Culminating Project: Integrating Technology

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Technology

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**1. Scavenger Hunt**

Every year I am given the special needs students during study block. The group is made up of 6 students who all suffer from Down syndrome, along with a number of learning disabilities. I also have access to 4 or 5 teaching assistance to help with the activity. Their abilities range from Kindergarten to Grade 2 in reading and writing. Two of the students do not speak at all, and the others have very limited vocabulary. The students really enjoy using the iPad’s, and they really enjoy kinesthetic activities. They are a great group to work with and I have a lot of fun with them. Although the time I spend with them is limited I find it very rewarding.

**Problems**

* Communication
* Lack teamwork skills
* Identification

**Phase 1**

|  |  |  |
| --- | --- | --- |
| **Learning Problem** | **Technology Solution** | **Relative Advantage** |
| Students have limited vocabularies | Tool Software (Pictures/videos) | Visual examples enhance the students vocabulary with pictures and videos |
| Students find practice boring | Using the iPad is fun for the students | Using the iPads provides motivation and interaction for the students. |

My content knowledge is very strong because the students are trying to learn basic words, and basic human skills. My Pedagogy is also very strong because the topic is very straightforward. I teach a lot of terms in my science class and I find the best way to teach them is by provided lots of practice for the students. Also the more they hear the words in the proper context, such as an educational documentary the faster they retain the meaning. I am very confident using technology because I use it every day. I have logged many hours using the iPads both at work and at home.

**Phase 2**

One hundred percent of the students will be able to complete the ten question digital scavenger hunt with the help of the TA. Students will also be able to properly identify eight out of the ten items at the end of the scavenger hunt with no added support. I will be using a rubric to assess the scavenger hunt.

This lesson will strictly focus on basic English terms. Adding interdisciplinary content would be too confusing for these students. The primary focus on today’s lesson will be the ability to follow a step by step task. The students will be working in pairs on this project. These students are very competent using the iPads, because they spend lots of time using educational apps and games, and taking pictures and videos for projects in other classes.

The only technology used in this lesson will be the iPads. After the students have taken pictures of the ten items they will create a photo story using the iPads. These students are kinesthetic learners so I will place the items all over the classroom, as well as a few in the hallway to get them up and moving around. I will test out all of the iPads before the students start the project to ensure the camera feature is working properly.

**Phase 3**

All in all, the lesson works very well. The student’s really seem to enjoy this activity. I believe one of the reasons for this is that they love working with the iPads. The iPads are much easier to use for these students compared to netbook or desktop computers. The only revisions that need to be made for this lesson would be to adjust the content base of the student’s level. Teachers could give a different list of items to each group base on their abilities. This way the activity is not too difficult or not too easy for the students.

**NTeQ Lesson Plan**

**Lesson Title: Virtual Scavenger Hunt**

**Subject Area(s): Literacy, PD Grade Level: Special Needs**

**Lesson Summary**

The primary focus for this lesson will be for students to create a photo story using pictures that they take with the iPad. Students will be given a list of ten items, they will then have to look around the classroom and school to locate these items and take a picture using an iPad. Once this is done they will return to the classroom and create a photo story using the pictures.

**Learning Objectives**

By the end of this lesson:

1. Students will be able to create a photo story using pictures took with the iPad.

* Identify the 10 items
  + Application, Knowledge
* Create the photo story (with help from TA)
  + Application, Comprehension
* Present their photo story to their classmates and the TA’s
  + Comprehension

1. Students will be able to work effectively in a group setting.

**Standards**

National:

1. Critical thinking, Problem Solving, & Decision Making
2. Technology Operations & Concepts

Local:

1. Following step by step task
2. Teamwork

**Materials**

|  |  |
| --- | --- |
| 1. SmartBoard |  |
| 1. 3 iPads |  |
| 1. Internet Connection 2. Scavenger hunt checklist |  |
|  |  |

**Computer Functions and Data Manipulation**

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| --- | --- | --- |
| *Computer Function* | *Computer Application* | *Data Manipulation* |
| * Camera | * Graphical Design | * Knowledge |
| * Photo Story |  | * Comprehension |
|  |  |  |

**Specify Problem**

Can the students identify all the items on the scavenger hunt then create a photo story?

**Results Presentation**

Students will work together with another student along with the support of the teacher assistance’s. Once the photo story in completed they will present their projects to their classmates and the TA’s.

