Utilizing Twitter© as a Teaching Platform For Basic Shell Programming Commands – Administer Accounts, Networks and other Resources

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Analysis

Introduction

Web 2.0 tools play authentic and active roles in education. Twitter© is a social networking service that provides micro-blogging with 140 characters for every tweet (Nation). Twitter© could be used as a powerful tool to exchange knowledge and experience. IT220 is a class in the Computer Science Department at Faculty of Science and Technology in Jeddah, Saudi Arabia; it is the first track in the bachelor program that discusses the basic Shell programming commands and principles and is an online class.

Learning Needs Analysis

The project objective is to establish and develop a training program by using one of the Web 2.0 tools, Twitter©, to teach IT220 on-line synchronously. Twitter© will provide an excellent opportunity for the learning community to interact at the same time. The class approach will be based on collaboration and social negotiation. In this approach, the learners are allowed to "distribute information and interact with information resources in a joint space... [prompting] conceptual progress" (Hsiao, 1996). The learners have to study the IT220 class at a distance. The class goal is to review what the learners have studied, thus to teach the learner how to manage and control accounts, networks and the other resources by Shell.

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مستخلص:

تؤدي أدوات Web 2.0 دورًا أصيلا وفاعلا في التعليم. تويتر هو شبكة خدمات تواصل اجتماعي تقدم خدمة التدوين المصغرة بحد أقصى ١٤٠ حرفًا لكل تغريدة. يمكن استخدام تويتر كأداة قوية لتبادل المعارف والخبرات. IT220 هو مقرر دراسي في قسم علوم الحاسب بكلية العلوم والتكنولوجيا، في جدة، المملكة العربية السعودية. إنه المسار الأول من نوعه في برامج البكالوريوس الذي يناقش أوامر ومفاهيم برمجة شل الأساسية وهو فصل دراسي أونلاين.

يهدف المشروع لإنشاء وتطوير برنامج تدريبي باستخدام أحد أدوات Web 2.0 وهو تويتر، لتدريس IT220 بشكل متزامن أونلاين. سيقدم تويتر فرصة متميزة لمجتمع المتعلمين للتفاعل بشكل آني. يعتمد أسلوب هذا الفصل الدراسي على التعاون والتفاوض الاجتماعي. في هذا الأسلوب، يسمح للمتعلمين "بتوزيع المعلومات والتفاعل مع مصادر المعلومات في فراغ مشترك ... [وزيادة] التقدم في المفاهيم" (هسياو، ١٩٩٦). يجب على المتعلمين دراسة مقرر IT220 عن بعد. ويهدف المقرر لاستعراض ما تعلمه الدراسون، لتعليمهم كيفية الإدارة والتحكم في الشبكات والحسابات والمصادر الأخرى باستخدام شل Shell.

Pre-assessment

Survey 1 was used in order to gather information about the learners' prior knowledge on in the subject. Survey 2 was used to measure if the learners were capable of dealing with Twitter[©] as an on-line learning platform. The results are shown in appendix A. Both surveys' results encourage teaching class IT220 via Twitter[©].

Content Analysis – Task Analysis

The reference for class IT220 is *Ubuntu Linux, The Tool Box* for Francois Caen and Christopher Negus. Chapter 1 and 2 are not requirements because they discuss the Linux Ubuntu operating system. However, the chapters from 3 to 14 with appendixes A, B and C in the same book are very helpful and useful for understanding how to program the resources from Shell as shown in image 1. The subtasks under all chapters 3 to 14 will be attached in the design stage as a second level objectives. A computer with Internet connection is required for this course. Every learner must have the Shell program on his operating system; also, everyone must create a new account on Twitter[©] as this format (lastname_IT220), and follow the course account which will be private.

Contents at a Glance

Image (1): The contents of the reference for class IT220 (Christopher & Francois, 2007)

Audience Analysis

The target audiences involved in this class are undergraduates who are studying for a bachelor degree in Computer Science Department at Faculty of Science and Technology. There are 35 students enrolled in IT220 class in Fall semester 2012, Saudis, males, and their ages between 20 to 27 years. The learners have good experience working with on- line classes. The class as mentioned before will be held on-line synchronously via Twitter[©], and there are 2 classes per a week; Monday and Thursday from 5:00 P.M to 7:30 P.M. In the first ten minutes, the students must log in to their accounts and tweet to the instructor to let him know they are present. The instructor's account is private, so they must obtain the permission to follow him for the first class time. Seriousness and discipline are demanded to continue in this class.

