Formative Evaluation: The Kingdom Planate Learning Pages

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Introduction

Context

William Gillett Academy (WGA) is an all-grade school located on the south coast of Labrador in the community of Charlottetown. WGA has 10 teachers, serving 75 students K-12. The Grade 9 Science curriculum is taught to a multi-grade class consisting of grade 8 and 9 students (12 students in total). One student in that class, 'Luke', is on a Pathway 2 for Science, in that he needs supports for reading and writing (he reads at a grade 2 level). All tests are read orally and transcribed, and special accommodations are made for assigned work. Luke, however, has struggled with Science this year, especially the Diversity of Living Things unit, which was rich in terminology. Most students could take the text themselves and review this material, but Luke found this material too challenging to tackle on his own. With the demands of a multi-grade class, Luke needs a tool that can help him learn independently while at home so that he can effectively prepare for a re-test of this unit of study. Other schools may be able to use this product in similar circumstances. Certainly, in the next few years at WGA it is clear that a learning tool such as this will be very valuable, if the prototype testing with Luke is successful.

Problem Statement:

The problem to be addressed by this instructional package is aimed at a student with reading difficulties who is trying to learn about the Diversity of Living Things unit in the grade 9 Newfoundland and Labrador science curriculum. The focus will be to help the
student recognize the terminology and relate them to images and verbal descriptions, thus building the basis for an understanding of the web of life.

Needs Analysis

Current Situation:
Currently, this material is foreign to Luke. He tested at 14% for this unit of study (with the pathway supports). Since that time he has received a passing mark on an introductory chemistry unit; that unit had much less dependence on terminology. Luke has not had the opportunity to effectively review this material since it was taught in class. Luke buses in from a neighbouring community, making after-school tutoring inconvenient, and often impossible. He has not responded well to handouts, and there are no web sites known currently that fit the curriculum and address his learning needs properly.

Ideal Situation:
Ideally, Luke would be able to relate the written words with verbal pronunciations of the terms in the unit (for example, echinoderm) with examples (starfish), and with definitions that help build links with related topics. Luke should be able to attain a level of mastery with this material that is acceptable to everyone on his Individual Support Services Plan (ISSP) team. Luke will re-take the unit test on this material and hopefully succeed, with the learning retained through final exams and into the future.

Enabling Luke:
In order to help Luke master this material, a tutorial will be set up with assessment items to help give Luke feedback. The tutorial will be rich with audio and visual queues to help
Luke learn the challenging words in the unit in functional way. There will be activities set up to help him relate the new vocabulary to the major concepts. This will be a web-based product to allow Luke to access it from anywhere, anytime. Practise quizzes will be assigned throughout the module to help Luke evaluate his progress. As well, there will be appropriate project work assigned to help Luke build a comprehensive understanding of the material.

Learning Objectives

Note: After considering the development time needed, this prototype was adjusted to reflect learning objectives related only to Plants in the Diversity of Living Things unit.

- After completing this set of tutorials and consulting their textbook, a grade 9 science student will be able to distinguish the differences in the major phyla of Kingdom Plantae by constructing a 1-page table (on paper) that accurately demonstrates the differences in reproductive strategies, vascular systems, and sample organisms, due 4 days after starting these tutorials.

- After completing each mini-tutorial and consulting their textbook, a grade 9 science student should be able to summarize the identifying features of the major phyla of the plant kingdom, and with teacher assistance construct a suitable mnemonic device (a picture, rhyme, song, acrostic, chart, etc...) on paper to help with knowledge recall, to be completed in conjunction with each mini-tutorial.

- After completing this set of tutorials and consulting their textbook, a grade 9 science student will be able to construct and use a dichotomous key to identify local flora. The student will create a web page with pictures to reveal their key
and the organisms it identified through use of the key, due 1 week after starting these tutorials.

- Based on their knowledge of the organisms under study throughout this unit, a grade 9 science student will be able to devise a controlled experiment to investigate the effects of abiotic factors with regards to the growth of a sample plant species. Experimental design, to be typed and submitted on paper, due 2 weeks after starting these tutorials.

