MyPsychLab / MyVirtualChild

School Name	Buffalo State College, Buffalo, NY
Course Name	Child Development
Course Format	Traditional

> **Key Results** Students who used MyVirtualChild were more engaged and performed better on exams than students who did not use MyVirtualChild.

Submitted by
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Course materials
The World of Children by Cook and Cook with MyVirtualChild

Implementation

MyVirtualChild is an online simulation designed to represent the normative development of children. The program is based on theory and research in developmental psychology. Raising a virtual child is a semester-long process. Course grades are based on four writing assignments and participation in two "parent forums."

Research Goal

This study was designed to explore whether MyVirtualChild was more effective than a more traditional approach to learning about child development.

Participants and class structure

Participants included 83 students in two child development sections of the same course taught by the same instructor. Students were primarily juniors and seniors and ranged in age from 18 to 41. Students in both sections of the course experienced the same lectures, discussions, and exams. Students in one section completed assignments from the MyVirtualChild program; students in the other section completed writing and discussion assignments designed to be equivalent in class time and work intensity.

Method

Evaluation of Student Engagement: Student engagement was assessed using attendance rates, rates of course completion, and answers to selected questions from an anonymous, end-of-semester course evaluation.

Knowledge of Child Development: Knowledge of child development was assessed using unit exams and cumulative final exams. Exams included factual and applied multiple-choice questions and short-answer questions that could be answered in one paragraph or less. To enable cross-semester comparisons, students in both sections took the same exams.

Student Perceptions of MyVirtualChild: Students who completed MyVirtualChild assignments were asked to answer 16 Likert-type questions using a scale from 1 (strongly disagree) to 5 (strongly agree), plus answer five open-ended questions. Questions were designed to assess self-efficacy and satisfaction with the program. Self-efficacy questions evaluated student perceptions of their understanding of themes in child development as a result of completing the MyVirtualChild simulation. Satisfaction questions asked about their enjoyment of the assignment and whether or not they preferred MyVirtualChild over other types of assignments.

Assessments

MyVirtualChild Section

58.8 percent	Three exams (300 total points)
19.6 percent	Final exam (100 points)
19.6 percent	MyVirtualChild (100 points)
2.0 percent	Oral presentation (10 points)

Section without MyVirtualChild

53.6 percent	Three exams (300 total points)
17.9 percent	Final exam (100 points)
17.9 percent	Paper (100 points)
8.9 percent	Participation (50 points)
1.8 percent	Oral presentation (10 points)

	Without MyVirtualChild		With MyVirtualChild		
	Mean	Standard Deviation	Mean	Standard Deviation	Frequency
Professor's teaching effectiveness	1.51	.51	1.45	.57	.22
Overall evaluation of the professor	1.42	.50	1.42	.56	.00
Recommend this course to other students? (1=definitely not, 5=definitely yes)	1.71	.78	1.36	.55	4.26
Attendance (number of days out of 22)	15.46	5.14	19.46	9.47	5.50

Table 1. Differences in Standardized Course Evaluation Responses

Results and Data

Group Differences in Student Engagement: Results from a one-way analysis of variance (ANOVA) with students who completed the course indicated the following (table 1):

- Students who used MyVirtualChild attended class for a significantly higher number of days than students who did not use MyVirtualChild.

- Students who used MyVirtualChild were significantly more likely to complete the course (94 percent) than students who did not use MyVirtualChild (78 percent).

- Students who used MyVirtualChild were more likely to indicate that they would recommend the course to other students.

- There were no group differences in students' ratings of the course in general, the professor's teaching effectiveness, or their overall evaluation of the professor.

Knowledge of Child Development: Results from a one-way ANOVA indicated the following (figure 1):

- Students in the MyVirtualChild section scored significantly higher on the Unit III (Early Childhood) and Unit IV (Middle Childhood) exams and received a marginally higher final course grade.

- There were no significant differences on the Unit I and Unit II exams or on the final exam.