Design

Scope of Project

Goal

The goal of the project is to teach and review IT220 class's contents on-line, and simultaneously, by using Twitter[©] as a primary medium.

Audience

The class is for full time undergraduate students; their major is Computer Networking at Faculty of Science and Technology in Jeddah, Saudi Arabia**.** All 35 students are Saudis and their ages are between 20 to 27 years. The learners have taken on line classes; also, they have passed the preparatory year and major requirements. So they are qualified for learning at a distance environment, and their backgrounds make them capable to deal with the course excellently.

Design Time and Milestones

The class will be covered during 16 weeks in the Fall semester 2019. As shown in table 1, the learning community will have a chance to meet on line 28 times during the whole semester; Monday and Thursday from 5:00 P.M to 7:30 P.M. in every week.

Also, they will meet twice on-campus for midterm and final exams in weeks 8th and 16th.

On-line class	28 classes; two classes per a week.
On-campus class	2 classes for midterm and final exams; one class per a week.

Table 1: The Time Plan for the classes during Fall semester 2019.

Delivery

Content

The chapters from 3 to 14 with appendixes A, B and C in *Ubuntu Linux, The Tool Box* are covering the obtain skills and knowledge in order to make the learners able to mange the different computer recourses by Shell.

Method

The best delivery method could be utilized for the course is blended delivery method; instructor-led method and practice method. The instructor will present the content on the IT220 website, clarify and discuss unintelligible programming problems on Twitter[©]. Also the learners after class must to apply and practice the learned programming commands, its options, and procedures on Shell and do the weekly given assignments.

Training Time

The class time is from 5:00 P.M to 7:30 P.M, weekly in Monday and Thursday.

Problems and Opportunities

This class uses Twitter[©] as a medium for the first time, so if any problems appears such as Twitter[©] were down, or if something requires the learning community to meet face-to-face, the instructor will be available in his office every Saturday from 1:00 P.M to 3:00 P.M.

Objectives

First Level Objective

At the end of class IT220, the learners will be able to demonstrate the required skills in how to administer user's account, networks and other resources from Shell with 90% accuracy.

Second Level Objectives

See Appendix B.

Materials

Commuters with Internet connection are required for IT220. Moreover, the learners will be provided by the required software such as Shell and Virtual Shell, to apply the learned skills and knowledge. Also, beside using Twitter$^{©}$ as a primary medium in teaching, the instructor will use a web-based media such as uploading videos tutorials, e-books, assignments files as needed on the class IT220 website.

Who is Involved

The following stuff will be involved in order to produce the training program and apply it.

Name	Job	Role
H. A.	Training Specialist	Project Designer
S. A.	Instructor	Trainer
K. O.	Manager	Final Approval

Topical Outline

Appendix B shows both topical outlines and second level objectives.

Administration and Evaluation

The IT220 class will be a distance learning class. However, midterm and final exams will be on-campus class and that according to the distance learning's rules and regulations at Faculty of Science and Technology. Also, the learners will be given assignment in every week and will be graded for that.

Development

The classes were developed based upon the reference book, *Ubuntu Linux, The Tool Box*. Also, another reference was used for the first lesson that is *Unix help for users* (The University of Edinburgh). A website was created for the IT220 class to help the

learners reach the class's resources. The website address is www.idt899.com. The course syllabus on the website has the rules and regulations that explain the way the course works. Also, the required technology, software and hardware, is included in the syllabus. The components of the first lesson such as pre-reassessment, standards, recourses, tutorials and media were uploaded on the website under the lesson1 page. The first lesson plan will be introduced as an example for the training sessions in Appendix C. The designer produced videos to support and strengthen the first class objectives. Disabled learners will be provided reasonable accommodations from the disability unit in the college to facilitate learning.

Implementation

The goal for the training program is to teach and review Shell programming commands by Twitter© as a primary medium. A web-based instruction was provided to support students' learning. Receiving feedback from the audience by conducting a beta test is an important step in order to diagnose any drawbacks in the designed program (Piskurich, 2006). An online survey was applied on a sample; 7 learners out of 35, to make sure the training works as expected. Appendix D shows the survey results of the beta test and pilot review and some the comments.

During program implementation, some drawbacks have appeared in the course design, lesson, and presentation. For instance, the plan for transferring training to the job was inadequate, trainee benefits need to be explained in more detail, and Job aids were underutilized.

In order to fix the obstacles mentioned above and others, suggestions, notes, and comments such in Appendix D were taken to improve the training program and to avoid any drawbacks in the future.