**Contextual Analysis**

**Learner Characteristics:**

As stated earlier, Luke reads at a grade 2 level. However, Luke has shown some keen understanding of scientific concepts in the past, both on tests and orally in class. He struggles with attention at times, especially among his peers, but has shown a determination to learn in one-on-one tutoring, showing keen listening skills. Constant help is needed with organizational skill development. Luke's computing abilities are below average for his age group, but he is able to login to a computer, type in web addresses, and browse the Internet, although some sites are not appropriate for his reading ability. He has shown artistic flair through sketches, and is often attracted to pictorial representations. Luke would best benefit from a product that gave him the audio queues he needs (as he needs them). The product should help promote his reading skills, but it will use audio, pictures, and perhaps video whenever possible to help Luke with the scientific concepts.
**Instructional Setting:**

Luke will be accessing his tutorial on his home computer via the Internet. This module is designed to be web-assisted instruction, where Luke will receive help and instruction in class, while completing many of the activities and tutorials at home. There may be times during his scheduled Special Needs periods that he may be able to avail of the tutorial as well, but this time is allocated primarily for math and language help.

**Organizational Support:**

The ISSP team leader, the school administration, and the parents are eager to have Luke re-assessed on this unit of study. Success at this level of science will help to ensure that he has the proper basis for scientific study in high school and beyond. Success with this prototype may also lead to similar solutions for Luke in other areas, and for other students in the school who are experiencing problems like this. The school is committed to helping every student achieve to their full potential.

**Project Design**

A mock-up of this module was created, based on the following flowchart. Special care was taken to address the reading abilities of Luke, so as a result the prototype is rich in audio descriptions that extend from his textbook as well as audio job-aids that support reading of the quiz questions. Based on the mock-up, the Kingdom Plantae Learning Pages were created.

**Formative evaluation**
The purpose of this formative evaluation is to eliminate correctable errors in the Kingdom Plantae Learning Pages, to debug the prototype, and to generally determine if the site meets the requirements set out in the design stage. (Mann, 2006) From here, a final validation test would be appropriate (ibid), but is beyond the scope of this particular evaluation.

**Evaluator Profiles**

**Instructional Designer**

The Instructional Design Evaluator for this prototype was an experienced teacher in the Western Newfoundland and Labrador School District with his Masters in Education (Information Technology). Since finishing the program, he has had the opportunity to apply his knowledge at the grade level for which this prototype has been designed.

**Subject Matter Expert**

The Subject Matter expert is a Vice-Principal in a school in the Eastern Newfoundland and Labrador School District. He has been awarded a Bachelor of Science and a Bachelor of Education from Memorial University, and is currently working on his M. Ed. He has experience teaching the provincial intermediate and high school science curricula.

**Students**

Two grade 9 students were used to carry out a pilot test of the prototype, Luke and Student 2. Both had been assessed earlier in the year on these learning objectives, with Student 2 scoring a 72% on a test, and Luke a failing mark. Although Luke is the target
audience for this prototype, the hope is that it could be useful for anyone studying grade 9 Science to some degree; Student 2 represents this larger audience. When approached, both students expressed an interest in reviewing and learning more about plants. The selection of these students was also based on convenience, considering the time-frame that this evaluation took place in, our geographically isolated location and the number of students available in the target audience.

Data Collection Methods

The Alessi & Trollip Process (Mann, 2006) was employed to conduct this formative evaluation, whereby a 3-step process is followed:

1. **Quality reviews by an instructional design and a subject matter expert.**

These reviews are being conducted by the instructional designer and subject matter expert. Both were contacted by e-mail to describe the nature of the prototype and to discuss technical requirements. The link to the evaluation form was e-mailed to both experts, with instructions on how to access the prototype. They were also sent links of the flowchart and the design documents to help in their analysis. Submitted form values were submitted and saved. A follow up e-mail was made to clarify comments, and a thank-you e-mail sent to both for their time and effort.

2. **A pilot test of the prototype with a student.**

Two learners were selected based on their scores on a previous test of this unit. Luke, and an average student (a score of 72 on a previous Diversity test) were asked to access the prototype after school on a Monday and Tuesday, respectively. Students were lead to
computers that already had the necessary Microsoft Agent software installed, and that met the other technical requirements of the prototype. They were also asked to bring their Science text-book. Students were then asked to access the Plants homepage and choose the plants they wanted to study. After completing the tutorials, students completed the quizzes and were asked to review the Activities page. Instead of completing the three activities, I carried out a discussion to ensure that the instructions for the activities were clear, and tried to determine if they knew where to start. The Final Quiz was then administered, with the results e-mailed to my address. Students were given an opportunity to discuss their results before filling in the Student Evaluation Form available through the navigation on the left.

