C3: Helpful responses	4.27	4.52	4.70	4.82	4.50	4.77	3.50	4.50	3.61	3.58
C4: Appropriate tests	4.01	4.17	4.48	4.62	4.06	4.30	3.67	4.75	3.26	3.18
C5: Grades fairly	4.17	4.40	4.48	4.68	4.00	4.50	3.17	3.83	3.09	3.08
C6: Provides feedback	4.39	4.58	4.68	4.77	4.50	4.77	3.50	4.50	3.52	3.58
C7: Instructor rating	4.31	4.54	4.78	4.86	4.38	4.61	3.67	4.75	3.13	3.19
C8: Desire to take	3.89	4.02	3.91	4.00	4.31	4.36	3.67	4.75	3.78	3.94
C9: Amount learned	3.99	4.20	4.36	4.58	4.25	4.61	3.50	4.50	3.52	3.73
C10: Amount studied	3.47	3.54	3.59	3.50	3.75	3.70	3.17	3.50	3.57	3.43
C11: Course challenging	4.07	4.18	4.09	4.08	4.19	4.21	3.17	3.50	3.91	4.00
CS average	4.07	4.25	4.34	4.45	4.22	4.42	3.46	4.33	3.45	3.49
Responses Enrolled	238	367	22	30	16	32	6	8	23	31
Courses Response rate	17	64.9%	1	73.3%	1	50.0%	1	75.0%	1	74.2%

5. Learner evaluation summary for CS 239: Social and Professional Issues

1: Strongly disagree 3: Neutral 5: Strongly Agree	CS 239									
	2010-present		20-21 Spr s2		20-21 Spr s1		18-19 Spr s1		17-18 Fall s1	
University	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
U1: Explains objectives	4.45	4.58	4.30	4.67	4.93	4.96	4.60	4.75	4.59	4.77
U2: Explains content	4.41	4.54	4.30	4.67	4.93	4.96	4.47	4.67	4.59	4.71
U3: Engages me	4.35	4.53	4.40	4.79	4.86	4.92	4.21	4.62	4.41	4.65
U4: Respects me	4.67	4.79	4.40	4.79	4.93	4.96	4.53	4.75	4.86	4.92
U5: Opportunities	4.65	4.81	4.40	4.79	4.93	4.96	4.53	4.67	4.68	4.81
U6: Timely feedback	4.41	4.59	4.40	4.67	4.86	4.92	4.07	4.67	4.82	4.89
U7: Availability	4.59	4.56	4.30	4.67	4.93	4.96	4.47	4.67	4.86	4.92
U8: Clear objectives	4.23	4.39	4.20	4.67	4.64	4.72	4.36	4.72	4.55	4.77
U9: Course efficacy	4.25	4.42	4.20	4.67	4.71	4.80	4.29	4.50	4.59	4.81
U10: Assignments	4.44	4.63	4.20	4.67	4.86	4.92	4.07	4.17	4.50	4.71
U11: Grading system	4.31	4.56	4.10	4.67	4.14	4.72	4.31	4.57	4.09	4.71
U12: Broadens knowledge	4.22	4.47	4.30	4.79	4.71	4.80	4.00	4.25	4.55	4.81
University average	4.42	4.57	4.29	4.71	4.79	4.88	4.33	4.58	4.59	4.79
Computer Science	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
C1: Interesting	3.98	4.17	3.90	4.50	4.64	4.72	3.64	4.00	4.31	4.75
C2: Organized	4.30	4.41	4.20	4.67	4.71	4.86	4.21	4.50	4.55	4.67
C3: Helpful responses	4.46	4.58	4.10	4.67	4.92	4.96	4.23	4.57	4.70	4.79
C4: Appropriate tests	4.15	4.31	4.10	4.50	4.71	4.80	3.71	3.83	4.50	4.73
C5: Grades fairly	4.48	4.65	4.20	4.67	4.64	4.80	4.43	4.50	4.33	4.69
C6: Provides feedback	4.19	4.35	4.20	4.67	4.50	4.62	4.36	4.50	4.52	4.69
C7: Instructor rating	4.42	4.55	4.20	4.67	4.71	4.80	4.29	4.50	4.62	4.80
C8: Desire to take	3.21	3.23	3.30	3.25	3.64	3.83	2.71	2.70	3.76	3.67
C9: Amount learned	3.64	3.76	3.70	3.90	3.79	3.79	3.00	2.90	4.14	4.55
C10: Amount studied	2.95	2.88	2.80	2.75	3.14	3.00	2.14	2.07	3.85	3.83
C11: Course challenging	2.88	2.86	2.90	2.93	2.93	2.83	2.29	2.30	3.57	3.58
CS average	3.88	3.98	3.78	4.11	4.21	4.27	3.55	3.67	4.26	4.43
Responses Enrolled	244	388	10	22	14	28	15	33	22	30
Courses Response rate	18	62.9%	1	45.5%	1	50.0%	1	45.5%	1	73.3%

