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Introduction and Welcome

The International Doctoral Research Centre (IDRC; www.idrcentre.org) was created by like-minded researchers who wish to promote excellence in doctoral and post-doctoral research.

In addition to two annual seminars, the IDRC publishes an annual journal: the Journal of International Doctoral Research (JIDR).

The IDRC provides doctoral associates and experienced post-doctoral researchers with a forum for presenting and discussing their research at one of the annual seminars. These seminars are an opportunity to get feedback from and exchange comments and views with experienced researchers. Specifically the IDRC provides a forum for peer review of a researcher's current ideas and thoughts which enable him/her to formulate future research plans or unblock problems with current research. A benefit of the IDRC includes building a close network of experienced researchers.

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THIS ISSUE

This year we celebrate our journal's 5th anniversary. In 2014, after just two years of operations, we were honoured with an important accreditation for all the hard work done by the Journal's authors, editorial review board members, and editors: the JIDR was given official accreditation status in Europe, specifically in the Norwegian academic publishing system. Our goal since then has been to maintain and develop such academic ranking status. Furthermore, we aim to continue to seek external recognitions for the JIDR and to continue to develop the impact of our publication within the international research community.

This fifth volume of the JIDR is devoted to a wide range of research themes, which are all linked to the concepts of learning, motivation and happiness, both implicitly and explicitly. The discussions in these articles highlight several recurring and yet under-researched issues in these fields. The most critical of these themes is what leads to excellence in learning, well being and

optimism levels. In publishing this symposium, we believe that our 18 authors offer pertinent reflections upon this valid question.

In the first article the author explores the use of multiple educational methods to improve learning and student satisfaction in an undergraduate degree program setting. The study shows that adding blended learning elements in a large classroom course has a positive impact on students' perception of the course, which leads to better course evaluations as well as better learning results. In our second article, the study investigates the effect of form-focused instruction (FFI) on Jordanian university students' learning and retention of pragmatic knowledge. Findings support the hypotheses that pragmatic knowledge comprises an integral part of communicative competence. Language instructors are thus recommended to make use of the FFI techniques used in this study to heighten students' pragmatic awareness and facilitate excellence in language learning.

The third article offers a study of storytelling as an educational tool in a business school setting. This article examines how the specific use of storytelling can serve as a pedagogical strategy in the teaching of research methods. Research methods and corresponding 'statistics anxiety' is fairly widespread among students in higher education. Introducing storytelling has been found to decrease this anxiety to thus improve levels of applied research skills. These are findings which are critical in international business research today. The fourth article offers an empirical investigation into assessing student motivation at university. Significant differences were found as students who obtain higher than median GPAs or have plans for further education were more extrinsically motivated-identified; while non-athletes and employed students were more extrinsically motivated by introjected regulation; especially financial aid and student generation do not motivate university students.

The final article moves discussions of well being from an educational learning and teaching setting to an industry setting. This article specifically investigates the nature of both optimism and happiness as they relate to business and industry stability. The results indicated that age and length of time in workforce are major factors in determining an individual's optimistic or pessimistic outlook for the future.

We hope you enjoy this edition of the JIDR, please feel free to contact us at jidr.submissions@idrcentre.org if you are interested in joining our editorial team.

Kind regards

The editor

ABM Abdullah

Manuscript Preparation

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Checklist

- Manuscripts should not have been previously published nor submitted to another journal for consideration. If the manuscript has appeared elsewhere, please ensure that you have permission for it to be published in the JIDR and that you acknowledge such a release (see the style guide).
- Please ensure that the electronic file is in Microsoft Word or RTF format.
- Please check that the text adheres to the stylistic and bibliographic requirements outlined below.
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- A brief autobiographical note should be supplied including:
  - Full name
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- Headings must be short, with a clear indication of the distinction between the hierarchy of headings. All headings are to be left justified. The first hierarchy is to be bolded and use title format (each key word capitalized with the exception of words such as 'a', 'the', 'of', etc.) The second order of hierarchy is to be bolded and have only the first word capitalized. The third order is to be italicized but not bolded with only the first word capitalized.
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- References to other publications must be in APA style and carefully checked for completeness, accuracy and consistency. This is very important in an electronic environment because it enables your readers to exploit the Reference Linking facility on the database and link back to the works you have cited through CrossRef. You should cite publications in the text: (Adams, 2006) using the first named author's name or (Adams & Brown, 2006) citing both names of two, or (Adams *et al.*, 2006), when there are three or more authors. At the end of the paper, a reference list in alphabetical order should be supplied:

  - ***For books***: Surname, Initials (year), *Title of Book*, Publisher, Place of publication.

