Learning styles

Executive Summary:

Learning styles have been studied and shown to promote learning. There are different learning styles reading/writing, seeing, auditory and kinesthetic. This study is to help in discovering what learning styles need to be addressed in the curriculum and how to improve the curriculum for better learning.

The process will be a data collection process and data mining along with a presentation. The process for this should take about 4 weeks and about 124 hours of work. It will use outside web applications and software already in use.

Limitations and risk have been addressed at the end of this document.

Business Objectives

WozU needs to have an understanding of learning styles and the approach to teaching so that the success of each student is greater; more is learned and retained. With the value of the learning styles taken into consideration, the curriculum can be adjusted for the different learning styles therefore more independent learning can take place and more will be retained.

By more independent learning taking place the efforts of the instructors can be directed at improving the curriculum, setting learning paths and reviewing assignments to give prompt feedback for each student.

Background

This project is being initiated to take the curriculum to the next level. When being taught using all the learning styles, the studies show there is greater retention and confidence in the student’s ability to progress moving through 3 stages of learning. The exposure stage which is the first time a concept is introduced (such as p value). Then the guided learning stage when the student still needs help ( understand p value but still needs guidance and more instruction about what it is and why it is important) and then the independent stage with lots of review, hard work (understands p value and how it is used but still needs more review and research to secure the concept in the students mind) The mastery stage comes with more practice. In any technological job the stages of learning will continually used though out their career.

Scope

Research into the different learning styles, and what the effect on the student is for ease of learning and retaining the information that is delivered. Then after the information is researched deciding what the survey questions will be and how they will be worded, these questions will pertain to gender, and age to see if the there is a significant difference in the learning styles when age is a factor. City and state, then have questions that will draw out of them which style of learning type preference is.

Gather data – Collect the date by making a survey to question people 18 years and up, the survey will begin with gender, age city and state, then 4 question for each of the learning style to flush out which kind of learner they are, the kind of learning path they prefer sequenced learning, learner choice, controlled timeframes or a completing the path.

Then the data will be mined to find conclusions on the best ways to teach for the styles for online.

This information would be given to instructors and curriculum writers for information and options on how to best to deliver the material.

This study will not inform about the subject or how to teach a particular subject, nor will it give information about the student in each class.

Functional requirements

This project will begin with research about the learning styles and pathways, then an on line survey will be built off the research.

The survey questions will be

State in which you live?

City in which you live?

What is your gender: Male Female

What is your age:

Do you consider yourself and introvert (I)or extrovert(E)?

Do you feel tried or energized after being with people? Tried (I) or Energized(E)

Do you prefer many relationships or a few close friends? Many(E) or Few(I)

When you are alone does that drain you or energize you? Drained(I) or Energized(E)

Do you prefer to work alone with few interruptions or on a team? Alone(I) or Team(E)

Do you prefer large group activities or small social events? Large(E) or Small(I)

On a scale of 1 to 5, 1 being not at all and 5 being an expert how well do you think you can research topics on the internet.

Critical thinking the objective analysis and evaluation of an issue in order to form a judgment. On a scale of 1 to 5, 1 being not at all important and 5 being very important how important do you think critical thinking is to your learning?

On a scale 1 to 5, 1 being taught and 5 being learned through life lessons, do you believe critical thinking can be taught or is it just learned throughout life lessons?

Next questions which will be determined after the research:

4 questions on each learning style to flesh out which style they are.

3 questions each to determine which path is preferred.

Emails for people who are 18 years and older will be asked to participate in the on-line survey that will be sent. Data will be collected with the survey either through calling people or they will just be directed to the on-line survey.

Once all the data collected the information will be mined to see what information can be used to draw good and correct conclusions to see which learning style needs to be addressed and how.

Research will also will be done to address what avenues to teaching online in each of the learning styles has been shown to work have the best results with taking in consideration the other questions in the survey.

Then a presentation of all the information will be placed in a presentation and also a document that will be available to each of the instructors,

Personnel requirements

Data gathering will take approximate 2 weeks with 2 people researching learning styles, pathways and composing the survey, implementing the survey on social media, emailing, and phone calls

1 person will evaluate the data and draw conclusions based off that date and make a presentation based off the data collected.

1 person to make the information available to each instructor whether in through email or a manual.

Delivery schedule

Survey questions – 16 hours

Collecting the survey data – 2 weeks 60 hours A minimum 100 participants in the survey

Evaluating the data – 40 hours

Putting together a presentation – 8 hours

Other requirements

Researcher using their creativity to formulate questions for the learning styles and pathways.

The survey questions need to convey the above questions but may need to be changed to fit the survey format.

Presentation and documentation will be a creative endeavor by the person conveying the information found in the survey so that the best information to improve the curriculum is used.

Assumptions

Internet for research.

The use of SoGoSurvey or Typeform for gathering the information.

Excel, RStudio, or Python for the data wrangling and mining,

Microsoft PowerPoint for the presentation, Word for the documentation.

Excel and Gapminder for charts and graphs.

Limitations

The survey questions need to short but have enough clarity to convey what information is needed to collect.

Jury duty, sickness would extend the time needed.

At this time, I do not know what the findings will be, I cannot determine what the best information will be best for presentation.

Risks

Data collecting will be the greatest challenge, getting a diversity in the population for the survey results and collecting enough data to have a good sample to draw from.

The 2 week time period for collecting the data.