**Multidimensional Activities**

**Lesson Introduction –**

* I will introduce the lesson by showing the student a photo story I made. The photo story will be made up of items that are located in the classroom
* The driving question will then be introduced: Can students identify the items on the scavenger list and create a photo story?
* The scavenger hunt checklist will be handed out and discussed
* Students will begin the lesson

**Computer Activities**

Prior to going on the computer

1. Discuss the activity
2. Show students my photo story
3. Distribute checklist

At the computer

1. Student will take pictures using iPad
2. Create photo story

After going on computer

1. Present photo story to the class

**Supporting Activities**

The teacher assistants will be there to support the student while they are taking pictures of the different items.

**Culminating Activity**

Creating the photo story will pull all the learning together. Students will be presenting their photo story to the class using the Smartboard.

**Rotation Plan**

I believe it will take the students roughly twenty minutes to take the pictures for the photo story. Once that is finished they will move on to creating their own photo story will take about forty five minutes. I think it will take about fifteen minutes for all the students to present their photo story.

**Assessment**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Objective or Performance** | **Beginning**  **1** | **Developing**  **2** | **Accomplished**  **3** |  | **Score** |
| Scavenger Hunt | Not all components of the activity are complete | Students require a great deal of assistance to complete their scavenger hunt. | Students require minimal assistance to complete scavenger hunt. |  |  |
| Student created Photo Story | Not all the items were included in the photo story | Students require a great deal of help to complete their photo story. | Students require minimal assistance to complete their photo story. Presentation is very well done. |  |  |
| Students are expected to be able to work effectively with others. | Students struggle in the team setting. No collaboration is going on. | Students worked adequately together, there are signs of collaboration. | Students are working extremely well with lots of collaboration going on. |  |  |
|  |  |  |  |  |  |

**Explain**

I believe that the lesson meets a lot of the needs and abilities of the students. First of all they really enjoy working with the iPads, so they are motivated right from the start of the lesson. They all are kinesthetic learners so this activity really works well by getting them up and moving around. Sometime these students struggle when it comes to working in groups so the more activities they do together the more each of them will improve this skill.

**2. Badminton**

This lesson will be designed for my grade nine PE class. I have twenty students in the class, and their abilities range from extremely low to exceptional. Of the twenty students eighteen really enjoy phys-ed and are up for doing anything no matter what the activity. The other two hate phys-ed and it is a constant fight to get them to participate. However, all of the students do enjoy badminton that is why I chose it for my lesson. I do not assess on physical ability, I assess on participation and effort. I came up with the idea for this lesson when I was teaching the ready position. I am hoping by videotaping the students they will be more likely to correct their mistakes.

**Problems**

* Wide range of skill
* Motivation
* Hard time staying on task

**Phase 1**

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| --- | --- | --- |
| **Learning Problem** | **Technology Solution** | **Relative Advantage** |
| Concepts are foreign | Videotaping the skills | Video does not lie, so students will be able to visual see their errors |
| Students find practice boring | Video provides feedback | Video provides motivation for the students |

My content knowledge is very strong because I have played badminton my entire life, and I have been teaching it for the past four years. My Pedagogy is also strong because I have tried to teach badminton a number of different ways. For example, give them some time to practice before I address the class with the different skills. I’ve also tried using different objects such as bean bags to teach the strategy. I am confident using technology because I use it every day. I have spent some PD time reviewing PE lessons involving video recording.

**Phase 2**

Ninety percent of the student will score 4 out of 5 on their ready position. I will be using a rubric to assess the student’s badminton skills. I will designate one court that will be used for evaluating, and the other will be used for students practice. This lesson will only focus on PE. The students will be working in groups of four. Once the students have had enough time to practice, and watch themselves on video. The teacher will evaluate the student’s one group at a time, by calling them over to the designated court. Prior to the lesson I will check all of the recording equipment to make sure it is functioning, and if it will capture the students on the court. I will have a backup video camera ready to go in case something goes wrong.

**Phase 3**

I believe the lesson went very well. One area that could be addressed is the use of the iPads. If you do not trust the students with the iPads, you could substitute video cameras and tripods for the iPads. Another area that could be analyzed is the length of time that is permitted for active practice. Depending on the group they may need more or less time practicing the skills. This will be up to the teacher to use their professional judgment. Another revision that could be made is that the lesson could focus on different skills. If you have a more advanced group the teacher could spend more time teaching tactics using video feedback instead of it being skill base.