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  E.g. Capizzi, M.T. and Ferguson, R. (2005), Loyalty trends for the twenty-first century, *Journal of Consumer Marketing*, Vol. 22 No. 2, pp. 72-80.

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- ***For unpublished conference proceedings****:* Surname, Initials (year), Title of paper, paper presented at Name of Conference, date of conference, place of conference, available at: URL if freely available on the internet (accessed date).

E.g. Aumueller, D. (2005), Semantic authoring and retrieval within a wiki, paper presented at the European Semantic Web Conference (ESWC), 29 May-1 June, Heraklion, Crete, available at: http://dbs.uni-leipzig.de/file/aumueller05wiksar.pdf (accessed 20 February 2007).

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E.g. *Encyclopaedia Britannica* (1926) Psychology of culture contact, Vol. 1, 13th ed., Encyclopaedia Britannica, London and New York, NY, pp. 765-71.
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Large Classes: Better Results with Blended Learning

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ABSTRACT

This study shows that adding blended learning elements in a large classroom course has a positive impact on students' perception of the course, which leads to better course evaluations as well as better learning results. A study of 3rd year bachelor students in a strategy course at a Norwegian business school in 2015 and 2016 showed that introducing new elements of blended learning had positive effects on perceived quality and student satisfaction. The additions were more videos and more direct communication online. The number of classroom lectures was reduced. Based on an electronic survey of the students (N=125 in 2015 and N=124 in 2016) we compared the students' ratings on 10 specific elements of the course evaluation, and there was a significant improvement on seven of them and a significant reduction on one. In total, the course evaluations showed a significant improvement from 2015 to 2016 in students' perception of learning quality. A separate measurement of a class comprehension test on strategy concepts showed a significant improvement in learning from 2015 to 2016.

***Key Words*:** Blended learning, classroom, webinar, student satisfaction, video

1. Introduction

Blended learning is referred to as some sort of a "buzzword" (Graham, 2006). A definition of blended learning is an integration of different models to teaching, where traditional lecturing is supported by video training, webinars, and online tutoring (Norberg, 2017). In this paper, we also include in the definition of blended learning other delivery methods like quizzes and electronic question-and-answer tutoring. The use of the blended learning approach has grown in parallel with the development of easy-to-use technologies. Students today are of a generation who have a daily use and familiarity with the new technologies (Proserpio & Gioia, 2007; Tucker & Jones, 2010b). Social networking sites, such as Facebook, have been widely adopted by students. These technologies have the potential for becoming a valuable resource to support learning and collaborations with faculty. However, students are more willing to use social media than teachers, who rely more on traditional means like e-mail (Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Even though the use of blended learning is becoming increasingly relevant, there is still a need for practical research and a coherent theory on the process of blended learning (Arbaugh, 2008). Can blended learning in a classroom enhance the learning experience and give higher student satisfaction? Is there any evidence that the results improve? We wanted to explore this question by introducing new blended learning elements to a sample of business school students.

Students today have had internet access all their lives and the use of internet tools are closely integrated into their daily activities. From a separate study at the school we know that 60% of the students have checked updates on the mobile within a time-span of 30 minutes (Wilberg, 2017). We therefore hypothesized that by adding blended learning elements in a planned way it would have a positive effect on the students' level of satisfaction.

2. Literature Overview

2.1 The Process of Blended Learning

Research on the process of blended learning shows many advantages of integrating technology enhanced learning methods to teaching. Blended learning is a method where traditional classroom lecturing is supplemented with online activities like webinars, videos and

