



## Lebanon Valley College Website Usability Study

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## Executive Summary

### Test Objective

Dawa Sherpa, Dan Cronen, Kristen Eberhardt, and Devon Malloy, Digital Communications students at Lebanon Valley College (LVC), expressed the following concerns with the Lebanon Valley College Website, to be tested through a usability study performed at LVC.

- Is the nomenclature used on the LVC website successful?
- Does the information architecture of the LVC website afford intuitive and successful navigation?

Through our study, we collected both quantitative and qualitative data to develop a better understanding of the problems with the LVC website's usability. We assigned users to a few tasks we felt were representative of the general usability of the site, and were able to determine the ease and difficulty of a few tasks as follows:

- Open the online Metz application form
- Find out how many lanes the pool had and the size of each lane through the LVC website
- Visit the page that allows students to pay for their room deposit on the LVC website
- Through AccessLVC, locate where to register their car online

### Our Process

The purpose of our investigation of the LVC website was to gather information about what problems the users encountered, what feedback and comments they had, and to develop an understanding of what improvements need to be made. After creating a test plan for a formal usability test, the group located and tested subjects who aligned with the primary segment of the website's audience, resident students currently enrolled at LVC, and conducted a four-scenario test with 12 users.

### Our Results

The group discovered many underlying issues common among users that need to be addressed in order to improve the usability of LVC's site. The issues are as follows:

- **Nomenclature:** The naming and labeling system on LVC's website is unsuccessful.
- **Layout and Hierarchical Organization:** The LVC site does not create a clear hierarchy and thus their organization and general layout suffers, making information difficult to locate.
- **Navigation:** The lack of a hierarchy and poor nomenclature makes navigating the LVC site difficult.

## Introduction

Our group project for the second half of the semester was to observe and test a number of willing participants to see how difficult it is for students to navigate the main LVC website. We gave the test subjects a pre-test and a post test to obtain more qualitative data on their prior experience with the website and how difficult it was to navigate the website after completing our test. We also recorded the amount of time it took for each participant to complete each of our four tasks to obtain quantitative data that we used on our analysis and recommendations for the LVC website.

## Methodology

When we were given the criteria for we could do for this project, our group began by brainstorming some ideas for it. We thought about testing mobile applications, certain video games, or maybe a website. A majority of our group did not have a lot of experience with video games or have any ideas for a video game we could possibly test, so we discarded the idea immediately. Eventually, we all agreed to test and analyze a website's ability to navigate its users to a designated location. For our test, we tested the layout and findability of specific pages and information on the LVC website. Our group agreed that navigating LVC's main website can be annoying for experienced users and very confusing for newer ones. Since our group consisted of only students from Lebanon Valley College, we all had previously experienced the frustrations associated with the LVC website while finding important information, such as the final exam schedule and the office hours of certain facilities. Our negative experiences with the LVC website is the main reason why we chose to conduct a usability test on it.

## Pre-Test

During the usability test, we wanted the participants to locate pages and information on the LVC website in four different locations. When we wrote the test plan, we came up with a pre-test that would consist of four questions regarding the pages and information that we wanted them to locate. Our group felt that this would be a quick and simple way to figure out what parts of the website are more irritating for users while they navigated the site. We would then analyze their responses and apply this information to our test results. Here are the questions that made up our pre-test:

1. Have you ever paid your room deposit?
2. Have you ever applied for a job online?
3. Are you an athlete?
4. Have you registered your car online before?

## Main Test

After the pre-test came our main test. The test started by having each participant sit down at the testing computer with them at the main LVC website front page. The next step was to have the participant sign the consent form and brief them about the information on the consent form. The main point of the consent form was to make sure that we had the participant's consent to assist us in our test and let them know that we wouldn't inflict mental or physical harm upon them. The participant was then given a sheet of paper which had a list of tasks for them to visit specific pages on the LVC website. The four tasks we created for the participants to accomplish were:

1. Open the online Metz application form
2. Find out how many lanes the pool had and the size of each lane through the LVC website
3. Visit the page that allows students to pay for their room deposit on the LVC website
4. Through AccessLVC, locate where to register their car online

Our group also requested the test subject to think aloud. This was a process where the participant would verbally state each of their actions when it happened and why they performed it. This was to help us have a better idea of the test subjects' thought process while we reviewed the recordings. We gave each of our participants a time limit of four minutes in which to finish each of the four scenarios. If they were to go over the four minute time limit, the moderator would take notes on how far the test subject has made it in the current scenario and urge the subject to continue forward to the next scenario if the subject were to start feeling irritated and confused. Throughout the test, the current moderator would sit away from the participant and observe their progress and assist them if they stated they were confused or needed help.