3. Validation

A true validation is not possible at this time, but it would be prudent to test the learning effects for this prototype in the medium and long-term in a full-class setting. Also, the effects of using this prototype for initial instruction (it was used in a remedial fashion during the pilot test) would be valuable, even though it was designed to be remedial.

Questions selected for the evaluation forms were drawn from Table 5.4: Evaluation Matrix: Sample Formative Evaluation Questions on page 137 of the Web-based Learning text. (Davidson-Shivers and Rasmussen, 2006) Other questions were created or modified for the specific purposes of this formative evaluation.
Results

Data analysis

Instructional Design Expert Feedback

The instructional design expert was pleased overall with the format and functions of the site. The instructional goals were seen as clear and achievable through use of the site. A suggestion was made to change the format of the quizzes to not be 'true and false' questions so that the learning domains could be more precisely assessed. Easier teacher contact should be available through the pages as well, even if it is just in the form of an e-mail address. He expressed concerns about the colours and size of the flowchart from the perspective of conducting this evaluation; he was able to use it sufficiently, but wished it could fit on one page with lighter backgrounds. After examining the design of the prototype, checking the flowchart, and the mock-up he felt that the prototype had been created as planned. The use of the agent as opposed to video was discussed and it was agreed that the use of the agent met the requirements set out in the design.

A suggestion was made to use a female voice with the agent, perhaps by using a different agent character. He acknowledged that some of the other agent characters have fewer animated features, but since agent movement does not have a discernible impact on student learning this was of little concern. He also suggested that a text option be available on the site to mirror and elaborate on the agent's message, considering that the agent can be hidden or may not function as planned on some systems. This would ensure that the prototype, though designed for the target audience, is capable of helping more students.
Subject Matter Expert Feedback

Through conversation with the subject matter expert it was clear that he was generally pleased with the site, and felt the activities were thorough for the specified learning objectives. The taxa used were discussed, and we both agreed that these categories would need to be reviewed as new research findings arise. The length of the quizzes was discussed, and although they were reasonable for the objectives they were testing, it was hard to gauge the validity of the final quiz. By broadening the scope of the product to include more, or all, of the *Diversity of Living Things* unit, a suitable test could be constructed. Still, it was suggested that the final quiz should include a dichotomous key question on plants.

Pilot Test Results

*Instructions*

Both students loaded the start page successfully, but were confused about what to do next when the agent stopped talking. Luke turned to me and asked what do next; Student 2 wanted to know how to hear the instructions again. These students would both have benefited from a clear separation of instructional content from the directions on how to proceed through the tutorial.

Student 2 read along in his book while playing the audio job-aid, while Luke opened his book to the page, but his eyes often drifted away. Still, there is enough evidence to suggest he remembered some of the text in this matter. For a student having reading
difficulties as pronounced as this, the audio may best be utilized in a way to correspond with on-screen pictorial events rather than written-text.

Time constraints on the pilot test meant that the Activities on the Activities Page could not be completed. Both students were able to answer questions about what they were asked to do, and they were able to verbally summarize the activities when questioned. Luke displayed amazement when he heard the agent say "Mr. Counsel" during a description of theses activities. Modifications would be needed to ensure that students feel the message is personalized for them earlier in the learning process.

Test Results

Student scores on the 'mini-quizzes' are as follows:

<table>
<thead>
<tr>
<th>Quiz</th>
<th>Luke</th>
<th>Student 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bryophyta</td>
<td>1 correct out of 3</td>
<td>1 correct out of 3</td>
</tr>
<tr>
<td>Ferns</td>
<td>2 correct out of 3</td>
<td>3 questions answered correctly</td>
</tr>
<tr>
<td>Gymnosperms</td>
<td>3 questions answered correctly</td>
<td>3 questions answered correctly</td>
</tr>
<tr>
<td>Angiosperms</td>
<td>2 correct out of 3</td>
<td>2 correct out of 3</td>
</tr>
</tbody>
</table>

All these quizzes had similar questions, helping to focus students on the most important topics. Both students seemed to benefit from this, as it helped to focus their attention after the Bryophyta quiz. Also, both students were surprised to receive immediate feedback; they both took time to read the explanations and took more care answering the questions on the three remaining quizzes. It is worth noting that the feedback had to read to Luke as
suggested in his ISSP plan; it is clear that the feedback should also come with an audio job-aid.