online tutorials. Researchers have found that blended learning has the potential to enhance both the effectiveness and efficiency of meaningful learning experience (Garrison & Kanuka, 2004). Firstly, it is possible to reduce time in the classroom if the course content is posted online outside of the classroom (Baepler, Walker, & Driessen, 2014). Furthermore, there is evidence that the use of multiple channels for content delivery enhances learning (Dixson, 2012). There is little randomized controlled research that compares learning outcomes (Bishop & Verleger, 2013). A large meta-study by Bernard et al. (2014) indicates however, that using blended learning instead of classroom learning results in better achievement outcomes, and that one or more interaction treatments (student-teacher-content) seems to enhance student achievement (Bernard, Borokhovski, Schmid, Tamim, & Abrami, 2014). In addition, a long-term study from the University of Central Florida found that blended learning resulted in positive institutional transformation, but that it requires proper support and planning (Moskal, Dziuban, & Hartman, 2013). A blended learning study of science education showed that in-class problem solving improved exam performance, and that video assignments increased attendance and satisfaction (Stockwell, Stockwell, Cennamo, & Jiang, 2015). Video as a learning tool also predicts higher student satisfaction, and there is evidence that students prefer a teaching method where video is a part of the course (Johansson, 2014). One aspect that stands out in the use of video in teaching is that students can watch the study content whenever they want, and how many times they want (Mok, 2014). A Swedish study showed that modern learning technologies have freed students and educators from being "locked into the classroom". Thus, the authors argue that learning rather than teaching is emphasized (Norberg, 2017).

2.2 Faculty Implications

In spite of the growing body of evidence that blended learning has the potential to enhance the effectiveness and efficiency of learning (Garrison & Kanuka, 2004), research on education faculty shows a reluctance to teach more online (Porter & Graham, 2015). This might be due to the lack of research on how to prepare and support effective online instruction (Crawford-Ferre & Wiest, 2012). Furthermore, a study on faculty showed that technology infrastructure and organizational support were the key determinants of acceptance of blended learning tools (Ahmed, 2010). On the other hand, a study of psychology students in Australia showed a more mixed picture. The study showed no significant quantitative differences between

face-to-face and online activities. These classes were however quite small (N=67 and N=37) (Kemp & Grieve, 2014). Qualitative data from the students showed on the other hand a strong preference for classroom discussions to be face-to-face. The conclusion from this study was that course developers should structure classes so that the students could benefit from the flexibility of online learning as well as the engagement in classroom discussions. A study also shows that designed learning management systems are easily accepted among students and regarded as useful, provided that faculty also can utilize them properly (Martins & Kellermanns, 2004). For a classroom course what is happening in the classroom environment has a great influence on learning – positively or negatively. On the one hand, you can have a brilliant and entertaining lecture that is soon forgotten, or you can have a more challenging lecture where the learning experience is greater. You can have a greater concern for the subject, or greater concern for the student – or a mix of both (Raaheim, 2016).

2.3 Blended Learning Outcomes: Student Satisfaction and Learning Outcome

As an example of blended learning, the use of inductive, case-based learning with small exercises during lectures was successful in a civil engineering program (Gørtz, 2011). An earlier study suggests that simply motivating students to participate in class does not alter overall learning styles. The research points to the fact that "unlearning" previous learning styles may pose a problem both for instructors and students, and that it requires more than just a single course intervention. But there is at the same time evidence that student-centered and self-regulated learning results in a more positive learning experience for both students and teachers (Herington & Weaven, 2008).

On the one hand, studies show that blending new teaching technologies with interactive classroom activities can result in improved learning but not necessarily improved student satisfaction (Missildine, Fountain, Summers, & Gosselin, 2013). On the other hand, research supports that using new online technologies in teaching improves the quality of teaching and thus the student satisfaction, but not cognitive learning outcomes (Rosenbaum, 2012). Yet another study showed that among 120 business school students, the empirical results confirmed that blended learning tools did enhance students' learning experiences and learning outcomes (Wai & Seng, 2014). Likewise, a study from the Manchester Metropolitan University Business School showed that a blended learning approach to teaching information and communication technology

was successful. Both the cost effectiveness, and the impact on student learning, was improved (Tucker & Jones, 2010a).

There is also evidence that students will be more enthusiastic learning through technology rather than the traditional classroom method (Steed, 2012b). A study of two undergraduate nutrition courses showed that the majority of the 142 students that were studied preferred the flipped approach (Gilboy, Heinerichs, & Pazzaglia, 2015). It should come as no surprise that there is a strong positive relationship between students' efforts in a course and their performance. When students are actively involved in learning and show mastery of a subject, then performance will increase. (Spivey & McMillan, 2014).

A large meta-study of the literature of online and blended learning showed that students performed modestly better on average in online learning than those receiving face-to-face instruction. An important conclusion was that the advantage over face-to-face instruction was significant in those studies that contrasted blended learning with traditional face-to-face instruction, but not in those contrasting purely online with classroom instruction (Means, Toyama, Murphy, & Baki, 2013).

