­­­­­­**9-1 Executive Brief**

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**Experience**

The experiential learning activity was to teach yourself SQL through a series of modules that had its own topic. The experience came also with an Oracle book pdf and a series of datasets that were not rigorous. Each module the objective was to master the new query. Every subsequent module was built on top of the previous one. A fun example would be that you join two tables with a common id number and then create an index for the last name. You could search last names that start with “Cw” only much faster this way. The goal was to learn SQL at a level higher than I previously had. The aspiration was to use SQL in getting a data analyst job. SQL is a popular language in data science, and I felt I was not a complete candidate until I learned it. “SQL or Structured Query Language is a critical tool for data professionals. It is undoubtedly the most important language for getting a job in the field of data analysis or data sciences.” (Motwani, 2020). This experiential learning course provided me that opportunity.

**Theory Application**

What is understood about SQL is that it is used to obtain information from databases with ease. SQL can also be used to derive insight from databases that answer business questions. An example would be, how many times was the latest coupon redeemed within 7 days or what was the month/year of the largest number of registrations? My theory is limited because I have not been able to use it professionally, where I would have applied SQL knowledge. However, these are typical questions I have seen on employment tests from companies such as Fan Duel and Insurify. “SQL is the most common language for extracting and organising data that is stored in a relational database. A database is a table that consists of rows and columns. SQL is the language of databases. It facilitates retrieving specific information from databases that are further used for analysis. Even when the analysis is being done on another platform like Python or R, SQL would be needed to extract the data that you need from a company’s database.” (Motwani, 2020).

**Program Competencies**

The primary activities were coding and looking up how to use the queries being asked of us during each module. I found the APEX tables in the beginning extremely useful, but I couldn’t grow using them. Here is where my learning grew because of the scale of using larger datasets. The one Excel file from fan duel was extremely difficult to play with in modules 1-5. Then around that time, I was able to begin to do things that I could not do 30 days before. The second half of my term, there was almost exponential growth in my learning of SQL. Figure 1 in the appendix was a high moment for me this semester. This chunk of code is extremely beautiful and attests to my growth learning SQL. “You’ll need some data to play with. Preferably, you’d use real data from your company so you can start exploring data that matters to you.” (McNeillie, 2020).

The secondary activities were reading the Oracle book but it 20 years old and MS SQL is downloaded on my computer. It was invaluable to me in the beginning of the term because that was the only thing that made sense. The set up of the book was straightforward and easy to learn from. A page would consist of an example of the topic, say SELECT query, and then break down the code. Example: SELECT \* FROM database; Another important activity was the use of YouTube. There is a series of videos that are saved in my “SQL” folder. This was the defined strategy for coding SQL after approximately 10 weeks of iterations of trying out what works best. “Plenty of people don't understand the basics, nor can they afford courses to be taught coding. There are some fantastic (and free) YouTube channels to teach yourself the basics of programming languages.” (McFadden, 2021).

**Differences**

The biggest difference to overcome between theoretical concepts and the workplace practices in the experiential learning was learning what tools worked best for me and what tools did not. The course homepage (Brightspace) did not provide much context besides the book and the APEX databases. After learning that the Oracle book worked well with getting started, I realized that the Oracle SQL language was different than the Microsoft SQL version. This is where I grew away from the Oracle book and used other platforms. The modules did not provide theoretical concepts but more of this is the query and what do you have to show for it. The theory came from either the book or YouTube.

**Significance of Differences**

The significance of differences on effectiveness of practices was highlighted in the differences section. The most effective way of understanding the material is struggling with the material. The first five weeks were a struggle because what those modules presented were topics covered in DAT-500. An example query would be: SELECT \* FROM TABLE. The WHERE and GROUP BY clauses are elementary and it did not yield help in understanding the Fan Duel test questions. The Fan Duel test questions are right now considered as the barometer of my learning. My hypothesis is that if I can complete this test, I should be able to compete on other similar tests from other companies.