## Post Test

Once the subject has finished the test or ran out of time to complete them, the moderator would give them a post-test which asked the participant to describe how difficult each task was to complete by using a Likert scale. The scale was between one and ten, one being the least difficult and ten being the most difficult. We used this document to help us obtain crucial, quantitative information about certain issues with navigating the website. Our group proceeded to use the data that we received from the post test and added it to the rest of the data from the test and incorporated it into our analysis.

After all of the testing was finished and we gathered all of the times and notes that we took from the participants, we sat down and looked over the recordings to make more observations on the specific details of the test and the participant. Some of these observations included:

- Facial expressions made by the participant at certain times
- Where they were clicking on the website to locate a specific page

- The words that they used to explain their actions

## LVC Website Audience

The users can be segmented into four categories; however, we are only testing students who fit into the resident students' segment.

- Prospective Students
- Alumni
- Commuter Students
- Resident Students

### Persona

The persona that we created for our test plan was that of a 19-year-old sophomore male student at Lebanon Valley College named Jim. He comes from a middle class family and has had access to technology for most of his teenage life. Since Jim is a sophomore, he has been using Lebanon Valley College's website for quite sometime and has a general knowledge of how to operate and maneuver through computers and the Internet. Jim is laid back, wants things to be done quickly, and is easily frustrated when things aren't going his way. He values social interaction and wants information to be easy to access. Jim will take the path with the least amount of resistance when looking for what he needs.

## Participant Responses

<b>Senario 1: Metz Application</b>		
<b>Category</b>	<b>Findings</b>	<b>Comment</b>
<b>Participant 1</b>		
Organization	The site is not organized intuitively	"This is so confusing"
Organization	The site is not organized intuitively	"I'm just looking for like, Metz.. I don't see Metz. It just brought me to the same page."
<b>Participant 4</b>		
Navigation/Organiz ation	The site is not organized and navigation are not organized intuitively	"How to apply... alright that's financial aid" *Is that what you expected* "No, I expected it to take me to jobs, because that is the tab I was under, but I see now that is what it says over on the left"
<b>Senario 2: Locating Information on the Pool</b>		
<b>Category</b>	<b>Findings</b>	<b>Comment</b>
<b>Participant 6</b>		
Nomenclature	The naming systems used do not allow users to predict content	"I searched pool and it gave me the hours and that is also something I do not want"
<b>Participant 4</b>		
Misc.	Users became frustrated	*If you were looking for this information and I wasn't asking you to, would you have given up by now?* "Probably, yes"
<b>Senario 3: Room Deposit Information</b>		
<b>Category</b>	<b>Findings</b>	<b>Comment</b>
<b>Participant 4</b>		
Organization	The site is not organized intuitively	"Im looking at the side tabs to see if there's anything about like securing your room deposit"
<b>Participant 10</b>		
Navigation/Organiz ation	The site is not organized and navigation are not organized intuitively	"I mean I thought maybe at the bottom it would say that you could pay your room deposit, I just clicked on one of the halls to see if it would take me there, it said no."
Organization	The site is not organized intuitively	"I mean it probably should look..oh wait room sign up, and then it takes me to like LVC business office payment"
Organization	The site is not organized intuitively	*Is that where you were expecting to find it?* "No" *Why not* "Because it's under FAQ, I think it should have its own tab"
<b>Senario 4: Register Your Car Online</b>		
<b>Category</b>	<b>Findings</b>	<b>Comment</b>
<b>Participant 6</b>		
N/A		"Oh I know how to do this one"
<b>Participant 9</b>		
N/A		"Oh okay I know this one"

## Data Analysis (Findings)

Our collected data was incredibly helpful in analyzing and proving our thesis. We started with a control group, taking an average of Devon and Dawa's collective times scored on the usability test (Figure C.1). For the first task of finding the Metz application, our control group took an average of 78 seconds to complete the task. Secondly, it took our control group an average of 68.5 seconds to locate the length and number of lanes the pool has on the athletics page. In the third task, our control group took 121 seconds on average to find the place to pay their room deposit online. And lastly, registering a car online took 51.5 seconds on average for our control group (Figure C.1).