The Angiosperm result was interesting in that both students chose to click on the quiz link before the study-aid activity link. This is taken as a sign that the study-aid activity did assist students in comprehending the material. It also showed that the navigation could be improved to help encourage students to complete the activity before the quiz. Another factor to consider for the angiosperm quiz is that it was around that point in the tutorial that the students discovered they had some control over the agent. One student was moving the agent around in circles as the instructions were being given; the other was right-clicking the agent to discover the commands present. This distraction could have accounted for the slip in the test score.

The final quiz scores are as follows:

- Student 2 - 5/8

More questions would be needed to accurately assess student comprehension. Low test marks were expected in this pilot test since the 3 main learning activities were not performed. Both students wished they had more time to review the tutorials before they attempted the quiz.

*Survey Results and Comments*
Both students expressed an interest in using the tutorial to review for final exams. Comments revealed an interest in the different reproductive strategies, though it was apparent that Luke was still confused about what these strategies actually were. Student 2 did not find the tutorials 'interesting', but felt he had a much better understanding of kingdom plantae through his work with this site. Luke expressed concern over the agent, and found the computer voice displeasing. Still, he commented that he would not have known how to proceed without the help of the agent.

**Planned Revisions**

Planned Revisions to the [Kingdom Plantae Learning Pages](#) are separated here into four categories: Delivery, Environment, Content, and Learners. These categories help to identify the major factors that impact student learning. (Mann, 2006)

**Delivery**

- More written text should be included on the site. This could widen the community of learners this prototype could appeal to. This would mean changing the audio job-aids to reflect the on-screen material.
- If possible, the use of recorded audio instead of the agent voice should be used. Feedback was negative concerning the voice of the agent, but the audio job-aids were favourably viewed. A female agent character would be a second option if the recorded audio option proved to be difficult or costly to implement.
- This tutorial should be expanded to cover the entire *Diversity of Living Things* unit. This unit should be completed in autumn or spring, when students have a
chance to observe a greater variety of plants. This would also allow for testing on a suitable selection of objectives.

- The feedback nature of the mini-quizzes was a very successful feature; this technical capability should be employed more often throughout the learning process. For example, sample study-aids could be presented to the student in the form of a multiple choice question, and the student could select the most accurate map.

- To facilitate moving from the tutorials to the activities, an alert, perhaps in e-mail form, should be generated so that the teacher can know to inform their students of the next step to take. This will enable the teacher to be aware of progress without the need for the student to disclose their readiness.

- A clearer method of accessing the instructor should be created. The question and answer page should be suggested as a place for questions throughout the site. As well, a link to a contact form or simply an e-mail address could be added to the bottom of each page.

- The three main learning activities would best be completed with a strong emphasis on student collaboration and teacher facilitation. Activity 2 and 3 especially may put a strain on cognitive load; teachers should be ready to assist students working through these complex tasks. A full-class discussion should be facilitated to address concerns with these activities, and students should be made to feel welcome to discuss issues face-to-face as the need arises.

Environment
• The environment that this learning tool should be used in needs to be clear: these tutorials would serve well in a web-assisted instructional framework in a grade 9 class that has received some technical instruction throughout their schooling. Teachers could assign each tutorial for homework if all students had Internet access, and students would come to class to compare and improve upon their study-aids. Alternatively, online flowchart software could be employed, and small groups of students could collectively work on one version of the study-aid.

Content

• From observing the students working with the study-aid activities, it seemed like they could have benefited from a worked example of this activity online. Perhaps an animated screen capture of this activity while working with flowchart software, or a video of a student completing one on a white-board could help.
• The content here will need to be monitored, as new scientific studies often result in evolving classification systems.
• The final quiz should include a question or two on the application of a dichotomous key.
• The mini-quizzes should be changed to incorporate assessment items that carry more validity.
• A clear separation of directions from instructional content is needed. The agent should appear on screen to provide directions, informing the student of the links to activate instructional content (which could also be agent based). This would aid
in achieving better attentional control and attaining the intended effect from the directions provided.