Another significance of differences on effectiveness is that in figure 1, I had struggled a lot that morning with the code. I decided to take a nap and try again after my nap. I had it solved within 15-20 minutes. To me, that is the most significant difference. One can take notes, watch videos, or read a pdf but without actual coding, and coding with struggle, the language won’t be mastered. “Let me tell you again. Persistence is the number one skill you need to become a programmer. If you persist, the chances are really high that you will succeed.” (Buchalka, 2018).

**Approach**

Answering how this experience would have been approached differently is a difficult question to answer. The reasoning is because there was tremendous growth between module 5 and module 10 where in the first half there was minimal. One could say that I should have tried to code more simple queries than what I was trying to accomplish at the time. However, there is a saying that goes “You don’t know what you don’t know”; that is how I felt during this experience. Moreover, it is not necessarily a bad thing-not knowing what you don’t know; how could you? That is why struggling with SQL and other languages has brought me problem solving techniques to use on other languages.

To answer the rubric, I would say I would try to use YouTube more often in the beginning. I was able to find some good videos that stripped away the bells and whistles to get to the meat of the matter. Some feedback for the course would be to use the weekly discussions instead of the timesheet or the reflection journals. Those are useless. One of the biggest lightbulbs that went off was when we had a discussion and I got to look at how others structure their code. I think that is crucial to developing better code. It is not private information and discussions about weekly queries should be encouraged.

**Accomplishments**

The desired accomplishment is to use SQL to get a job as a data analyst with a great company. An example of a great company is Google, Apple, Facebook, Tesla, Goldman Sachs. It does not have to be with juggernauts either. Another desired accomplishment is employment as a data analyst at a tech start up. This data analyst job would lead to possibly a data scientist role where I take on more responsibility. There were no desired accomplishments that were missed except for that one. The reasoning is because my only other desired accomplishment was to be a better SQL programmer than I was before I started. I feel confident that I have accomplished that.

Communication and collaboration were not things I experienced much of in this experience. I feel everyone would have been better off with weekly discussions to exhibit their code and their strategies. The simple reason is because we are not in the business of proprietary code so what we are learning should be shared. Even if it is copied, the course must assume each student is serious about learning SQL. Thus, each student incorporating what code they like into their own projects and code

**Connections**

This speaks to my desired accomplishments from the outset of the course. It was to use the experience to help me gain employment as a data analyst. It should be clear that this experience alone would have not accomplished this professional goal, but it would and did expand my understanding of SQL. As mentioned in Accomplishments, that professional aspiration was to be a better SQL programmer than I was before I started this experience.

**Future Applications of Skills**

The skills acquired need to be tended to, like a garden. If I am to work for Tesla or Facebook, I need to tend to my skill set daily. Recently, I was able to get a take-home test from IBM. I was almost awe struck that IBM thinks enough of me to give a simple coding assessment. I did not pass the test and I can’t apply to IBM for another year, but the silver lining is that, if I am to tend to my SQL programming skills-along with Python/R, I should be a formidable applicant next year.

Moreover, I wanted to touch base briefly on my company Libra Technologies. This concept is something born out of the desire to control my time. This is where the true application of this degree will go towards. There is a saying when humans plan, God laughs. Well, that is what I have been doing. To give a brief overview, I use SQL, Python and R to gain employment at say IBM. Before this term, I only had strength in R but as I am typing this paper-I have strength in SQL and R. I might get promoted at IBM or I might have to leave to go to Google or Facebook. Considering I am in NYC, maybe a hedge fund or private equity fund could use my skills. This would give me, I think, a fair amount of clout within the data science/analytics space. There is where I could dive down into what Libra wants to do-develop a new technology or a new app. I am certain my experience in this course is the foundation for my future success.

**References**

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**Appendix**

Figure 1

Graphical user interface, text, application, email

Description automatically generated