For example, the benefits of the training program will be attached in details on the class website. Also, in order to make plans for transferring training to the job more adequate, and to live the experience, the students must complete summer training in one of the cooperative companies that work in the networking and web hosting field. Moreover, the audience will be provided with soft and

hard manuals to be used where possible. The manuals will support work and activity by directing the learners' performance in Shell programming. Besides Twitter, other mediums such as a weekly webinar will be used to support the learning process. Finally, adding more effective activities and providing the learners with proper time to do them will improve their abilities to have a better understanding of Shell programming.

Evaluation

The main purpose for evaluation is to determine if the training program was effective or not (Piskurich, 2006). Both kinds of evaluation; summative and formative methods, were used to evaluate the training program. The evaluation levels that were taken into account are reaction, learning, and behavior.

For the first level; reaction, the learners were asked to take a survey to diagnose their reactions to the training program. The reaction instrument that was used is shown in Appendix E.

As shown in Appendix F, the results were very satisfactory. For instance, 29.4% from the class, which is 10 learners out of 35, have an excellent overall impression, 32.4% from the class, which is 11 learners out of 35, have a very good overall impression, and 17.6% from the class, which is 6 learners out of 35, have a good overall impression.

Moreover 42.9% from the class, which is 15 learners out of 35, think that the quality of the material is excellent, 14.3% from the class, which is 5 learners out of 35, think that the quality of the material is very good, 25.7% from the class, which is 9 learners out of 35, think that the quality of the material is good.

Also, 37.1% from the class, which is 13 learners out of 35, think that the quality of the used media is excellent, 25.7% from the class, which is 9 learners out of 35, think that the quality of the used media is very good, and 17.1% from the class, which is 6 learners out of 35, think that the quality of the used media is good. Also, the learners' comments were helpful to evaluate the program.

In the second level of evaluation; which is skills and knowledge mastery and retention, the learners were evaluated by weekly assignments, four pop quizzes, midterm exam, and final exam.

Assignment and pop quizzes worth 50% of the total course grade. The learners were graded for the assignments every week. Also, they were graded for the four pop quizzes. Two of the pop quizzes were before the midterm exam, and the other two were after. During an online class, they were given an online pop quiz to evaluate their abilities in solving programming problems in Shell, and to distinguish drawbacks in the program. The benefit of these assignments and quizzes is to determine if some points are complicated or require to be more explained. If so, an online class or on campus meeting will be arranged by the instructor to clear that points; the instructor will be available in his office every Saturday from 1:00 P.M to 3:00 P.M.

The midterm exam worth 20% of the total course grade, and the final exam worth 30%. Both were conducted on campus and that according to the distance learning's rules and regulations of the Faculty of Science and Technology. After all, 33 out of the 35 students passed the class.

In the third level of evaluation; which is application, learners were send to corporative companies in networking and hosting field for mandatory training to apply what they have learned. The transfer to the job evaluation in appendix G was sent to their supervisors to evaluate their performance in the job (Piskurich, 2006). The result of the survey showed that 30 out of the 33 students mastered their tasks and were successful in the training period. That means 85.71% from the class, which is 30 learners out of 35, passed the track 1 and 2 for IT220, which is very satisfactory.

Final Recommendation

Due to the good results of the outcomes of the program, and after was shown for experts; material and design experts, we recommend to continue utilizing twitter© as a teaching platform for basic Shell programming commands.

References

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- The University of Edinburgh. (n.d.). *Unix help for users*. Retrieved from http://unixhelp.ed.ac.uk/

