

Project Plan

Coding Curriculum

2018SP IS_LT 9473

Sarah Bean

Project Definition	2
Purpose	2
Goals and Objectives	2
Success Criteria	2
Project Context	2
Project Dependencies	2
Scope and Out-of-Scope Specification	3
Assumptions and Constraints	3
Risks	3
Stakeholders	3
Recommended Project Approach	4
Work Breakdown Structure and Budget	5
Work Breakdown Structure	5
Budget	6
Project Controls	9
Milestones and Checkpoints	9
QA Auditor	9
Reviews	9
Status Meetings	9
Project Communications	10
Project End Checklist	11
Gain Client Acceptance	11
Transition Deliverables to Owner	11
Close Out Contract Obligations	11
Capture Lessons Learned	11
Update the Organization's Central Information Repository	11
Issue Final Financials	12
Close Accounts and Charge Codes	12
Update Resource Schedules	12
Conduct Performance Evaluations	12
Update Resume	12
Market Project Accomplishments	12
Ask for Referrals/References	12
Celebrate!	12

Project Definition

Purpose

The purpose of this project is to create a comprehensive Coding curriculum utilizing currently available programs within the school. This Coding curriculum will be used by teachers within the school to teach middle school and high school students the basics of coding with Javascript, including real-world application with robots.

Goals and Objectives

This project will combine elements from Khan Academy, Scratch, Tynker, Light Bot, and Sphero SPRK+ to form a program which will teach students the basics of Javascript coding. While all of these programs are currently available, there is no curriculum which uses them in a sequential manner to build upon prior or learned knowledge. By creating a comprehensive curriculum, students will learn coding in a clear, concise, coherent, and ultimately constructive manner.

Success Criteria

To determine the success of this project, the curriculum will be implemented with a group of students new to coding and a group of students who attended the previous coding course. A survey and checklist of coding milestones will be provided to the teacher implementing the program, as well as to the students. Ease of teaching the material, flow of instruction, and sequential processing will be rated on a scale of 1-10 against previous curriculum.

Project Context

This project fits into the school organization by providing a comprehensive curriculum any teacher within the school can implement.

Project Dependencies

This project depends on the continued availability and upkeep of Chromebook Pro chromebooks within a classroom setting; continued availability and upkeep of the apps Tynker, Light Bot, and Sphero Edu; continued availability and upkeep of Sphero SPRK+ robots; continued availability and upkeep of on-line programs Khan Academy and Scratch; continued availability and upkeep of specified YouTube videos and other documents.

Scope and Out-of-Scope Specification

Included in this project will be ways to utilize Tynker, Light Bot, Sphero Edu and robots, Khan Academy, and Scratch in a sequential, comprehensive way. Also included will be introductory and discussion material, links to how-to and other informative videos, and comprehension surveys and checklists. Not included is a script, explicit coding information, or troubleshooting information.

Assumptions and Constraints

Assumptions – It is assumed the above mentioned apps, programs, and hardware will be available throughout the project.

Constraints – Factors that may limit options available for this project include time and holidays during which the school is closed and access to materials is unavailable.

Risks

Risks include some currently free programs becoming pay-to-play, some applications no longer being supported by the available Chromebooks, Chromebooks glitching or otherwise becoming unusable, or the Coding program being removed from the school schedule.

Stakeholders

Stakeholder	Role
Teachers	Test and teach the curriculum
Students	Test and learn curriculum
Administrators	Review and approve curriculum

Parents	Place students in specific classes
Employers	Accept knowledgeable applicants

Recommended Project Approach

Research and Development – To complete this project, all applications used (Sphero Edu, Tynker, Light Bot, Scratch, and Khan Academy) must be thoroughly vetted and researched. Each step of the programs must be documented before sequential compilation of curriculum can occur. It is preferred that at least one person become familiar with all of the programs so they have a clear view of how they can be interconnected.

Work Breakdown Structure and Budget

Work Breakdown Structure

Coding Curriculum WBS

Phase 1 – Planning

1.1 List applications available

1.2 Develop time frame

Phase 2 – Research

2.1 Research applications available

2.1a Research Tynker

2.1b Research Light Bot

2.1c Research Khan Academy – Computer Science/Coding Section

2.1d Research Scratch

2.1e Research Sphero Edu

2.2 Research state standards attached to Computer Science/Coding

Phase 3 – Break Down

3.1 Break down applications into plan/components

3.1a Breakdown Tynker

3.1b Breakdown Light Bot

3.1c Breakdown Khan Academy – Computer Science/Coding Section

3.1d Breakdown Scratch

3.1e Breakdown Sphero Edu

Phase 4 – Connections

- 4.1 Connect state standards to plan/components determined in Phase 3
 - 3.1a Connect standards to Tynker components
 - 3.1b Connect standards to Light Bot components
 - 3.1c Connect standards to Khan Academy – Computer Science/Coding Section components
 - 3.1d Connect standards Scratch components
 - 3.1e Connect standards Sphero Edu components

Phase 5 – Assemblage

- 5.1 Assemble components in standards-driven linear structure

Phase 6 – Composition

- 6.1 Compose curriculum using computer software
 - 6.1a Compose compact trial curriculum