A large meta-study of science teaching methods in the US, showed that active learning methods lead to better educational outcomes (Wieman, 2014). In this case, active learning methods are blended learning, using different and varied methods in the pedagogical approach. Another study supports theory claiming that increasing the number of students receiving STEM degrees (science, technology, engineering and mathematics) could be answered, to some extent, by moving away from traditional lecturing in favor of active learning. (Freeman et al., 2014). The literature review has showed us so far, that the research field on blended learning is a mixed one. Most studies show that variation in delivery methods where classroom lecturing is supplemented by other means of delivery and student-professor interaction are generally positive, but there is also evidence that careful planning of the delivery is important, and that clear improvements sometimes are difficult to recognize. In addition, the interest of faculty to use these newer methods helps to determine the success of blended learning.

With this as a background our research question is:

Will the inclusion of more blended learning elements in a classroom lead to greater student satisfaction and better results?

3. Method

The sample of this research consisted of 932 students attending the basic strategy course at BI Norwegian Business School (hereafter BI) in 2015 and 1230 students attending the course in 2016. The course is a third-year compulsory Bachelor´s program consisting of 45-hours of lecturing and tutoring, which gives seven, 5 hours of ECTS credit. The exam for this course came in two-parts – a Multiple Choice exam counting 40% of the overall grade, and a project paper on a self-nominated business case counting 60% of the grade. From 2015 to 2016, the course has been developed even more in the direction of blended learning, which means supplementing the traditional classroom lecturing with other activities like in-classroom exercises, offline and online tutoring, webinars and quizzes. The differences in the delivery methods from 2015 to 2016 are framed in the following table:

Table 1

Delivery structure of the course

Delivery method	Classroom 2015	Classroom 2016
Number of lectures	11	6
Number of workshops	0	4
Number of faculty	4	4 (3 of 4 lecturers were the same as in 2015)
Number of online tutoring sessions	1	4 large (3 hours) and 19 small (1 hour) where students could log on when they needed.
Main delivery method	Traditional lectures – of which one lecture was given online.	Classroom lectures and online webinars.

Delivery method	Classroom 2015	Classroom 2016
Q and A	Personal and Padlet.com[1] as well as Facebook group	Online webinars and Slack[2]
Facebook group in use for students	Yes	No
Course videos available for students	Yes	Yes – and more videos were added in 2016 – 26 videos at the student's disposal.

The above table shows that more blended learning elements were added to the 2016 course. The added elements in 2016, apart from videos, consisted of more webinars, online tutoring and online contact via the Slack program.

3.1 Research Variables

3.2.1 A measure of student satisfaction: We constructed an explorative survey instrument with an intention to measure student satisfaction in the strategy course. Rather than conceptualizing in general terms, our intention was to specify our questions on student satisfaction with concrete and identifiable elements like the textbook, videos, lecture content and learning management system. In addition, we wanted to know how they perceived the total quality of the course. We found no survey instrument that would cover our interest with the kind of details we wanted. The elements of the survey are shown in the following table:

[1] Padlet.com is an online noticeboard where students could post questions that were answered by the faculty. Also used as an in-classroom tool.
[2] Slack (slack.com) is a collaboration tool providing easy contact and follow up between students and faculty. This was used instead of a standard Learning Management System (It's Learning).

Table 2

*Elements of the student satisfaction survey**

Question	What is your opinion on…..	Survey element explanation
1	Textbook	A new Norwegian language strategy textbook used for the course in 2015 and 2016.
2	Videos by professor	Small topical videos made by the professor – one per strategy concept or item – and a summary video of the curriculum for exam preparation. For the 2016 course some videos from a second professor was added. All videos were produced by faculty.
3	External videos	Other videos – interviews with business managers highlighting strategic decisions – airline, banking, hotel etc. Produced by faculty.
4	Content of lectures	The perception of the content of lectures
5	Quality of lecturer(s)	The perception of the quality of the lecturer(s) on the course
6	Learning Management System.	In the 2015 course, we used a learning management system called It's Learning, which is the standard LMS for all courses at the school. For the 2016 course, we used Slack, which is a collaboration or project management tool that was used as a replacement for Its Learning. It was used both for upload of material (like ppt-slides) and for interpersonal written communication and Q and A with lecturer(s).
7	Tutoring online	Tutoring online via Adobe Connect[3]. The tutor is shown in a video window and students ask questions via a chat window. Tutor answers the questions one by one and interact with students on questions there and then. The tutoring session is recorded and can be viewed as a video at the discretion of the student.
8	Kahoot[4] quiz	Classroom quizzes via Kahoot. Always performed in class and in a webinar situation. This was used to check comprehension on subjects taught in the course.
9	Lecturing Online	Lecturing online via Adobe Connect. An ordinary lecture delivered with a video window, slides on screen, and a chat window for student interaction.
10	Total quality of course	Student evaluation of the overall satisfaction with the course.