6. Learner evaluation summary for CS 499: CS4MS+

1: Strongly disagree 3: Neutral 5: Strongly Agree	CS 499: CS4MS+									
	2010-present		20-21 Spr s1-3		20-21 Fall s1-3		19-20 Fall s2		18-19 Fall s 2	
University	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
U1: Explains objectives	4.43	4.58	4.00	4.00	4.50	4.79	4.50	4.67	4.67	4.75
U2: Explains content	4.50	4.58	4.14	4.12	4.80	4.88	4.50	4.67	4.67	4.75
U3: Engages me	4.74	4.82	4.57	4.80	4.90	4.94	4.60	4.67	5.00	5.00
U4: Respects me	4.96	4.97	5.00	5.00	5.00	5.00	4.90	4.94	5.00	5.00
U5: Opportunities	4.93	4.96	4.86	4.92	5.00	5.00	4.90	4.94	5.00	5.00
U6: Timely feedback	4.80	4.86	4.86	4.92	5.00	5.00	4.70	4.79	4.83	4.90
U7: Availability	4.95	4.97	5.00	5.00	5.00	5.00	4.89	4.94	5.00	5.00
U8: Clear objectives	4.61	4.65	4.29	4.33	4.80	4.88	4.90	4.94	4.33	4.25
U9: Course efficacy	4.48	4.59	4.43	4.38	4.50	4.79	4.70	4.79	4.50	4.50
U10: Assignments	4.52	4.59	4.43	4.62	4.70	4.88	4.60	4.67	4.50	4.50
U11: Grading system	4.44	4.47	4.86	4.92	4.90	4.94	4.50	4.50	4.17	4.50
U12: Broadens knowledge	4.88	4.94	5.00	5.00	4.70	4.88	4.80	4.88	5.00	5.00
University average	4.69	4.75	4.62	4.67	4.82	4.92	4.71	4.78	4.72	4.76
Computer Science	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
C1: Interesting	4.65	4.70	4.71	4.80	4.70	4.79	4.40	4.33	4.67	4.75
C2: Organized	4.55	4.58	4.57	4.62	4.80	4.88	4.50	4.50	4.17	4.10
C3: Helpful responses	4.82	4.90	5.00	5.00	4.70	4.88	4.70	4.79	4.83	4.90
C4: Appropriate tests	4.29	4.40	4.43	4.62	4.70	4.88	4.30	4.50	4.00	4.00
C5: Grades fairly	4.80	4.85	4.86	4.92	4.90	4.94	4.56	4.60	4.80	4.88
C6: Provides feedback	4.59	4.71	4.43	4.62	4.90	4.94	4.50	4.67	4.50	4.50
C7: Instructor rating	4.87	4.91	5.00	5.00	5.00	5.00	4.80	4.88	4.67	4.75
C8: Desire to take	4.55	4.63	4.14	4.33	4.80	4.88	4.50	4.50	4.67	4.75
C9: Amount learned	4.34	4.36	4.00	4.00	4.40	4.50	4.30	4.30	4.50	4.50
C10: Amount studied	3.13	3.05	3.14	3.00	3.10	3.00	3.40	3.25	3.00	2.83
C11: Course challenging	3.39	3.25	3.57	3.33	3.30	3.25	3.40	3.17	3.17	3.00
CS average	4.36	4.40	4.35	4.39	4.48	4.54	4.31	4.32	4.27	4.27
Responses Enrolled	38	51	4	9	10	10	10	11	6	11
Courses Response rate	5	74.5%	1	44.4%	1	100.0%	1	90.9%	1	54.5%