- A stronger focus on local flora and environment earlier in the tutorial would help to personalize the instruction and serve to engage the student in something they care about. Generally speaking, students in coastal Labrador have a great respect for nature and a love of the outdoors, and the tutorial would best be tailored to take advantage of these characteristics to maintain their interest. This may limit the appeal for learners outside of this region, but teachers and instructional designers in other areas could easily modify to meet their needs.

**Learners**

- It is hoped that during final validation of this prototype that learning effects can be assessed across a larger range of abilities, and should include both males and females. Also, a field test in another location may help to reveal culturally significant results.

- Some students here experience difficulties with scientific concepts and have low expectations with regards to their performance on tests. To help improve student confidence levels, the first quiz in the tutorial should be altered to help students experience early success. An inclusion of an optional 'hint' may be a better alteration, but more simplified questions may also be appropriate, especially if the same topics were assessed in more detail later in the unit of study.
References


Appendix A: Forms

Available online:
http://www.k12.nf.ca/williamgillett/index.php/PlantsEvaluation/IDEvaluation
http://www.k12.nf.ca/williamgillett/index.php/PlantsEvaluation/SMEEvaluation
http://www.k12.nf.ca/williamgillett/index.php/PlantsEvaluation/StudentEvaluation

ID Evaluation

Thank-you for taking the time to evaluate the Plants Learning pages. These pages were designed to enhance learning that is taking place in the classroom, with a special emphasis placed on helping students with reading difficulties. Here is the flowchart for the pages. Please take some time to review the pages, and fill in the form below. Since the teacher controls access to the Activities Page and the Final Quiz you will need to access these pages from here (the student is required to complete the tutorials before proceeding to the activities and final quiz). Also, the Technical Requirements page is of particular importance for you starting out, since this would most likely be covered in class with the students so that they are clear on any installations needed. If you have any questions please e-mail jason_counsel(AT)yahooDOTca.

Name: ________________________________
Location: ________________________________
E-mail: ________________________________

Scale: 4-Strongly agree - 3-Agree - 2-Disagree - 1-Strongly Disagree

Instructional Goals

1. Are the goals and objectives clearly stated? 4 3 2 1
2. Are the goals and objectives achievable? 4 3 2 1
3. Are the goals and content appropriate for web-enhanced instruction? 4 3 2 1
4. Is there congruence between the instructional goals and content? 4 3 2 1

Comments
Instructional Content

5. Is there a match among content, objectives, activities, and assessment tools?
4 3 2 1
6. Do the instructional activities promote thoughtful and reflective responses?
4 3 2 1
7. Is the content information clearly and concisely presented?
4 3 2 1
8. Is the content challenging?
4 3 2 1
9. Does the content promote learning?
4 3 2 1
10. Is the attention of the learner maintained throughout the presentation?
4 3 2 1
11. Are the activities sufficient to help facilitate retention?
4 3 2 1

Comments

Technology

12. Did the agent technology function properly?
4 3 2 1
13. Did the mp3 files play properly, embedded on the page?
4 3 2 1
14. Did the quizzes function properly?
4 3 2 1
15. Were materials easy to access by students?
4 3 2 1
16. Are copyright and intellectual property not violated?
4 3 2 1
17. Is access to the teacher provided?
4 3 2 1
18. Is the website structured properly?
4 3 2 1
19. Are typographical, spelling, grammar, punctuation errors distracting?
4 3 2 1
Comments

Message Design

20. Are messages an integrated whole? ☐ ☐ ☐ ☐
21. Do supporting graphics enhance the learning without distracting? ☐ ☐ ☐ ☐
22. Is the gist of the instructional message conveyed effectively via the agent? ☐ ☐ ☐ ☐
23. Are audio instructions designed effectively? ☐ ☐ ☐ ☐
24. Do the movements of the agent enhance the learning without distracting? ☐ ☐ ☐ ☐
25. Do any screens put too much strain on cognitive load? ☐ ☐ ☐ ☐
26. Is the sound on the mp3 files clear? ☐ ☐ ☐ ☐
27. Is the agent voice audible? ☐ ☐ ☐ ☐
28. Is the layout pleasing, making good use of white space? ☐ ☐ ☐ ☐
29. Did the use of colour and typeface enhance learning without distracting? ☐ ☐ ☐ ☐
30. Are the audio job-aids available adequate for assisting students with reading difficulties? ☐ ☐ ☐ ☐