*All the elements were rated on a Likert scale 1-5 where 1=Very bad and 5=Excellent.

[3] Adobe Connect is an online web-conferencing tool.
[4] Kahoot (getkahoot.com) is a game based quiz tool widely used in classrooms for summing up after lectures.

The survey was conducted a few weeks after the end of the semester, which is a few weeks after each course exam in 2015 and 2016. It was distributed through the school's internal e-mailing system providing a link to the Survey Monkey questionnaire. In addition to the above questions, there was an open-ended question box for comments on the course in general. Here students could write comments on details of the course to clarify their responses on different items.

One week before the exam, we provided a special version of Kahoot that was more exam orientated. Named the MegaKahoot, it was used as a measure of the comprehension of strategy subjects from textbook and articles. 30 questions were given while students were logged on in the auditorium and they had 20 seconds to answer each question. 310 students participated in the MegaKahoot in 2015 and 371 students participated in 2016.

3.1 The Research Sample

Table 3

Sample description

Delivery	Number of students	Survey respondents	Response rate
2015	932	125	13,4%
2016	1230	124	10,1%

We have no breakdown, for reasons of privacy, on gender and age for the survey respondents, but we know from the student register at the school that the average age for 3rd year students are 22 years. The survey response rate for this study is below the level found in surveys performed in organizations, namely 35% (Baruch & Holtom, 2008). Therefore, the results in this study will have to be interpreted carefully. However, the level of response corresponds well with other studies performed at the school, which normally have very low participation rates, and this study might have been regarded by the students as "just another study". We cannot really tell if these results are representative, but we do find that the results are interesting. One might expect that the most dissatisfied students would be the ones answering the survey. Inspection of the

results on the open-ended question suggests that this is not the case for our course, because we have both positive and negative comments from students.

> *"I learned incredibly more of the tutoring that was presented online than I did in the lectures. Slack made the threshold for asking the teacher for help much lower. I feel that I have a very good learning from this course. The textbook is OK, but the subject register at the back is hopeless" (Student 2016)*

4. Results

The results of the survey are shown in the following tables.

Table 4

Descriptive Statistics 2015

	N	Mean	Std. Deviation
Textbook	123	3,64	1,110
Videos	123	3,97	1,152
External videos	120	3,60	1,056
Lecture content	123	3,20	1,109
Lecture quality	123	3,38	1,142
Learning Mgmt system	124	3,71	1,034
Tutorial online	114	3,05	1,432
Kahoots	119	3,79	1,199
Lecture online	118	2,95	1,467
Total quality	125	3,36	1,081
Valid N (listwise)	98		

Table 5

Descriptive Statistics 2016

	N	Mean	Std. Deviation
Textbook	120	3,57	1,018
Videos	122	4,32	,763
External videos	96	3,60	,827
Lecture content	120	3,80	,894
Lecture quality	122	4,08	,829
Learning Mgmt system	124	2,92	1,341
Tutorial online	107	3,45	1,319
Kahoots	121	4,50	,697
Lecture online	111	3,66	1,378
Total quality	124	3,65	,846
Valid N (listwise)	85		

The results with a t-test comparison of the two delivery methods is shown below:

Table 6

Statistical significance analysis

	Mean	
	2015	2016
Textbook	3,64	3,58
Videos	3,97	4,32 A
External videos	3,60	3,60
Lecture content	3,20	3,80 A
Lecture quality	3,38	4,08 A
Learning Mgmt System	3,71 B	2,92
Tutorials online	3,05	3,45 A
Kahoots	3,79	4,50 A
Lectures online	2,95	3,66 A
Total quality	3,36	3,65 A

Results are based on two-sided tests assuming equal variances. For each significant pair, the key of the smaller category appears in the category with the larger mean.
Significance level for upper case letters (A, B, C): ,05[1]
1. Tests are adjusted for all pairwise comparisons within a row of each innermost suitable using the Bonferroni correction.