Note that students did not begin using MyVirtualChild until the second unit. Also, the parenting forums occurred during the third and fourth units of the course.
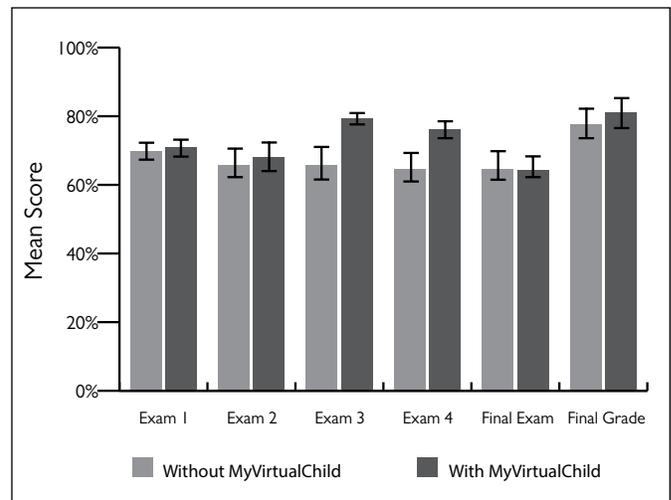

Figure 1. Academic Performance Measures with and without MyVirtualChild (without MyVirtualChild *n*=47, with MyVirtualChild *n*=46)

"Results indicate that students in the MyVirtual Child section were more engaged and performed better on exams covering course content addressed in the MyVirtualChild program than students in the non-MyVirtualChild section."

Question	Mean	SD
1. MyVirtualChild reinforced my understanding of how the physical, cognitive and social aspects of development interact.	4.19	.65
2. MyVirtualChild reinforced my understanding of how parenting styles affect a child's development.	4.26	.68
3. MyVirtualChild reinforced my understanding of how a child's physical environment is related to cognitive development.	4.07	.85
4. MyVirtualChild reinforced my understanding of how nature and nurture interact to influence development.	4.23	.56
5. MyVirtualChild reinforced my understanding of how parenting decisions have a significant impact on child development.	4.45	.51
6. MyVirtualChild reinforced my understanding of how experiences during infancy and early childhood are related to later development.	4.32	.60
7. MyVirtualChild reinforced my understanding that children play an active role in their development.	4.10	.75
8. I would rather do a traditional research paper than the MyVirtualChild project.	1.18	.50
9. I would rather do a longer oral presentation than the MyVirtualChild project.	1.48	.72
10. I would rather do a group project than the MyVirtualChild project.	1.74	.93
11. I would rather do an observation project with real children than the MyVirtualChild project.	2.71	1.24
12. The MyVirtualChild project was fun.	4.45	.68
13. The MyVirtualChild program was easy to use.	4.6	.59
14. I'm proud of how my MyVirtualChild turned out.	4.48	.68
15. I liked the MyVirtualChild project more than I thought I would.	4.25	.81
16. Would you recommend MyVirtualChild to other students learning about child development? (1=definitely not, 5=definitely yes)	4.63	.71

Table 2. Mean Student Evaluation of MyVirtualChild
(unless otherwise noted 1=strongly disagree, 5=strongly agree)

Student Perceptions of MyVirtualChild: Student evaluations of MyVirtualChild were overwhelmingly positive (table 2).

- Average scores for the perception of how MyVirtualChild reinforced understanding of key developmental themes were all in the "agree" to "strongly agree" range.

- Students consistently indicated that they enjoyed using MyVirtualChild, found it easy to use, and would recommend it to other students taking a child development course.

- Students indicated that they preferred MyVirtualChild to other types of assignments, including term papers, oral presentations, and group projects.

- One notable exception was that students were mixed on whether or not they would prefer MyVirtualChild over live observation of real children, although several students indicated that both live observation and MyVirtualChild would be a great option.

The Student Experience

In addition to the student survey results, student evaluations included the following positive comments about MyVirtualChild:

- "It was fun—an interesting way to see development first-hand without having to raise a real child."

- "I learned a lot about parenting and decision-making. It asked me questions that I'd never thought of before and that I think will really help me in real life."

Conclusion

Results indicate that students in the MyVirtualChild section were more engaged and performed better on exams covering course content addressed in the MyVirtualChild program than students in the non-MyVirtualChild section.

I am encouraged by this initial study. My goal is to strengthen the evidence for the effectiveness of MyVirtualChild by refining my methodology and collecting and analyzing data in subsequent semesters.