We had 12 participants for our testing, and they all produced different, yet similar responses and data for the test. On average, it took our test group 121.25 seconds to find the Metz Employment application online. This is 43.25 seconds slower than our control group. The fastest person completed the task in 15 seconds; 63 seconds faster than our control and 106.25 seconds faster than the average test subject. The slowest participant required 344 seconds to complete the task; 266 seconds slower than the control group and 222.25 seconds slower than the average (Figure C.2). Both of these times were still factored into the overall average. In the next task, it took the participants an average of 128.45 seconds to find the information on the athletics page about how many lanes and how long the pool is (Figure C.2). Compared to our control group, it took them 59.95 seconds longer than our control to find this information. The fastest test subject completed this task in a mere 58 seconds, which is 10.5 seconds faster than the control, and 69.95 seconds faster than the rest of the test subjects. The slowest person was unable to complete the task at hand (Figure C.2).

In the third task, the average time for the test subjects to find the place to pay the room deposit was 151 seconds (Figure C.2). Overall, this was only 30 seconds slower than the control group, which is quite impressive. The fastest participant was able to complete this task in 40 seconds, which is 81 seconds faster than the control group, and 111 seconds faster than the rest of the participants. The slowest participant, however, did not even complete the test task (Figure C.2).

In the final test task, participants completed it in an average of 54.5 seconds, 3 seconds slower than the control (Figure C.2). Clearly this task was the easiest for most of the participants. The fastest completion took 15 seconds; 36.5 seconds faster than the control group and 39.5 seconds faster than the average for the 12 participants. The slowest, on the other hand, took 126 seconds to complete the task, which was 74.5 seconds slower than the control group and 77.5 seconds slower than the average (Figure C.2).

Test participants also completed a Likert scale about how easy or difficult they perceived each task to be. On average, participants ranked finding the Metz application as a 5.58 difficulty level on the Likert scale; just slightly above the midline. When analyzing the task of finding the pool information, students ranked that as a 6.33 on the Likert scale, implying it was more difficult to



find than the Metz application (Figure C.3). When comparing the times from those two tasks, finding the information on the pool did indeed take longer than locating the Metz application, therefore supporting the responses on the Likert scale. Students ranked finding the room deposit location as a 7.75 difficulty, which completely lines up with the amount of difficulty the participants had while completing this task (Figure C.3). Finally, participants gave the task of registering a car online a rating of 4.25 on the Likert scale, once again, completely supporting the results gathered (Figure C.3).

It was also interesting to apply how the participants answered the questions on the pre-test to how they ranked the difficulty of the tasks on the post-test. Out of all the participants, only 12% have actually paid the room deposit online, 8.3% have applied for a school job online, 58.3% have looked up information on the sports center page, and 50% have registered their car online (Figure C.4). Regarding paying room deposits, both participants who have and have not paid their deposit ranked the overall difficulty of the task similarly. There was only a 0.9 difference, those who have paid their deposit online still ranking the difficulty at a high 7. Those who have not paid the deposit online ranked it a 7.9, the highest ranked task for difficulty (Figure C.4). The one participant who had applied for a job online previously had quite an easy time finding the Metz application, and ranked its difficulty as a one. Those who had never had this experience, however, gave the experience a 6 on the difficulty scale (Figure C.4). Participants who had used the sports center website before still had difficulty with the task of finding information on the swimming pool, and ranked it 6.14 difficulty. Those who had not had this experience previously found it a small bit more difficult, ranking it at a 6.6 (Figure C.4). And finally, those who had previously registered their car online before had a much easier time than those who had not. They ranked the experience to be very easy at a 3.83, while those who had never tried this before gave it a 4.67 (Figure C.4).

### Definitions of Problems

There were many problems our group discovered through this test. The biggest problems our group found were concerning the location of the Metz application and the location of where to pay the room deposits. Participants were confused on where to look for the Metz application and frequently looked in obscure places for it, unable to find it in the first logical places. The room deposit location is also quite difficult to find, and test subjects would go to the residential life tab, and become frustrated when they could not see it immediately where they would originally have assumed it to be. They would just start clicking anywhere after that, and end up lost and confused. This is not a good way to have a site set up.