This two-sided t-test analysis shows that there is a significant difference (p<,05) for 9 out of 10 of the elements in the comparison. For 7 of them there is an improvement positively from 2015 to 2016, but for the Learning Management System (LMS) the situation is the opposite. The 2016 class had a less favourable rating of the LMS. The result on this item is easy to explain: The Slack system used in 2016 was unfamiliar in comparison with the LMS used in 2015 and 2016 on all other subjects than strategy for the students. The students regarded the Slack system as more inconvenient than the LMS used in other subjects. But the perceptions here were more divided. The standard deviation on the LMS in 2015 was 1,034 versus 1,341 in 2016, suggesting a more diverse view. Some students loved it because of the flexibility of learning material and Q and A with lecturers, both open for all students to see, or private as a messaging system between professor and student. Other students thought this was a bad idea.

4.1 Comments on the results

4.1.1 Satisfaction of the blended learning elements: The textbook is a Norwegian textbook written by the school's faculty. It is in its first edition and has been used for these two years. Generally, the book has been quite well received, but it has a flaw in a very weak thematic glossary. The results are no different between the years.

The videos by the professors have been expanded. Some videos have been revised, others have been added. For the 2016 class we provided videos on how to write a report, how to formulate a problem for the assignment and newer videos on value creation and resources.

External videos were expanded with two more videos from industry leader interviews.

Lecture content was revised. We provided fewer and more compact classroom lectures covering more material than earlier, where we had approximately one lecture per chapter. The change in lecturing meant leaving more of the study to the students rather than having the professor simply read bullet-points off Powerpoints.

Lecture quality was improved. We think that the revision of lecturing made the lectures more interesting, because they provided more overview. Also, we had one more experienced lecturer on board.

The learning management system (LMS) is interesting since it came out with a significantly lower rating from 2015 to 2016. We believe this is partly because our LMS in 2016 was a project management tool, with an emphasis on collaboration, rather than an LMS. Students are forced to use the school's LMS in all other subjects except strategy, and therefore the use of the LMS replacement (Slack) by some students were regarded as more of a nuisance than help, because the way they could find teaching material was through search, and not sifting through a folder of files.

Tutorials online were run on a platform called Adobe Connect. This enabled the professor to have a question and answer session on strategy subjects with students writing their questions in the chat window, and the professor answering orally and directly. Later in the semester, the tutorials were expanded to two professors simultaneously sharing the webinar. The professors were in in two different cities in Norway and logged on to the same webinar. The tutorials were recorded and made available to students after the tutorial for repetition purposes.

Kahoots have become immensely popular among students. We know that this tool is used worldwide in schools at all levels. We have used Kahoots as a repetition and revision tool. The quizzes have been run at the end of the lecture as a summing up, and has been both a learning and a competitive tool for the students: Through the quiz the student will see his/hers standing among other students. An analysis of the results after completion of the quiz gives the professor an opportunity to look at results and provide feedback on unclear or low-score questions.

Lectures online were performed as an integrated part of the course in 2016. In 2015, it was performed more ad-hoc. Students want things to be planned and if it seems logical they will accept the changes from the classroom to online. Another advantage was that the lecture was recorded, and the student could use it for repetition.

The students gave a significantly higher score on the total quality of the course. This is an indication that the "learning package" for 2016 with additional elements were more successful in 2016.

4.2 Learning Outcome

Table 7

Test of significance on Kahoot results, 2015 and 2016

	Year	N	Mean	Std. Deviation	Std. Error Mean	Sig. (2 tailed)
Correct answer	2015	310	16,19	5,847	,332	
	2016	371	17,74	6,617	,344	,001
Score	2015	310	14009,14	5295,285	300,752	
	2016	371	18391,79	8886,214	461,349	,000

An independent sample t-test was performed on the results, and both criteria were significant (p<,001) showing that the results were significantly better in 2016 than in 2015. For the 2016 course this meant that the students on average scored correctly on 59% of the questions (17,74/30).

5. Discussion

With the growing influence of social media and the requirements of out-of-campus activities (like part time jobs) the attention span and prioritizing of the students has changed. This has implications for structuring of the courses and further strengthens what is found in literature on blended learning – more flexibility and new learning opportunities are all for the best. (Grepperud, 2004; Gørtz, 2011; Missildine et al., 2013; Rosenbaum, 2012).