**NTeQ Lesson Plan**

**Lesson Title: Feedback, the breakfast of champions?**

**Subject Area(s): PE Grade Level: 9**

**Lesson Summary**

The primary focus for this lesson will be for students to work on the proper ready position in badminton. The lesson will start with five minutes of free time where students can warm up playing badminton with their classmates. Then I will show the students a quick video on the ready position and forehand serve. After the video I will review the key teaching points for the ready position and the forehand serve. After the demonstration I will assign four students per court. The students will then practice both the ready position and the forehand serve at their courts, using the video tape as feedback. Towards the end of class I will start calling groups over to my court to begin the evaluation process.

**Learning Objectives**

By the end of this lesson:

1. Students will be able to properly perform the ready position and the forehand serve

* Ready Position
  + Knowledge, Comprehension, Application
* Forehand Serve
  + Analyze, Synthesis, Evaluation

1. Students will be able to work effectively in a group setting.

**Standards**

National:

1. Critical thinking, Problem Solving, & Decision Making
2. Technology Operations & Concepts
3. Communication & Collaboration

Local:

1. Knowledge
2. Safety

**Materials**

|  |  |
| --- | --- |
| 1. Laptop | 1. 25 badminton racquets |
| 1. Projector | 1. 12 birdies |
| 1. Internet Connection 2. iPads | 1. Teaching cures checklist |
|  |  |

**Computer Functions and Data Manipulation**

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| --- | --- | --- |
| *Computer Function* | *Computer Application* | *Data Manipulation* |
| * Internet | * Feedback | * Synthesis |
| * Projector * Coaches eye |  | * Analysis * Evaluation |
|  |  |  |

**Specify Problem**

Can students preform the proper ready position and forehand serve using teaching cues and video as feedback. The driving question: Is feedback the breakfast of champions?

**Results Presentation**

For this lesson I will be marking each student during simulated game play in groups of 4. I will evaluate one student at a time using my rubric. After all four students have been evaluated in the group I will move onto the next group.

**Multidimensional Activities**

**Lesson Introduction –**

* The lesson will begin with five minutes of free time for the students to warm up
* Then I will show the students two short video clips. The first one on the ready position, the second on the forehand serve.
* The driving question will then be introduced. Feedback the breakfast of champions?
* Then I will review the key teaching points on the ready position and the forehand serve
* Demonstrate how the Coaches Eye soft wear works
* Distribute the teaching cues checklist
* Assign courts to the students and allow them to practice with the help of the feedback

**Computer Activities**

Prior to going on the courts

1. Warm up

1. Show students the video clips ready position & forehand serve
2. Distribute teaching cues checklist

At the courts with the iPads

1. Allow students to practice
2. Analyze the video
3. Make proper adjustments

Evaluation

1. Students will be evaluated by the teacher during simulated games using a rubric

**Supporting Activities**

The supporting activity for this lesson is when the students are actively working to correct their badminton skills using video as feedback. Students will be given time to practice, watch the video then try and correct their mistakes prior to be evaluated by the teacher.

**Culminating Activity**

The culminating video will be the game play evaluation of the ready position and forehand serve towards the end of class. The teacher will be sure to provide ample practice time before evaluating the students.

**Rotation Plan**

Introduction and warm up will take about 10-12 minutes. Then allow students 30 minutes of active practice using the video feedback. Then the teacher can start evaluations during simulated game play.

**Assessment**

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| --- | --- | --- | --- | --- | --- |
| **Objective or Performance** | **Beginning**  **1** | **Developing**  **2** | **Accomplished**  **3** | **Exemplary**  **4** | **Score** |
| Participation | The students did not attempt any badminton today | The student only play for half of the class | The student participated the entire class but took frequent breaks | The student participated the entire class with little or no breaks |  |
| Ready Position | The student did not try to improve on their ready position | The student was active but did not take the time to analyze the video | The student took the time to analyze video but did not improve | The student took the time to analyze the video and they improved their technique |  |
| Forehand Serve | The student did not try to improve on their forehand | The student was active but did not take the time to analyze the video | The student took the time to analyze video but did not improve their technique | The student took the time to analyze the video and they improved their technique |  |
| Students are expected to be able to work effectively with others. | Students struggle in the team setting. No collaboration is going on. | Students worked adequately together, there are signs of collaboration. | Students are working extremely well with lots of collaboration going on. |  |  |

**Explain**

I believe that this lesson will meet the needs of my students. All of the students regardless of skill can improve their technique by using video feedback. In addition by incorporating technology I believe it will motivate the students and keep them more focused and on task. Along with the video the students will be able to provide feedback for each other to improve on their technique.