Appendixes

Appendix A

The Surveys Results

Image 1: Survey 1 result

■ 23 learners who received a score of more than 60

■ 12 learners who received a score of less or equal than 60

34%

66%
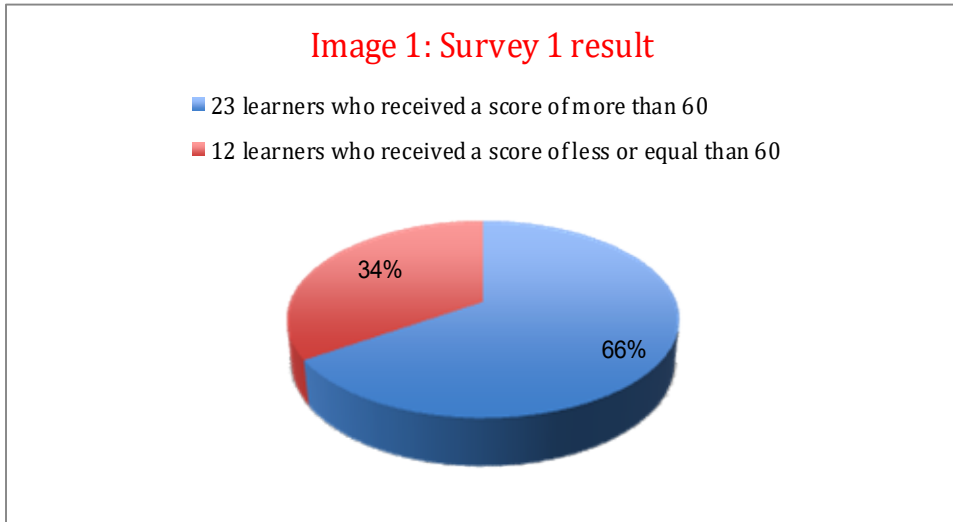
Image (1) shows the results of survey 1 in which:

- 66% from the class, which is 23 learners out of 35, have a good basic knowledge on the subject; they received a score $X > 60$.

- 34% from the class, which is 12 learners out of 35, did not pass survey 1; they received a score $X <= 60$.

Image 2: Survey 2 result
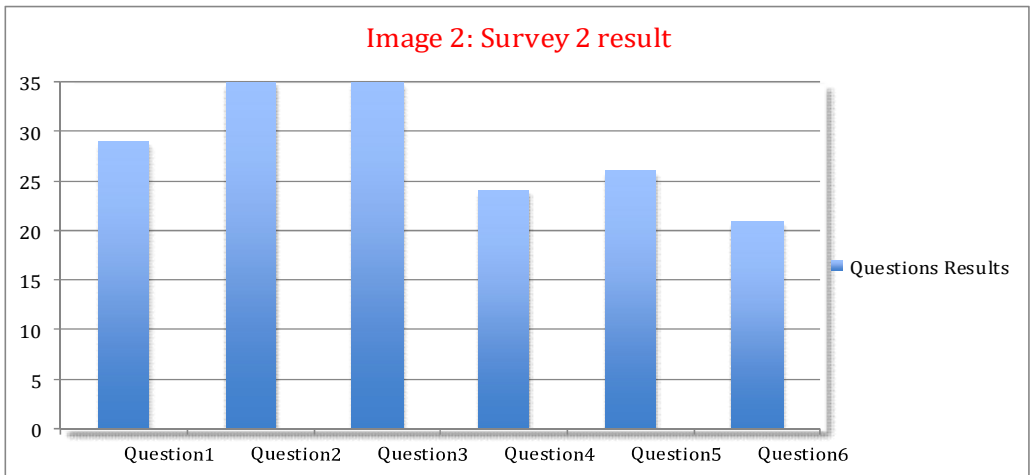
Image (2): shows examples of the results of survey 2

in which:

- 29 learners out of 35 were able to identify the Web 2.0 tools definition.

- All 35 learners have used at least one tool from Web 2.0.

- All 35 learners have experinced using a web 2.0 tool in learning.

- 24 learners out of 35 believed that Twitter$^©$ can be the right tool to teach IT220 on-line and to review the materials that have been studied.

- 26 learners out of 35 have accounts on Twitter$^©$.

- 21 learners out of 35 have good experience in using Twitter$^©$.

Appendix B

Second Level Objectives (Christopher & Francois, 2007) – Note: all these commands have lot of options in order to manage the different computer's resources.

1. **Chapter 3: Using the Shell**

At the end of the chapter, the learners will be able to:

   a. Identify the Shell, access to it, and edit its properties.

   b. Recognize Shell prompt.

   c. Use the redirection factors to redirect input, output, and error.

   d. Use first operations group: "ls", "cd", "man", "pwd", "date", and "cal".

2. **Chapter 4: Working with Files**

At the end of the chapter, the learners will be able to:

   a. Set permissions for files and directories, and change their attributes.

   b. Create and copy files by using hard and symbolic links.

   c. Search for, list, and verify files and directories.

3. **Chapter 5: Manipulating Text**

At the end of the chapter, the learners will be able to:

   a. Edit text files with "vi", "JOE", or "nano" programs.

   b. List text with "cat", "tac", "head", "grep", and "tail" commands.

   c. Page text with "less", "more", and "pr" commands.

   d. Stream editing with "set", "tr", "cut", and "awk" commands.

4. **Chapter 6: Playing with Multimedia**

At the end of the chapter, the learners will be able to:

   a. Play sounds with "play", and "ogg123" commands.

   b. Adjust audio with "alsamixer" and "aumix" commands.

c. Convert audio files with "sox" command.