On a larger and more general scale, these presented problem relate to the nomenclature, organization, and navigation of the site. The site lacks adequate titles and naming systems throughout that cause the users to be disoriented and unable to navigate the site. Additionally, the designated navigation methods

## Recommendations

Our group used the Chauncey Wilson usability scale to define the severity of the problems with the LVC website. Our group decided they should be ranked as a Level 3 Problem, which states the issues are moderate problem[s] causing no permanent loss of data, but wasted time. There is a workaround to the problem. Internal inconsistencies result in increased learning or error rates. An important function or feature does not work as expected.” We classified it as Level 3 because the problems encountered did not actually impair the participants’ abilities to complete the tasks. Only one test subject was unable to complete the test, and that participant only skipped two questions. No data is lost in any of these scenarios, however, there is a large issue with wasted time. Users can find their way around the problems, but it becomes tedious and there are many instances where users clicked on one area of the site expecting to complete the task but they were misled and they could not find what they needed. Overall, the site is confusing and things are not in logical places, which is good reason to make revisions to the site.

After completing the usability test, we came up with some recommendations on how to improve the sites overall functionality and usability. The first recommendation we would have for improving the site regards the Metz Employment application and all work applications in general. We propose the idea of having a separate “Campus Jobs” tab where all the opportunities for employment on the LVC website would be compiled. There would be an alphabetical list of all the jobs and a short description of the job. Once the user clicked on the job title, the site would go to a new page where there would be an application the user could either print and turn in, or fill out and complete online. It would also have a list of requirements for the job with links in order to fill those requirements, such as links to get clearances for working with community members, or a how a student can get a lifeguarding certificate to work at the pool. This would really help students have an easier time finding on campus job opportunities and make it easier to access these. Our second recommendation is about the place to pay the room deposits. For something that is so important for resident students to access, it is incredibly difficult to find online, which forces many students to go to the business office to pay this. Our group proposes something much more simple. We propose moving the link to access the payment options directly to the main page for residential life, since this is the first place students check when attempting to find this. By moving this link to the first residential life page, we will cut down on the time and frustration students endure while attempting to pay their deposits.

## Appendices

**Figure C.1**

Test Subject	Task 1 (sec.)	Task 2 (sec.)	Task 3 (sec.)	Task 4 (sec.)
Dawa (Control)	120	99	180	73
Devon (Control)	36	38	62	30
Control Average	78	68.5	121	51.5

**Figure C.2**

Number 1	47	255	265	33
Number 2	33	72	75	46
Number 3	145	338	196	26
Number 4	60	78	180	47
Number 5	125	164	220	91
Number 6	238	82	177	15
Number 7	223	74	312	15
Number 8	22	73	45	35
Number 9	161	129	40	110
Number 10	15	58	75	18
Number 11	344	Incomplete	Incomplete	92
Number 12	42	90	76	126
Average	121.25	128.45	151	54.5
High Outlier	344	338	312	126
Low Outlier	15	58	40	15

**Figure C.3**

	<b>Metz Employment</b>	<b>Pool Information</b>	<b>Room Deposit</b>	<b>Register Car Online</b>
1	1	5	9	10
2	3	3	5	4
3	5	4	8	1
4	8	7	8	5
5	7	6	3	2
6	5	5	8	1
7	2	3	10	7
8	7	8	10	3
9	3	10	7	1
10	9	9	9	2
11	7	10	10	5
12	10	6	6	10
Average	5.58	6.33	7.75	4.25

**Figure C.4**

Have paid room deposit online	Have NOT paid room deposit online	Have applied for job online	Have NOT applied for job online	Have looked up sports center info	Have NOT looked up sports center info	Have registered car online	Have NOT registered car online
8	10	1	7	10	10	1	5
6	9		9	8	9	3	2
	7		3	4	5	1	2
	10		7	7	6	1	5
	8		5	3	3	7	4
	3		5	5		10	10
	8		7	6			
	10		8				
	5		2				
	9		3				
			10				
7	7.9	1	6	6.14	6.6	3.83	4.67