**3. Pesticide WebQuest**

This lesson will be designed for my grade ten Science class. I have twenty five students and one teaching assistant in the class, and five of them are on modified plans and a number of them have accommodation. There are a few high achieving, but the bulk of them are in the average range. Most of the students are unorganized and have a difficult time following directions. They also lack proper research skills, and they require lots of attention. They prefer student led hands on learning, because they can’t focus during lectures. Most of them fall under the visual learner category. I find PBL and UDL are the best way to reach this class. That is why I came up with the Pesticide WebQuest. I used to do a research paper on pesticides in previous year, but I felt this group would struggle with that assignment so I modified it.

**Problems**

* Unorganized/lack research skills
* Difficulty following direction
* Very little independence

**Phase 1**

|  |  |  |
| --- | --- | --- |
| **Learning Problem** | **Technology Solution** | **Relative Advantage** |
| Students are unorganized and lack research skills | Using a WebQuest | The Webquest will keep the students organized, and ovoid them wasting time searching the web |
| Difficulty with freedom | Using the WebQuest | The Webquest will keep the focused, and the direction are very simple |

My content knowledge is fairly strong because I have been teaching this course for the past three years. This is a full year course, halfway through the year the students are reshuffled into different groups and sometimes different teachers. Every year I try to teacher concepts in a little different ways to see what works best. The trouble is that just because if worked will with last year’s class doesn’t mean it will work with this year’s group. After three years I fell I have a good handle on what works best, but I’m always looking at ways to improve my craft. I am very confident with technology, most of my science lesson are done using the smartboard, and I try and get the students using the netbook as often as possible.

**Phase 2**

I believe that eighty percent of the students will score twelve out of fifteen on the WebQuest. I will be using a rubric to assess the students on this lesson. The rubric will be included in my lesson plan. The primary focus on this lesson will be Science, but the students will also be working on their literacy skills.

At the beginning of the lesson I will address the whole class to demonstrate how the WebQuest works and answer any questions the students might have. After that most of the lesson will be done in pairs, with the exception to the final opinion question which will be done individually. I am certain the students will be fine using the technology for this lesson. The designated website will be linked on the WebQuest, and the students have been using the web for a number of years.

I have access to netbook carts that have a minimum of twenty five laptops so the number of computers will not be a problem. Most of the lesson with be done in pairs so I will only need half as many, it is only the final section of the lesson where I will need access to all twenty five computers. The modified students in the class will have access to netbook with WordQ softwear, so that will help them with their spelling. I also have a TA that is assigned to the modified students so she can also assist them when needed. I will test all of the links prior to the lesson to ensure they work. If some of the netbook are not functioning I can borrow some from another cart, which is located down the hall from my classroom.

**Phase 3**

I found this lesson worked very well for this group. The WebQuest keep them on track and saved them from wasting time on irrelevant websites. My goal was met with eighty percent of the students scoring twelve or higher on the rubric. The students preferred the WebQuest assignment much more that the research project done in the past. They also really enjoyed the debate that was held the next class. One aspect of technology that I could improve would be to include a second video which could provide more information on the topics and keep the students more engaged. Some revision that could be made to the lesson included the length of the WebQuest and the debate. Depending on the strength of your class you would either add questions or remove some from the WebQuest. Also if you feel the class would struggle with the debate than that could also be removed from the lesson.

**NTeQ Lesson Plan**

**Lesson Title: The Truth About Pesticide**

**Subject Area(s): Science & Literacy Grade Level: 10**

**Lesson Summary**

The primary focus for this lesson will be for students to complete a WebQuest on the harmful effects of pesticides. Students will work in pairs to complete the activities. The lesson will start with a short clip about organic foods, and then the students will complete the WebQuest. Once completed, the students will individually write a journal entry on organic versus regular food.