5. Chapter 7: Administering File Systems

At the end of the chapter, the learners will be able to:

a. Partition disks with "fdisk" and "parted" commands.

b. Create file system with "mkfs" command.

c. Mount and unmounts file system with "mount", "unmount", and "fstab" commands.

d. Use swap areas with "mkswap", "swapon", and "swapoff" commands.

6. Chapter 8: Backups and Removable Media

At the end of the chapter, the learners will be able to:

a. Create backup archives with "tar", and "gzip" commands.

b. Backup over the network with "ssh", and "rsync" commands.

c. Burn backup images to CD or DVD with "cdrecord" and "growisofs" commands.

7. Chapter 9: Checking and Managing Running Processes

At the end of the chapter, the learners will be able to:

a. View active process with "ps" and "top" commands.

b. Adjust CPU priority with "nice" and "renice" commands.

c. Move process to background or foreground with "bg" and "fg" commands.

d. Signal processes with "kill" and "killall" commands.

8. Chapter 10: Managing the System

At the end of the chapter, the learners will be able to:

a. Check memory with "free", "top", "vmstat", and "slabtop" commands.

b. Monitor storage devices with "iostat", "vmstat", and "lsof" commands.

c. Change GRUB boot loader behavior.

   d. Deal with run levels with "runlevel" and "init" commands.

   e. Add, remove, and list services with "chkconfig" and "service" commands.

   f. Shut down the system with "reboot", "halt", and "shutdown" commands.

   g. Check and change Kernel drive settings with "modinfo", and "modprobe" commands.

9. Chapter 11: Managing Network Connections

At the end of the chapter, the learners will be able to:

   a. Use "eth" and "mii" tools to work with network interface cards.

   b. Get network statistics with "netstat" command.

   c. Start network devices with "service", "chconfig", "ifup", and "ifdown" commands.

   d. View Ethernet information with "iconfig" and "ip" commands.

   e. Manage wireless cards with "iwconfig" commands.

   f. Configure modems with "wvdialconf", "stty", and "minicom" commands.

10. Chapter 12: Accessing Network Resources

At the end of the chapter, the learners will be able to:

   a. Browse a web site with "elinks" command.

   b. Transfer files with "wget", "curl", "lftp", and "scp" commands.

   c. Share directories with with NFS, Samba, and SSHFS programs.

   d. Send a messege with "mail" and "mutt" commands.

11. Chapter 13: Doing Remote System Administration

At the end of the chapter, the learners will be able to:

   a. Configure SSH program.

b. Use SSH for remote login.

c. Use SSH to do tunneling.

d. Use SSH to provide proxy service.

e. User SSH with private keys.

12. **Chapter 14: Locking Down Security**

At the end of the chapter, the learners will be able to:

    a. Add user accounts, and change user settings with "useradd" commands.

    b. Change user accounts with "usermod" command.

    c. Delete users with "userdel" commands.

    d. Add, change, and manage passwords with "passwod" command.

13. **Appendix A: Using vi or Vim Editors**

At the end of the chapter, the learners will be able to:

    a. Use the vi editor.

    b. Move around in vi editor.

    c. Change and delete text in vi editor.

    d. Use visual mode with vi editor.

14. **Appendix B: Shell Special Characters and Variables**

At the end of the chapter, the learners will be able to:

    a. Use special Shell characters.

    b. Use Shell variables.

Appendix C

The first lesson plan

Class title: Shell Programming (IT220)

Topic title: Using the Shell – chapter (3)

Audience: Undergraduate students in Computer Networking major in the Faculty of Science and Technology.

Number of Participants: 35 members.

Learning Environment: The class is on-line, and simultaneous. Twitter© is a primary medium to teach.

Trainer: S. A.

Video Designer: H. A.

Media Requirements: The learners must have computers with internet connection. They also need to be provided with software such as: Shell, Virtual Shell, Virtual Machine, Microsoft Office, a browser, Flash player, and PDF Acrobat reader. The learners must create accounts on Twitter in this format (lastname_IT220), and follow the class account, which is (IDT899).

