USING INFORMATION VISUALIZATION TO GENERATE STUDENT INTEREST IN BUSINESS ANALYTICS: A CASE STUDY

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WEB APPENDIX

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Table 1
Overview of Original in Class Material Coverage

Category	Subject	In Class Allocated Hours
Introduction	What is Business Analytics	1.5
	Decision Making	1.5
	Bad Decision Making	1.5
	Data Preparation	1.5
	Data Utilization	1.5
	Data Visualization	1.5
Descriptive Analytics	Stats Refresher	1.5
	Stats in Excel	1.5
	Excel Bootcamp	0.75
	Descriptive Analytics Introduction	0.75
	Applications in Operations	1.5
	Applications in Marketing	1.5
	Applications in Accounting	1.5
	Applications in HR	1.5
Predictive Analytics	Introduction (Regression)	1.5
	Applications in Operations	1.5
	Using regression to make	0.75

	predictions	
	Applications in Marketing	0.75
	Applications in HR	0.75
	Applications in Accounting	0.75
Prescriptive Analytics	Introduction	1.5
	Using Solver to Determine Allocation	1.5
	Simulation	1.5
Applied Tools	Tableau	3
Exam Time		3
Total		36

Table 2

Distribution of Material in the Two Class Sequence

Characteristic	Business Analytics I	Business Analytics II
Analytical Focus	Descriptive	Predictive Prescriptive
Technologies	Microsoft Excel Tableau	XL Stat WEKA XLMiner

Table 3

Overview of Revised in Class Material Coverage

Category	Subject	In Class Allocated Hours
Introduction	What is Business Analytics & Big Data	1.5
	Big Data in Action Presentations	3
	Managing Data	0.75
	Cost of Bad Data	0.75
	Decision Making	0.75
	Bad Decision Making	0.75
Information Visualization	Storytelling With Data	7
	Case Study Presentations	1.5
	Infographics	3.5
Applied Tools	Tableau	3

	Pivot Tables	3
Descriptive Analytics	Applications in Accounting	45
	Applications in Marketing	3
	Applications in Operations	1.5
	Applications in Sports	1.5
Total		36

Table 4: Answer to Student Survey Questions

Answer the Following Questions				
Respondent	What did you like best about the class?	What would you change about the class?	What do you think you will use the most from the class?	Are there any things we should change or drop from the class?
Anonymous #1	"I enjoyed how stress free the class was. We had to work hard to present in almost every class, and it took a while to get used to presenting in front of everyone constantly, but it was worth it. I liked that I enjoyed going to class and I could ask questions without feeling bad for asking them."	"I was thoroughly confused with all of the accounting formulas, so I would figure out a different way to teach that section. I honestly don't remember anything from that section so I'm not sure how to fix it."	"Pivot Tables"	"N/A - the candy bucket was [a] really nice touch too!"

Anonymous #2	"I really enjoyed working with Tableau and Pivot Tables."	"Not as many presentations."	"Making more informative graphics."	"No. I do not think so."
Anonymous #3	"I enjoyed the class because out of all my hour and 15 minute courses, this one was the most enjoyable and went by the fastest. I feel that I have learned so much more from this course due to the activities and instead of sitting in on a lecture, I was able to apply what I have learned."	"Nothing!"	"When applying for jobs, I will be able to say I have a basic understand of tableau and google analytics. I feel this will help propel me beyond my coworkers and will be of assistance to me after I graduate."	"No, all of the content was extremely relevant and enabled me to retain everything I learned in the most effective way."
Anonymous #4	"I liked learning Tableau and google analytics"	"Nothing!"	"I think I will use presenting skills the most in the"	"Nope"

			future"	
Anonymous #5	<p>"I liked the class in general, this was on of the only classes I actually learnt something in. I also liked how practical the bulk of the course work was because it introduced me to some applications I did not even know exist, and now I am able to do things on my computer that I never thought I could do. Ms. Branch and Nick were also so patient with my presenting skills and helped me</p>	<p>"The ONLY thing I will probably change about the class will be reducing some of the coursework. It is a lot to juggle up all the work with other classes."</p>	<p>"For sure the presenting skills I learnt in this class."</p>	<p>"Nope, great great class."</p>

	develop it. Thank you!"			
Anonymous #6	"I enjoyed the slower pace. A lot of the Excel work and Tableau were new for the entire class. This slow pace allowed us to learn, and master, the concepts we needed to in order have a full understanding of	Personally, the Moodle page was the worst part of the class for me. I could never find where to turn things in or figure our [sic] which day a quiz is under. However, with the amount	"I think I will use the Excel functions the most. The Pivot Tables, V-Lookup and other functions will be incredibly helpful as I move into my professional career."	"I think a book report, like the MBA students had to do, would be a nice addition to the undergraduate course. I do not think dropping anything is necessary, I feel like at some point in my career I will use everything we have learned."

	the functions."	of material posted for this class, I am not sure how else you could set up the Moodle page."		
Anonymous #7	"What I liked most about the class was the use of pivot tables and Tableau. I really haven't practiced pivot tables that much previously and Tableau was amazing to learn!"	"I wouldn't change anything about the class, it was amazing! One of the best classes I've taken at Bonas!"	"I think I will use Pivot tables and Tableau if my employer buys it. Great ways to present data."	"I think it would be cool to make a data set for yourself that you can upload to Tableau like what you'd do in the workplace. This way you could get real data and analyze it that you can present back to a client in an easy to understand way."