From theory, we know that acceptance for online learning and blended learning in classrooms have its advantages (Steed, 2012a; Wai & Seng, 2014) However, this study seems to reveal that some of the differences between the two semesters in our study lie in the design of the "blending" itself. In 2016 the online activities was more integrated in an overall plan, while in 2015 some of the online activities happened more as a surprise. One example was that one of the professors had a travel ban for medical reasons that forced him to lecture online instead of in

classroom. While accepted by the students it was not regarded as a "full lecture" because the delivery was changed almost overnight. Also, when testing tutoring in 2015, we conducted a three hour learning session as two hours in the classroom and then one hour online tutoring. This was regarded by some students as a "waste of time" and "not what we travelled to school for". Moreover, as a student in the classroom setting, the impulses you have in the classroom come from the social interaction in the auditorium, number of students present, lighting, sound, and other external impulses and/or disturbances.

In a blended learning situation, the students have more flexibility and variation. One example: All the online tutorials in 2016 were recorded and made available to the students for view whenever they wanted. This would give the students more control over their own learning, and was used for repetition purposes. This is also found in other research (Mok, 2014).

One conclusion we have made is that forcing a class in an auditorium into an online situation, contributes to a perception of studying in an unfamiliar situation, especially when it is not planned properly. When online activities is an integrated part of a course rather than a sudden change or unfamiliar study situation, the acceptance level is higher. This resonates well with the results shown in other research (Missildine et al., 2013; Moskal et al., 2013).

One of the interpretations that can be made from this explorative study is that there is a connection between the students' expectations and the final satisfaction with the course. Elements that are within the framework of expectations and part of the psychological contract between student and teacher score higher. Videos are examples of this. The students like the videos for being short, topical introductions, and we know from comments that students in classrooms also enjoyed and appreciated the online tutoring when it was planned into the lecture preparations. This is also supported by the research literature (Johansson, 2014; Moskal et al., 2013; Stockwell et al., 2015).

The teaching platform (Slack), which is not a learning system – but a collaboration system, was extensively criticized. Not so much about the platform itself, but because it had to be operated separately from the standard Learning Management System used at the school. It was therefore regarded as cumbersome by some, but loved by others. From a teacher's standpoint, the app lowered the threshold for students to ask questions and made it possible to communicate

with students in a much easier way. This is because you could click on the app and you entered the program. There was no log-on procedure to repeat each time, and it could be operated from the smartphone, the tablet and the computer seamlessly.

6. Conclusion

The results of this exploratory study show that carefully planned blended courses can lead to higher student satisfaction in a course (assessment of the total quality of the course). In an environment of classroom experiences, the introduction of online elements, like online tutoring, must be integrated well into the overall course planning. If not, it will create confusion and dissatisfaction. When looking at our results –we have indications that students score better on a test in a blended learning environment with larger influence of tutoring, than in a traditional classroom setting where all activity is from lecturer to students, with limited time for tutoring and feedback to students. We believe that this study gives some good pointers for course development and the further application of blended learning methods. Satisfaction with the course delivery is higher, mainly because of the greater flexibility that the blended learning provided. And better results on student satisfaction also seem to indicate better learning.

6.1 Limitations of the Study

The limitations of the study are that the response rates in the survey are quite low, which in turn limits the interpretation of the results. It is also a weakness of the study that the survey data applied in this study does not include the actual grade obtained by each student. Future research should include data on exam results and GPA prior to the program start. As there is no direct link between the student course evaluation survey results and the exam results obtained at the completion of the course, this is a limitation.

6.2 Suggestions for Further Research

There are several ways that a study on blended learning can be improved. First, it would improve the quality of the study if it also included the students' grade from other courses, or their results from high school. Second, inclusion of demographic variables such as gender and age

would be preferred. In addition, data on after-of-school activities such as hours worked in jobs / family care commitments would give a richer picture.