**Learning Objectives**

By the end of this lesson:

1. Students will be able to make an informed decision on whether they should be eating organic or regular food.

* WebQuest
  + Analysis, Comprehension
* Journal Entry
  + Application, Synthesis, Evaluation

1. Students will be able to work effectively in a group setting.

**Standards**

National:

1. Critical thinking, Problem Solving, & Decision Making, Research & Information Fluency
2. Technology Operations & Concepts

Local:

1. Pesticides
2. Bioaccumulation

**Materials**

|  |  |
| --- | --- |
| 1. SmartBoard |  |
| 1. 25 Laptops |  |
| 1. Internet Connection 2. Wiki |  |
|  |  |

**Computer Functions and Data Manipulation**

|  |  |  |
| --- | --- | --- |
| *Computer Function* | *Computer Application* | *Data Manipulation* |
| * Internet | * Research | * Synthesis |
| * WebQuest |  | * Analysis * Evaluation |
|  |  |  |

**Specify Problem**

Today we are going to investigate Pesticides. Should we be eating organic food?

**Results Presentation**

Students will work in pairs to complete the WebQuest. Once that is done students will individually complete a journal entry where they have to decide if they are for regular or organic foods. With the students permission the teacher will share some of the journal entries with the class. In the next class the students will be participating in a debate, and will be placed in teams bases on their journal entry

**Multidimensional Activities**

**Lesson Introduction –**

* The lesson will be introduced with a short video clip from YouTube entitled, What is organic? This video will give student the basic information about organic foods.
* The driving question will then be introduced: Should we be eating organic foods?
* I will then assign students partners for the activity. I will be pairing a strong student with a weaker one.
* The students will then start completing the Pesticides WebQuest, which will be located on my class Wiki
* After the WebQuest is completed student will work on their journal entries individually

**Computer Activities**

Prior to going on the computer

1. Discuss the activity
2. Show students the short video
3. Show students where to find the WebQuest

At the computer

1. Complete the WebQuest
2. Research information on Pesticides

After going on computer

1. Write a journal entry defending your position on whether or not we should be eating organic foods.

**Supporting Activities**

The supporting activity for this lesson will be the WebQuest activity. The WebQuest will provide the student with the information they will need to complete the culminating journal entry at end of the lesson.

**Culminating Activity**

After watching the video and completing the WebQuest the students will now have more information in order to make an informed decision on organic verses regular food. The journal entry will allow the students to argue their position, and get them ready for the debate held next class.

**Rotation Plan**

After the short video the students will work in pairs to complete the WebQuest, which should take them about half an hour to complete. Once that is done the students will work individually on their journal entry which should take them about twenty minutes to finish.

**Assessment**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Objective or Performance** | **Beginning**  **1** | **Developing**  **2** | **Accomplished**  **3** | **Exemplary**  **4** | **Score** |
| WebQuest | Students require a great deal of assistance with the WebQuest. Not all components of the activity are complete | Students require a great deal of assistance to complete their WebQuest | Students require minimal assistance to complete the WebQuest. | Students finish all components of the activity. No help was required. |  |
| Journal | Journal is incomplete and poorly done. | Journal is complete, however contains many errors | Journal is complete, but contains only a few errors | Journal is well written with no errors. |  |
| Students are expected to be able to work effectively with others. | Students struggle in the team setting. No collaboration is going on. | Students worked adequately together, there are signs of collaboration. | Students are working extremely well with lots of collaboration going on. |  |  |
| Debate | The student did not participate in the debate | The student played a very limited role in the debate | The student was very active in the debate making lots of good points | The student took charge and lead the debate for their side in the debate |  |

**Explain**

I believe that this lesson meets the needs of this class in a number of ways. First off most of these students struggle with organization so letting them loose to research on the internet never works out well. The WebQuest will keep them focused and on track without getting lost in the internet. They also struggle with research because they cannot tell the different between creditable site and a non-creditable site. That’s the beauty of a WebQuest the websites are already chosen by the teacher so the students will not waste time on useless sites. This lesson is also very visual and is student led which has worked well for me in the past with this group.

References

British Columbia Goverment. (2013). Pesticide wise. Retrieved from http://www.agf.gov.bc.ca/pesticides/a\_1.html

Pure and green organic. (2011). Organic. Retrieved from http://.www.youtube.com/watch?v=BebNsezt6r0

Youtube. (2011). How to hi a good badminton serve. Retrieved from http://www.youtube.com/watch?v=jU7gcnmTpbg

Youtube. (2012). Ready position. Retrieved from http://www.youtube.com/watch?v\_tuPzHTehBQ