Comments

Other Comments

Feel free to make any other comments that fall outside the categories used above:
SME Evaluation

Thank-you for taking the time to evaluate the Plants Learning pages. These pages were designed to enhance learning that is taking place in the classroom, with a special emphasis placed on helping students with reading difficulties. Please take some time to review the pages, which were based on this flowchart, and fill in the form below. Since the teacher controls access to the Activities Page and the Final Quiz you will need to access these pages from here (the student is required to complete the tutorials before proceeding to the activities and final quiz). Also, the Technical Requirements page is of particular importance for you starting out, since this would most likely be covered in class with the students so that they are clear on any installations needed. If you have any questions please e-mail jason_counsel(AT)yahooDOTca.

Name: 
Location: 
E-mail: my@email.address

Scale: 4-Strongly agree - 3-Agree - 2-Disagree - 1-Strongly Disagree

Instructional Goals

1. Are the goals and objectives clearly stated? ☐ ☐ ☐ ☐
2. Are the goals and objectives achievable? ☐ ☐ ☐ ☐
3. Are the goals and content appropriate for web-enhanced instruction? ☐ ☐ ☐ ☐
4. Is there congruence between the instructional goals and content? ☐ ☐ ☐ ☐
5. Are the learning objectives relevant to the learners? ☐ ☐ ☐ ☐

Comments

Instructional Content
6. Do the instructional activities promote thoughtful and reflective responses?  

7. Is the content information clearly and concisely presented?  

8. Is the content challenging?  

9. Does the content promote learning?  

10. Is the information provided timely, up to date?  

11. Are the activities sufficient to help facilitate retention?  

12. Is the information complete, meeting the learning objectives properly?  

Comments

Technology

13. Were materials easy to access for students?  

14. Did the quizzes function properly?  

15. Is the website easy to navigate?  

16. Is access to the teacher provided?  

17. Are typographical, spelling, grammar, punctuation errors distracting?  

Comments

Message Design

18. Did this site integrate with other course tools and resources?
19. Were the external links provided helpful and appropriate? 
20. Is the layout pleasing, making good use of white space? 
21. Do supporting graphics enhance the learning without distracting? 
22. Did the use of colour and typeface enhance learning without distracting? 
23. Are the audio job-aids available adequate for assisting students with reading difficulties?

**Comments**

Feel free to make any other comments that fall outside the categories used above:

**Other Comments**

Feel free to make any other comments that fall outside the categories used above:

**Student Evaluation**

Hello!

Please take the time to review the tutorial set up [here on Kingdom Plantae](#). When you are finished the 4 groups of plants listed, please contact your teacher for the next activity.

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**Evaluation Form**

When you are finished the tutorials, activities, and final quiz, please fill out this form. Feel free to ask your teacher any questions:

**Name:**
Scale: 4-Strongly agree - 3-Agree - 2-Disagree - 1-Strongly Disagree

Learning Goals

4 3 2 1
1. Are the goals and objectives clearly stated? □ □ □ □
2. Are the goals and objectives achievable? □ □ □ □
3. Are the learning objectives relevant to you? □ □ □ □

Comments

Instructional Content

4 3 2 1
4. Did the quizzes give you feedback on your answers? □ □ □ □
5. Were you introduced to new information? □ □ □ □
6. Did the instructional activities promote thoughtful and reflective responses? □ □ □ □
7. Is the content information clearly and concisely presented? □ □ □ □
8. Is the content challenging? □ □ □ □
9. Did the tutorials and quizzes help you learn? □ □ □ □
10. Is the information provided timely, up to date? □ □ □ □
11. Are the activities sufficient to help you remember the information? □ □ □ □
12. Is the information complete, meeting your learning needs properly? □ □ □ □

Comments
Technology

13. Were materials easy to access? ☐ ☐ ☐ ☐
14. Did the quizzes function properly? ☐ ☐ ☐ ☐
15. Is the website easy to navigate? ☐ ☐ ☐ ☐
16. Is electronic access to the teacher provided? ☐ ☐ ☐ ☐
17. Are typographical, spelling, grammar, punctuation errors distracting? ☐ ☐ ☐ ☐

Comments

Message Design

18. Did this site integrate with other course tools and resources? ☐ ☐ ☐ ☐
19. Were the external links provided helpful? ☐ ☐ ☐ ☐
20. Is the layout pleasing? ☐ ☐ ☐ ☐

Comments

Other Comments
Would you use the Plants site to help review this material at a later date?