Anonymous #8	"I liked that every class was different. I appreciated not being lectured at and that the class activities helped you to actually understand the material rather than just hearing about the concepts."	"The only thing I would change is how many activities were planned for each class. While I appreciated that every class was different, sometimes there was just too much stuffed into on class. Often times, there were many activities for one day, and it felt like you had to rush through one in order to continue on to the next. I would have liked to spend my time on the activity to fully understand	"I think personally and professionally I will use what we learned in Excel the most, i.e. pivot tables and vLookup."	"As I stated in 2, I would just say trimming down certain assignments and giving less "busy" work. Although I felt it was more valuable and not necessarily boring or trivial, some things felt rushed and crammed."
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		it."		
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Anonymous #9	<p>"My favorite part about MBA614 was the engaging work we participated in. Very rarely is a class ever given in this format of making presentations with little to no lecture at some points. I really liked being able to work with everyone in the class and to get to know each person a little better. I ultimately had the best experience when we were required to make presentations spontaneously. This helped me gain a lot of valuable skills."</p>	<p>"There is not much I would really change about the class. I really thought hard about what I would change, but the class ran very smoothly[.] I did not have much I would want to change. The one small thing that could be changed is possibly using real data sets next year for the board presentations. It would have enhanced the presentation a bit, if [sic] I could draw better insights if I knew</p>	<p>"I think I will use the Excel applicational skills the most. Creating graphs, working with large data sets, formulas, and using PivotTables would be the biggest takeaways. Excel is one of the best universal apps to know how to use well, so this was very important to get better at."</p>	<p>"I really enjoyed all the topics we covered in the class. I did not feel any of the topics were out of place and gave a nice overview of the essentials. If this is a more advanced course, we could really dive into topics further, but this was a good overview of what is going on in the field of analytics."</p>
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		<p>the company. This is pretty much it, not too much to fix here."</p>		
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Anonymous #10	<p>"I liked the whole general structure of the class. What I mean by that is that you show us what to do, then send us on our way to do it ourselves, but with your help still being offered. I think I probably learned more from this class than any other class I've taken at this school. Almost all of it I could see being used in my future career options as well."</p>	<p>"Stop giving me candy...I'm getting fat"</p>	<p>"I think the pivot tables and tableau will be extremely useful in whatever field I end up in. I'll definitely save the files we used from the class."</p>	<p>"The only time I felt like I was pressured for time was during the boardroom presentations. From the time you gave us the outline for the project, we only had 4 days to get it all together and meet twice. It happened to also be a busy week for us which probably played a role. But I would have liked a little more time to complete it. I'd give it out maybe 10-14 days in advance, so we have more time to meet the two times you were asking for. (a)Also, I understand we had to get comfortable presenting in front of people so that's why we did it so much, but I wasn't a big fan of</p>
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				<p>breaking up into groups so often to present. Maybe just a few less times and then have us do more hands-on stuff like when we did the pivot tables/tableau work."</p>
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Anonymous #11	<p>"What I liked best about the class was that there were very little lectures. I enjoyed that instead we got to learn by having classwork and group discussions where we learned in a hands-on environment. I also really enjoyed the wide variety of topics discussed in the class from sports analytics to v-lookup on excel."</p>	<p>"I would have wanted more time to do the final project in order to do the best job possible but other than that I felt everything we did benefited us. So that was all I would change from the class."</p>	<p>"I think I will use the ability to use data to tell stories the most. Using the principles of visualization and making visuals in excel and tableau. As well as the functions in excel we worked on like pivot tables and v-lookup. Those will be very beneficial to know. Learning presentation skills will be important as I move on in life as well. "</p>	<p>"I wouldn't change or drop anything from the class. I thoroughly enjoyed it [sic] every aspect of the class and think it will be the most useful of all classes I have taken at St. Bonaventure."</p>
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Anonymous #12	"What I liked best about the class is that it was very interactive and we did a lot of stuff that will help me in the future. I became much better with Excel and that will help me in the work world."	"I wouldn't change to [sic] much about the class I really enjoyed coming into class everyday and it was really interesting."	"I will use pivot tables the most from the course."	"I would like to add more about Tableau. There is so much in it and I would have liked to have learned more about it."
Anonymous #13	"I loved the engagement from the course. No class was the same and you provided so many opportunities for us to engage whether it be from an individual presentation, or group work. I also enjoyed learning so	"Honestly, I cannot think of much. It was really well put together. Maybe not printing so much paper throughout the year when everything is on Moodle and you require us to have	"Pivot Tables in Excel. I will use this, already do, at work on a daily basis."	"Maybe one or two of the class assignments that we were supposed to present on but never got around to it. Or, keeping the assignment but just as a submission. Seemed like there were a couple classes we ran out of time on for presentations."

	<p>many new applicatino that I can use in everyday business. Tableau and Google Analytics to be specific, but the deeper knowledge of excel is so important to every position."</p>	our laptops."		
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Table 5
Students' Reported Math Grades

Reported Grade	Number of Respondents	Percent of Respondents
A	32	30.5%
B	50	47.6%
C	18	17.1%

D	3	2.9%
F	2	1.9%
Total	105	100.00%