Product Prototype: These created videos summarizes the main points for the objectives

Objectives	Time	Content	Media
Attendance, Welcome and, introduction	**10 minutes**	The Instructor will start the first class by checking the attendance. The learners will tweet in the first 10 minutes to prove their presence for the class during every session.	Icebreaker: The learners have to tweet their names plus one reason from for benefits of learning Shell.
	5-8 minutes	The instructor will welcome the learners and will introduce himself briefly to the class. Also, he will ask them to do the icebreaker activity.	
1. The student will be able to identify the main goal of studying Shell programming.	**8-10 minutes**	A quick review of the syllabus and the other content of the IT220 class.	-Twitter
			-Website: www.idt899.com syllabus +weeks schedules
	4-6 minutes	Receiving any questions related to the class program	
2- The student will be able to identify the objectives of the first topic for IT220 which is "Using the Shell"– chapter (3)+ the command line manual	**3 minutes**	Reviewing the outlines of the first topic.	

for the first lesson:
Lesson1-part1   Lesson1-part2

Selection Justification: These videos will provide the necessary information to help the learners understand Shell and its programming commands.

Time: The class will be from 5:00 P.M to 7:30 P.M, There is a 10 minute window at the beginning of every class for checking attendance. Also, there is a break for 10 minutes from 6:15 P.M to 6:25 P.M.

Objectives	Time	Content	Media
1) The student will be able to identify Shell, access to it, and edit its properties.	15 minutes	The provided materials will direct the learners to access to Shell and to deal with its basic properties, and then the learners must apply what they have learned. Through Twitter, the instructor will receive and discuss any questions related to this goal.	-Book, 3rd chapter -Video tutorial: Lesson1-part1
2) The student will be able to recognize Shell prompt.	8 minutes 3- 5 minutes	The provided materials will direct the learners about what Shell prompt means, and what the different types of prompt are. Through Twitter, the instructor will receive and discuss any questions related to this goal.	-Book, 3rd chapter -Video tutorial: Lesson1-part1
Break for 10 minutes			
3) Use the redirection factors to redirect input, output, and error.	25 minutes	The instructor will give the learners the opportunities to view the video tutorial "lesson 1, part 1." Also, he will go step by step to explain and discuss how to use these factors through Twitter. Through Twitter, the instructor will receive and discuss any questions related to this goal.	-Video tutorial: Lesson1-part1
4) The student will be able to use the basic operation group: "ls", "cd", "man", "pwd", "date", and "cal".	40 minutes	The instructor will give the learners the opportunity to view the video tutorial "lesson 1, part 2" and the manual; they are on the website. Also, he will go step by step to explain and discuss this basic operation group through Twitter. He will explain the benefit from the command, and give them the	- The Command Line Manual (The University of Edinburgh) -Video

		options for each command, to apply in Shell.	tutorial: [Lesson1-part2](#) -Assessment:
			The learners will be given an assignment at the end of the next class Thursday August 23. It contains 12 questions from chapter 13, and the command line manual.
		Through Twitter, the instructor will receive and discuss any questions related to this goal.	

Table 1: The first lesson plan

Appendix D

The results of Beta Test and Pilot Review Checklist

Design:		Response Percent	Response Count
Amount of material is appropriate for time		100.0%	7
Task analysis is sufficient		100.0%	7
Objectives are clear and complete		71.4%	5
All terms are properly defined		42.9%	3
Important content is properly stressed		71.4%	5
Plan for transferring training to the job is adequate		28.6%	2
Evaluations are sufficient		71.4%	5
		answered question	7
		skipped question	0

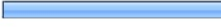**Image 1: The beta test and pilot review results for design.**
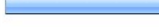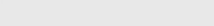
Lesson:		Response Percent	Response Count
Directions to trainees are clear and complete		85.7%	6
Pace is adequate		57.1%	4
Overview is adequate		42.9%	3
Sequence is logical		71.4%	5
Trainee benefits are explained in enough detail		42.9%	3
Links to previous training are establish where necessary		42.9%	3
Content is relevant to trainee situation		71.4%	5
Practices are implemented where needed and for proper time		42.9%	3
Feedback to trainee is sufficient		71.4%	5
Activities are effective and timely		42.9%	3
Transitions are comfortable		57.1%	4
Reviews and summaries are adequate		57.1%	4
	answered question		7
	skipped question		0

Image 2: The beta test and pilot review results for lesson.

Presentation:		Response Percent	Response Count
Media are appropriate and effective		85.7%	6
Job aids are used where possible		42.9%	3
Reading level is appropriate for the audience		57.1%	4
Participation is adequate		57.1%	4
Atmosphere is conducive to learning		57.1%	4
Small-group involvement is sufficient		85.7%	6
	answered question		7
	skipped question		0

Image 3: The beta test and pilot review results for presentation.

As shown in Image 1, the highest scores of the beta test and pilot review result for design were:

1. The entire sample was convinced that amount of material is appropriate for time.
2. The entire sample was convinced that task analysis is sufficient.