What did you learn about Kingdom Plantae that you find particularly interesting?

What are some things that you would like to see if changes were going to be made to the 'Plants' site?

What parts of Kingdom Plantae are you still confused about?

Were any of the instructions confusing to you?

Feel free to make any other comments that fall outside the categories used above:

Submit Form
Appendix B: Form Feedback

Scale: 4-Strongly agree - 3-Agree - 2-Disagree - 1-Strongly Disagree

Student Evaluations:

Luke

Learning Goals

1. Are the goals and objectives clearly stated? 4
2. Are the goals and objectives achievable? 4
3. Are the learning objectives relevant to you? 4

Comments

N/A

Instructional Content

4. Did the quizzes give you feedback on your answers? 4
5. Were you introduced to new information? 4
6. Did the instructional activities promote thoughtful and reflective responses? 3
7. Is the content information clearly and concisely presented? 4
8. Is the content challenging? 4
9. Did the tutorials and quizzes help you learn? 3
10. Is the information provided timely, up to date? 4
11. Are the activities sufficient to help you remember the information? 4
12. Is the information complete, meeting your learning needs properly? 4

Comments

N/A

Technology

13. Were materials easy to access? 4
14. Did the quizzes function properly? 4
15. Is the website easy to navigate? 4
16. Is electronic access to the teacher provided? 3
17. Are typographical, spelling, grammar, punctuation errors distracting? 4
Comments

N/A

Message Design

18. Did this site integrate with other course tools and resources? 4
19. Were the external links provided helpful? 1
20. Is the layout pleasing? 4

Comments

Didn't use external links

Other Comments

Would you use the Plants site to help review this material at a later date?
Yes

What did you learn about Kingdom Plantae that you find particularly interesting?
Gymnosperms, and flowers (the way they drop spores on other plants).

What are some things that you would like to see if changes were going to be made to the 'Plants' site?
The guy talking, you couldn't really hear him, like he was stuttering.

What parts of Kingdom Plantae are you still confused about?
"Would like more time to review everything."

Were any of the instructions confusing to you?
No, only when the guy was talking, but I wouldn't have known what to do without him.

Feel free to make any other comments that fall outside the categories used above:
N/A

Student 2

Learning Goals

1. Are the goals and objectives clearly stated? 3
2. Are the goals and objectives achievable? 3
3. Are the learning objectives relevant to you? 3

Comments
N/A

**Instructional Content**

4. Did the quizzes give you feedback on your answers? 4
5. Were you introduced to new information? 3
6. Did the instructional activities promote thoughtful and reflective responses? 3
7. Is the content information clearly and concisely presented? 3
8. Is the content challenging? 3
9. Did the tutorials and quizzes help you learn? 3
10. Is the information provided timely, up to date? 4
11. Are the activities sufficient to help you remember the information? 4
12. Is the information complete, meeting your learning needs properly? 3

**Comments**

N/A

**Technology**

13. Were materials easy to access? 3
14. Did the quizzes function properly? 4
15. Is the website easy to navigate? 3
16. Is electronic access to the teacher provided? 4
17. Are typographical, spelling, grammar, punctuation errors distracting? 2

**Comments**

N/A

**Message Design**

18. Did this site integrate with other course tools and resources? 3
19. Were the external links provided helpful? 3
20. Is the layout pleasing? 3

**Comments**

N/A

**Other Comments**
Would you use the Plants site to help review this material at a later date?
Yes

What did you learn about Kingdom Plantae that you find particularly interesting?
*What I thought was interesting was learning about all the plants in 'kingdom' plantae and what they 'were' produced by.*

What are some things that you would like to see if changes were going to be made to the 'Plants' site?
*More interesting information.*

What parts of Kingdom Plantae are you still confused about?
*I'm not confused about any of kingdom plantae.*