Phase 7 – Trial

- 7.1 Implement compact trial curriculum in classroom

Phase 8 – Roll Out

- 8.1 Implement full curriculum in classroom

Budget

Coding Curriculum Budget				
Phase			Time Estimate	Budget Estimate
Phase 1				
	1.1		.5 hr	\$10.00
	1.2		1 hr	\$20.00

Phase 2				
	2.1			
		2.1a	3 hr	\$60.00
		2.1b	3 hr	\$60.00
		2.1c	3 hr	\$60.00
		2.1d	3 hr	\$60.00
		2.1e	3 hr	\$60.00
	2.2		1 hr	\$20.00
Phase 3				
	3.1			
		3.1a	1.5 hr	\$30.00
		3.1b	1.5 hr	\$30.00
		3.1c	1.5 hr	\$30.00
		3.1d	1.5 hr	\$30.00
		3.1e	1.5 hr	\$30.00
Phase 4				
	4.1			
		3.1a	2 hr	\$40.00
		3.1b	2 hr	\$40.00
		3.1c	2 hr	\$40.00
		3.1d	2 hr	\$40.00
		3.1e	2 hr	\$40.00
Phase 5				
	5.1		5 hr	\$100.00
Phase 6				

	6.1		2 hr	\$40.00
		6.1a	1 hr	\$20.00
Phase 7				
	7.1		20 hr	\$400.00
Phase 8				
	8.1		NA	NA
		Total	63	\$1,260.00

Project Controls

Milestones and Checkpoints

This would be very easy to implement as our previous deliverables already really had us set these milestones up. The project is already divided into programs and tasks that should be completed before moving on to another task.

QA Auditor

This would most likely be the school director or principal. They would be able to ask questions about how the curriculum aligns with state standards and how it utilized the programs we already have in place.

Reviews

Reviews would be done by my students as I put the curriculum together. They would be able to tell me if how activities are ordered make sense, if the pacing is correct, and even if they enjoy the layout.

Status Meetings

Status meetings would involve all of the stakeholders mentioned above – the director, principal, and students will definitely all keep me on track as the project takes shape.

Project Communications

Project Communications Document		
Communication Tool	Challenges	Ways to Improve
E-mail	<ul style="list-style-type: none"> *Not always checked *Trouble telling "tone" *Not always timely *Can be viewed as "interfering" if too many sent 	<ul style="list-style-type: none"> *Establish project-wide e-mail guidelines (Examples: *If message is urgent, also check in by phone or face-to-face *Establish time cut-off for when responses are expected (ie, not after 5pm))
Google Forms	<ul style="list-style-type: none"> *Sometimes confusing layout *Not always filled in appropriately 	<ul style="list-style-type: none"> *Set up initial how-to training
Physical Meetings	<ul style="list-style-type: none"> *Not everyone is always available at the same place at the same time 	<ul style="list-style-type: none"> *Those not available could FaceTime/Skype/Google Hangouts *Minutes should be taken at each meeting and made available to all pertinent members of the project
FaceTime/Skype/Google Hangouts	<ul style="list-style-type: none"> *New Technologies not everyone is comfortable using *Not everyone may know how to use 	<ul style="list-style-type: none"> *Allow members who are wanting/able to join the meeting physically *Set up initial how-to training; if someone cannot make the training, ensure there is documentation of step-by-step processes, or perhaps even a video that pertinent members can access

Project End Checklist

Gain Client Acceptance

For this project, in order to gain client acceptance, I would make sure the curriculum that is devised is approved by both the school director and the principal. I would invite them into the classroom for a demonstration of various aspects of how the pieces of the curriculum flow together, and make sure to point out how each piece aligns with technology standards. I would email the curriculum to them both, and, honestly, just expect a “looks good!” back from the director as the acceptance!

Transition Deliverables to Owner

I will end up being the “owner” of this curriculum, as it will be utilized in my Coding classes. The curriculum will be emailed and filed with with director of the school, but I will be the one implementing it!

Close Out Contract Obligations

To close out contract obligations, I would show the director a checklist of the initial timeline, which lists the elements of the project, and discuss how each milestone was met and how each element was utilized.

Capture Lessons Learned

Lessons learned will most likely take the form of a running document throughout the project, noting what was working, what wasn't, and ideas on how to improve for future curriculum planning.

Update the Organization's Central Information Repository

Our school organization has a shared Google Drive (and I have a private work one through the school, plus a personal one unaffiliated with the school). All deliverables and other documents will be uploaded and shared with the necessary personnel.

Issue Final Financials

I am expecting to be completing this project throughout my prep time throughout the school year - financials will be built in to my normal salary.

Close Accounts and Charge Codes

Not applicable.

Update Resource Schedules

Updates will occur throughout the life of the project. I will be updating the director, principal, and groups of students who will be helping to test the various elements of the project.

Conduct Performance Evaluations

Performance evaluations will mostly be self-reflection on my part.

Update Resume

My resume will be updated with project management/curriculum formation experience!

Market Project Accomplishments

The school may choose to include this new curriculum in a newsletter or email blast to the parents. It may also be on our website.

Ask for Referrals/References

Not applicable.

Celebrate!

A celebration would have to include the students who helped me test out the curriculum. We would have a pizza party and I would let them play with the Spheros (robots).