7. Learner evaluation summary for HONR 296: CS and Algorithms to Live By

1: Strongly disagree 3: Neutral 5: Strongly Agree	HONR 296: Computer Science & Algorithms to Live By									
	2010-present		20-21 Spr s801		20-21 Fall s2		19-20 Spr s2		19-20 Fall s2	
University	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
U1: Explains objectives	4.76	4.87	4.79	4.86	4.67	4.90	4.82	4.89	4.75	4.83
U2: Explains content	4.71	4.84	4.71	4.80	4.78	4.86	4.71	4.85	4.63	4.83
U3: Engages me	4.82	4.89	4.86	4.96	4.94	4.97	4.65	4.73	4.81	4.88
U4: Respects me	4.85	4.92	4.71	4.86	5.00	5.00	4.82	4.89	4.88	4.93
U5: Opportunities	4.84	4.92	4.79	4.92	4.94	4.97	4.76	4.85	4.88	4.93
U6: Timely feedback	4.69	4.84	4.50	4.80	4.94	4.97	4.82	4.89	4.50	4.70
U7: Availability	4.85	4.91	4.86	4.92	4.89	4.94	4.82	4.89	4.82	4.89
U8: Clear objectives	4.73	4.85	4.79	4.86	4.67	4.86	4.88	4.93	4.59	4.73
U9: Course efficacy	4.63	4.77	4.64	4.80	4.72	4.86	4.76	4.85	4.41	4.56
U10: Assignments	4.77	4.86	4.79	4.86	4.83	4.94	4.88	4.93	4.56	4.70
U11: Grading system	4.78	4.88	4.71	4.86	4.83	4.94	4.71	4.79	4.88	4.93
U12: Broadens knowledge	4.77	4.87	4.57	4.80	4.94	4.97	4.82	4.89	4.75	4.83
University average	4.77	4.87	4.73	4.86	4.85	4.93	4.79	4.87	4.71	4.81
Honors College	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
H1: Repeat instructor	4.36	4.61	4.14	4.33	4.35	4.65	4.06	4.50	4.06	4.50
H2: Honors comparison	3.82	3.89	3.79	3.75	3.94	4.00	3.56	3.79	3.56	3.79
H3: Met expectation	4.46	4.63	4.50	4.62	4.47	4.65	4.19	4.50	4.19	4.50
H4: Course challenge	4.47	4.60	4.64	4.80	4.41	4.44	4.06	4.30	4.06	4.30
HC average	4.28	4.43	4.27	4.38	4.29	4.44	3.97	4.27	3.97	4.27
Responses Enrolled	66	90	14	21	18	22	17	24	17	23
Courses Response rate	4	73.3%	1	66.7%	1	81.8%	1	70.8%	1	73.9%

8. Learner evaluation summary for HONR 390: Orwell's Nineteen Eighty-Four

1: Strongly disagree 3: Neutral 5: Strongly Agree	HONR 390: Orwell 1984			
	2010-present		18-19 Fall s8	
University	Mean	Median	Mean	Median
U1: Explains objectives	4.33	4.56	4.33	4.56
U2: Explains content	4.20	4.25	4.20	4.25
U3: Engages me	3.87	4.12	3.87	4.12
U4: Respects me	4.73	4.82	4.73	4.82
U5: Opportunities	4.40	4.56	4.40	4.56
U6: Timely feedback	4.36	4.72	4.36	4.72
U7: Availability	4.67	4.82	4.67	4.82
U8: Clear objectives	4.47	4.56	4.47	4.56
U9: Course efficacy	4.47	4.44	4.47	4.44
U10: Assignments	4.53	4.67	4.53	4.67
U11: Grading system	4.73	4.88	4.73	4.88
U12: Broadens knowledge	4.47	4.75	4.47	4.75
University average	4.44	4.60	4.44	4.60
Honors College	Mean	Median	Mean	Median
H1: Repeat instructor	4.13	4.56	4.13	4.56
H2: Honors comparison	3.40	3.40	3.40	3.40
H3: Met expectation	4.07	4.38	4.07	4.38
H4: Course challenge	4.13	4.38	4.13	4.38
HC average	3.93	4.18	3.93	4.18
Responses Enrolled	15	15	15	15
Courses Response rate	1	100.0%	1	100.0%