Also, the lowest score of the beta test and pilot review result for design was:

1. 2 learners out of 7 were convinced that plan for transferring training to the job is adequate.

As shown in Image 2, the highest scores of the beta test and pilot review result for lesson was:

1. 6 learners out of 7 were convinced that directions to trainees are clear and complete.

Also, the lowest score of the beta test and pilot review result for lesson were:

1. 3 learners out of 7 were convinced that overview is adequate.
2. 3 learners out of 7 were convinced that trainee benefits are explained in enough detail.
3. 3 learners out of 7 were convinced that links to previous training are establish where necessary.
4. 3 learners out of 7 were convinced that practices are implemented where needed and for proper time.
5. 3 learners out of 7 were convinced that activities are effective and timely.

As shown in Image 3, the highest scores of the beta test and pilot review result for presentation were:

1. 6 learners out of 7 were convinced that media are appropriate and effective.
2. 6 learners out of 7 were convinced that small-group involvement is sufficient.

Also, the lowest score of the beta test and pilot review result for presentation was:

1. 3 learners out of 7 were convinced that Job aids are used where possible.

Also, these are examples of general, design, and lesson comments:

A.General Comments:

1. The lesson plan shows proper sequence of the desired tasks to learn.

2. The provided activities were useful to apply what we have learned.

B. Design Comments:

1. The designed videos were effective. I was able to learn how those Shell commands work.

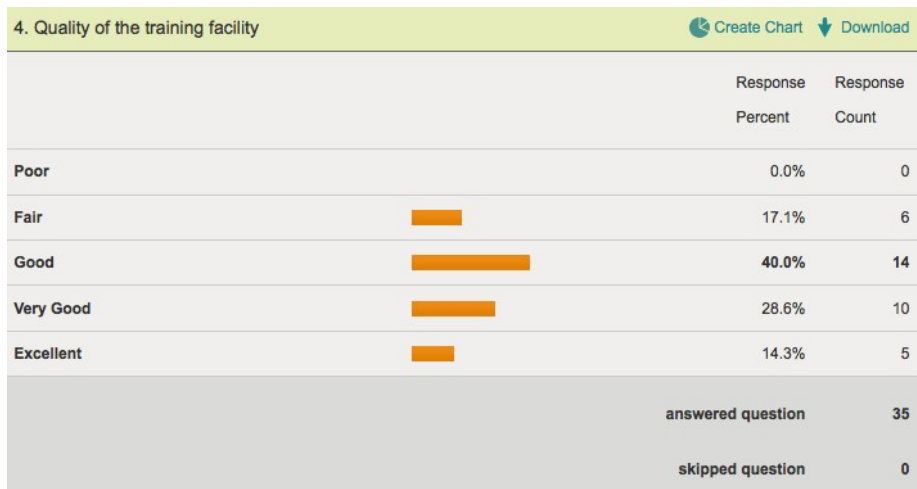**2**. Using Twitter© as a medium to teach is a good idea. However, I think we had better if seminars were used.
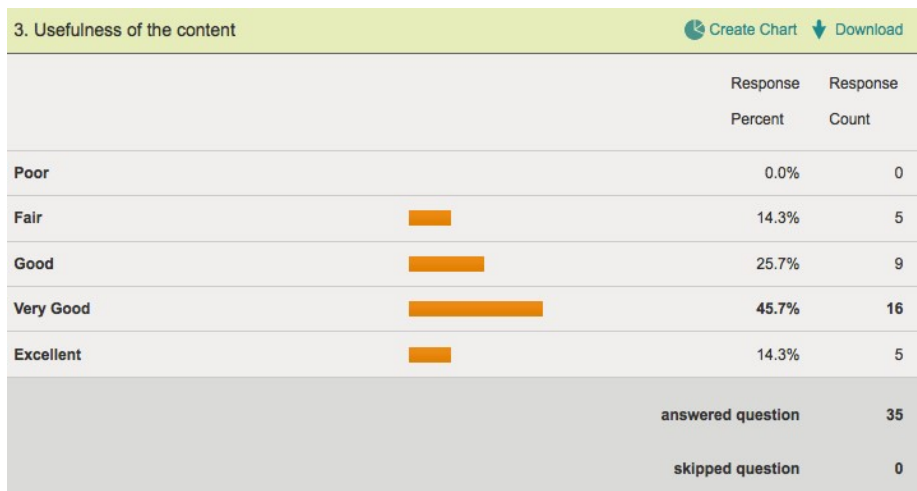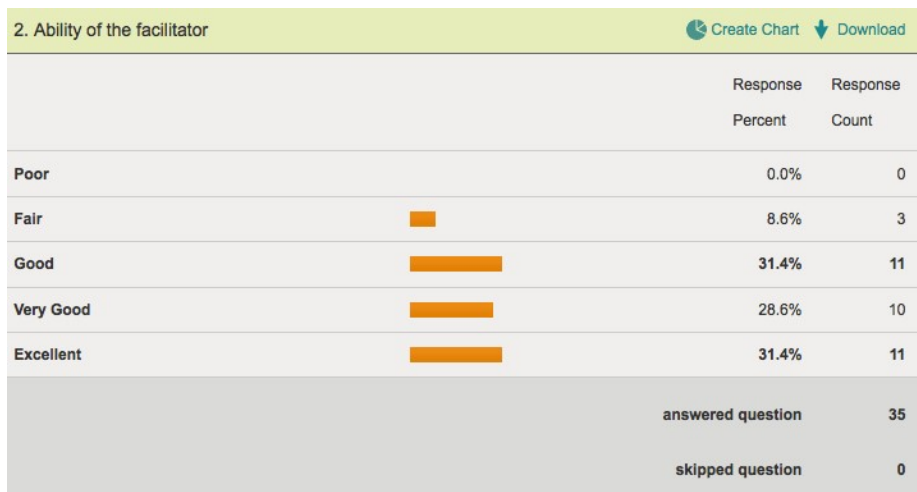
C.Lesson Comments:

1. The lessons were very detailed and easy to get lessons' main points.

2. The attached materials were helpful to understand Shell commands and their options.

Appendix E

Reaction Results

Response Summary   Total Started Survey: 35
                                                     Total Finished Survey: 35 (100%)

1. Quality of the material		Create Chart ⬇ Download
	Response Percent	**Response Count**
Poor	2.9%	1
Fair	14.3%	5
Good	25.7%	9
Very Good	14.3%	5
Excellent	42.9%	15
	answered question	35
	skipped question	0

2. Ability of the facilitator

Create Chart ⬇ Download

		Response Percent	Response Count
Poor		0.0%	0
Fair	▬	8.6%	3
Good	▬▬▬	31.4%	11
Very Good	▬▬▬	28.6%	10
Excellent	▬▬▬	31.4%	11
		answered question	35
		skipped question	0

3. Usefulness of the content

Create Chart ⬇ Download

		Response Percent	Response Count
Poor		0.0%	0
Fair	▬	14.3%	5
Good	▬▬	25.7%	9
Very Good	▬▬▬▬	45.7%	16
Excellent	▬	14.3%	5
		answered question	35
		skipped question	0

4. Quality of the training facility

Create Chart ⬇ Download

		Response Percent	Response Count
Poor		0.0%	0
Fair	▬	17.1%	6
Good	▬▬▬	40.0%	14
Very Good	▬▬▬	28.6%	10
Excellent	▬	14.3%	5
		answered question	35
		skipped question	0

5. Quality of the media

Create Chart ▼ Download

		Response Percent	Response Count
Poor		0.0%	0
Fair	▬	20.0%	7
Good	▬	17.1%	6
Very Good	▬▬	25.7%	9
Excellent	▬▬▬	37.1%	13
	answered question		35
	skipped question		0

6. Practice sessions

Create Chart ▼ Download

		Response Percent	Response Count
Poor		0.0%	0
Fair	▬	17.1%	6
Good	▬▬	28.6%	10
Very Good	▬▬▬	42.9%	15
Excellent	▬	11.4%	4
	answered question		35
	skipped question		0

7. Fulfillment of objectives

Create Chart ▼ Download

		Response Percent	Response Count
Poor		0.0%	0
Fair	▬▬	22.9%	8
Good	▬	17.1%	6
Very Good	▬▬	25.7%	9
Excellent	▬▬▬	34.3%	12
	answered question		35
	skipped question		0

8. Overall impression		Response Percent	Response Count
Poor		0.0%	0
Fair		20.6%	7
Good		17.6%	6
Very Good		32.4%	11
Excellent		29.4%	10
	answered question		34
	skipped question		1

8. Overall impression — Create Chart · Download

9. Comments: — Download

- The training program was helpful to understand the Shell programing.

- The manual was a great idea to remember the commands and their options.

- I wish if the track 2 for class IT220; which is training summer, were elective class.

- The used is good multimedia. It facilitated some hard points.