Were any of the instructions confusing to you?
*None of the instructions were confusing to me.*

Feel free to make any other comments that fall outside the categories used above:
N/A

**SME Evaluation:**

Evaluator: Brian Patten

**Instructional Goals**

1. Are the goals and objectives clearly stated? 4
2. Are the goals and objectives achievable? 4
3. Are the goals and content appropriate for web-enhanced instruction? 4
4. Is there congruence between the instructional goals and content? 3
5. Are the learning objectives relevant to the learners? 4

Comments
N/A

**Instructional Content**

6. Do the instructional activities promote thoughtful and reflective responses? 4
7. Is the content information clearly and concisely presented? 4
8. Is the content challenging? 3
9. Does the content promote learning? 4
10. Is the information provided timely, up to date? 4
11. Are the activities sufficient to help facilitate retention? 4
12. Is the information complete, meeting the learning objectives properly? 4

Comments
N/A
Technology

13. Were materials easy to access for students? 4
14. Did the quizzes function properly? 4
15. Is the website easy to navigate? 3
16. Is access to the teacher provided? 4
17. Are typographical, spelling, grammar, punctuation errors distracting? 4
   Comments
   N/A

Message Design

18. Did this site integrate with other course tools and resources? 4
19. Were the external links provided helpful and appropriate? 4
20. Is the layout pleasing, making good use of white space? 4
21. Do supporting graphics enhance the learning without distracting? 3
22. Did the use of colour and typeface enhance learning without distracting? 4
23. Are the audio job-aids available adequate for assisting students with reading difficulties? 4
   Comments
   N/A

Other Comments
You have put some work into doing that website, it is very well done! No major Subject
matter issues from my point of view.

ID Evaluation:

Evaluator: Thompson Flynn

Instructional Goals

1. Are the goals and objectives clearly stated? 4
2. Are the goals and objectives achievable? 4
3. Are the goals and content appropriate for web-enhanced instruction? 4
4. Is there congruence between the instructional goals and content? 4
   Comments
   The goals are presented clearly, and are reflected in the use of visual content, text and
   sound to get the information across.

Instructional Content

5. Is there a match among content, objectives, activities, and assessment tools? 4
6. Do the instructional activities promote thoughtful and reflective responses? 3
7. Is the content information clearly and concisely presented? 4
8. Is the content challenging? 4
9. Does the content promote learning? 4
10. Is the attention of the learner maintained throughout the presentation? 4
11. Are the activities sufficient to help facilitate retention? 4
Comments
The agent helps keep things interesting, along with the variety of methods used to present the information. People can proceed at their own pace. However, I am not a huge fan of true and false quizzes as a means of testing content knowledge.

Technology

12. Did the agent technology function properly? 4
13. Did the mp3 files play properly, embedded on the page? 4
14. Did the quizzes function properly? 4
15. Were materials easy to access by students? 4
16. Are copyright and intellectual property not violated? 4
17. Is access to the teacher provided? 3
18. Is the website structured properly? 4
19. Are typographical, spelling, grammar, punctuation errors distracting? 1
Comments
There appear to be very few errors in the information presented. It is well organized and easy to navigate. I needed to access another page to get the teacher's email address (it wasn't on the main page or the content or quiz pages).

Message Design

20. Are messages an integrated whole? 4
21. Do supporting graphics enhance the learning without distracting? 4
22. Is the gist of the instructional message conveyed effectively via the agent? 4
23. Are audio instructions designed effectively? 4
24. Do the movements of the agent enhance the learning without distracting? 4
25. Do any screens put too much strain on cognitive load? 1
26. Is the sound on the mp3 files clear? 4
27. Is the agent voice audible? 4
28. Is the layout pleasing, making good use of white space? 4
29. Did the use of colour and typeface enhance learning without distracting? 3
30. Are the audio job-aids available adequate for assisting students with reading difficulties? 4
Comments
The pages were well constructed, but the flowchart didn't fit on one page and the colours in the legend made some of the words a little more difficult to read. As well, I would recommend the use of a female voice for the agent as well.

Other Comments
I found the content to be very well presented. The site made use of a variety of media and the agent would most likely help keep students interested. I found them not to be a
distraction, but when in a hurry I hid the agent and reverted back to the textual content. It is nice to have that option as well.