9. Learner evaluation summary for HONR 390: Science, Education, and Diversity

1: Strongly disagree 3: Neutral 5: Strongly Agree	HONR 390: SED			
	2010-present		16-17 Fall s12	
University	Mean	Median	Mean	Median
U1: Explains objectives	4.11	4.12	4.11	4.12
U2: Explains content	4.33	4.38	4.33	4.38
U3: Engages me	4.67	4.75	4.67	4.75
U4: Respects me	4.78	4.86	4.78	4.86
U5: Opportunities	n/a	n/a	n/a	n/a
U6: Timely feedback	4.67	4.86	4.67	4.86
U7: Availability	4.67	4.86	4.67	4.86
U8: Clear objectives	3.56	3.62	3.56	3.62
U9: Course efficacy	4.00	4.00	4.00	4.00
U10: Assignments	4.44	4.40	4.44	4.40
U11: Grading system	2.89	3.00	2.89	3.00
U12: Broadens knowledge	4.78	4.94	4.78	4.94
University average	4.26	4.34	4.26	4.34
Honors College	Mean	Median	Mean	Median
H1: Repeat instructor	3.89	3.88	3.89	3.88
H2: Honors comparison	3.56	3.67	3.56	3.67
H3: Met expectation	4.11	4.33	4.11	4.33
H4: Course challenge	4.33	4.60	4.33	4.60
HC average	3.97	4.12	3.97	4.12
Responses Enrolled	9	9	9	9
Courses Response rate	1	100.0%	1	100.0%

B. THE INTERPOLATED MEDIAN¹²

1. Introduction

In computing numerical summaries for student responses, the following scales are used:

5 = Strongly agree	5 = Excellent
4 = Agree	4 = Very good
3 = Neither agree nor disagree	3 = Good
2 = Disagree	2 = Fair
1 = Strongly disagree	1 = Poor

N/A responses are not included when computing summaries.

2. Definitions

The *median* is the middle observation in a sorted list of data. Half of the values in the data set are less than or equal to the median and half are greater than or equal to it. The *interpolated median* (IM) adjusts the median slightly upward or downward.

For example, any interpolated median between 3.5 and 4.5 indicates that the actual median rating for the question was 4. An interpolated median between 4.0 and 4.5 also indicates that there were more ratings above 4 than below 4. Similarly, an interpolated median between 3.5 and 4.0 indicates that there were fewer ratings above 4 than below 4.

The median is appropriate for continuous data. For data with multiple ties, such as is the case with Likert type scales, the interpolated median is actually recommended.

3. Interpolated median usefulness

To illustrate the usefulness of the interpolated median, consider two classes with 20 students in each class. The table below lists the number of students in each class that gave each response to a particular question on the course evaluation:

Response	Class 1	Class 2
5 = Strongly agree	9	1
4 = Agree	10	10
3 = Neither agree nor disagree	0	6
2 = Disagree	1	1
1 = Strongly disagree	0	2

Both class 1 and class 2 have medians of 4 for this question. However, it is quite clear that the overall ratings of class 1 were substantially better than class 2. The interpolated median provides a way to adjust the median to reflect this. The interpolated median for Class 1 is 4.4 (the median is adjusted upward since 9 students gave a rating above the median while only 1 gave a rating below the median. On the other hand, in Class 2, more students gave ratings below the median than above it, so the interpolated median adjusts downward to 3.6. The interpolated median clearly represents the differences in the two classes, while the median failed to do so.

¹² This information was provided to me via email on May 28, 2019 by James A. Jones, PhD, who is the Director of Research and Academic Effectiveness at Ball State.

4. Interpolated median calculation

To calculate the interpolated median, start by defining variables as follows:

N = total number of valid responses to the question

M = the standard median of the scores

n_1 = number of scores less than M (strictly less, not equal)

n_2 = number of scores equal to M

The interpolated median IM is then computed as follows:

$$IM = \begin{cases} M & \text{if } n_2 = 0 \\ M - 0.5 + \frac{0.5N - n_1}{n_2} & \text{if } n_2 \neq 0 \end{cases}$$

5. Consolidation of data for analysis

I asked Dr. Jones if I should use student-level data or course section-level data for analysis. He responded via email on June 3, 2019 as follows.

The class means are the preferred measures for looking at overall trends in classes because they do give equal weight to the classes regardless of how many responses are involved. Having the class of 80 and the class of 15 count equally is actually a desired feature so that your overall is reflective of all the classes and not just the large section ones. Also, the reliability of the class mean is very high - well into the .90s typically - while the reliability of a single response within a class is more in the low to middle range coefficients (.40 to .60, for example).

One of the reasons for this, is the independence assumption for observations. The responses within a classroom are very related to each other and not independent since they are based on rating the same perceived object. There is more independence when different classes are examined, even though there is still going to be some degree of relationship since the instructor would be the same and sometimes these are just different sections of the same course. There can be continued nesting depending on the purpose of the analysis, but the biggest reduction in the dependency among responses will be that first consolidation from student to class section.

Main thing is that if you go with student level description instead of class level, the results will be more reflective of your large section classes and not very much of the smaller ones. As a practical matter, larger sections tend to have lower ratings than smaller sections in general. Thus, you will be putting yourself at a slight disadvantage if you use student level instead of class level data.