Future research course also investigate to what degree the learning environment of different schools, campuses and national settings impact the success of blended learning. The bachelor course in strategy that was the focus of this present study is run at all four campuses within the school in question. It would be possible to make a variation on the blended learning activities for each of the eight classes that take the course every year. Nevertheless, one would then have to control for some differences between the classes, such as the average grade in other majors. In conclusion, with blended learning now a strategic learning approach in a growing number of business schools globally, this study has attempted to explore to what degree blended learning can have a positive impact on learning and student satisfaction in large classes. By meeting students in multiple learning environments, we can work with economies of scale philosophies where teaching time resources can be utilized in many platforms and varied learning environments to increase reflective learning

> *"Tutoring on Adobe Connect was very ! good. More people had the chance to ask questions about their paper and other subject questions. Slack was a bit messy, but easier to access because it was an app and not a webpage." (Student 2016).*

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The Effect of Form-Focused Instruction on Learning and Retaining Pragmatic Knowledge among Jordanian EFL Tertiary-Level Learners[5]

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ABSTRACT

This study investigates the effect of form-focused instruction on Jordanian university students' learning and retention of pragmatic knowledge. The study adopts a quasi-experimental design. Forty-seven students of nursing attending an EFL course at Al Al-Bayt University, Jordan, were divided into an experimental group of twenty-seven students who received form-focused pragmatic instruction (viz. *consciousness-raising* and *input enhancement* tasks) on three speech acts (viz. *apology, request,* and *suggestion*) and a control group of twenty students who received instruction per the guidelines of the prescribed course book. Descriptive statistics, ANCOVA and paired-sample t-test were used to analyze the participants' scores on a pre-test, immediate post-test, and delayed post-test. The results showed that form-focused pragmatic instruction affects the learning and retention of pragmatic knowledge. The study concludes with some pedagogical implications and recommendations for further research.

Key Words: apology; form-focused instruction; request; suggestion

[5] This manuscript is an extension of the first author's doctoral dissertation per the regulations in force at Yarmouk University, Irbid, Jordan.

1. Introduction

Communication is currently the crux of language teaching around the world. Communicative Language Teaching (henceforth, CLT) has been the most popular approach to language teaching since the 1980's (Brown, 2001; Richards & Rodgers, 2006). In CLT, language is a system for expressing meaning (Brown, 2001), but the focus is on both the structural and functional aspects of language (Littlewood, 1981).

As linguistic knowledge, defined as the knowledge of form and meaning of a language (Chomsky, 1981), and pragmatic knowledge, defined as the knowledge of the conditions and manner of appropriate use of a language in a particular context (Chomsky, 1981; Kasper, 1997; Kasper & Roever, 2005), are two vital components of communicative competence (Bachman, 1990), language functions are potential catalysts for effective language use. Because learners need much more than knowing how to listen, speak, read, and write (Widdowson, 1984) to communicate, both linguistic knowledge and pragmatic knowledge (Bruner, 1983) are vital for language learning/teaching in general, and foreign language learning/teaching in particular, as communication is actively sought (Brown, 2001; Richards & Rodgers, 2006).

Rarely do languages exhibit a one-to-one relationship between form and function (Canale, 1986; Cutting, 2008; Huang, 2007), which potentially makes language learning/teaching more challenging, especially in foreign language contexts. Therefore, language teaching practitioners should align instruction in a manner that would integrate form and function without promoting one over the other (Savignon, 1991).

Pragmatic knowledge potentially develops through instruction (Deda, 2013; Schmidt, 1990) and practice (Omaggio-Hadley, 2001; Simpson, 1997), as learners are afforded consciousness-raising opportunities to practice the functions they are most likely to encounter in real-life contexts. Thus, to facilitate communication and avoid breakdowns, learners need be provided with pragmatic instruction which offers them adequate exposure to samples of the social, cultural, and discourse conventions of the foreign language (Bardovi-Harlig, Hartford, Mahan-Taylor, Morgan & Reynolds, 1991). This would allow them to notice explicit input (e.g., new forms, meaning, functions) (Schmidt, 1990) to use for further linguistic and pragmatic development.

Thus, developing linguistic knowledge is not necessarily adequate for developing communicative competence (Ariffin, 2004), as grammatical correctness is not always a condition for pragmatic appropriateness. Combining both types of knowledge (Kasper, 2001) is needed as learners develop their interlanguage pragmatics (Huang, 2010) through cultural awareness, explicit pragmatic instruction, socio-linguistically responsive curricula, and authentic language practice in and outside the foreign language classroom.

Explicit formal instruction, coupled with meaningful practice, lends itself readily to developing learners' accuracy and fluency, which are both at the essence of form-focused instruction (FFI). FFI is defined as any pedagogical effort (either planned or incidental, implicit or explicit) which draws the learner's attention to language forms within the communicative language-teaching lesson (Long, 1991; 2000; Spada, 1997). FFI activities are essentially consciousness-raising, as learners are made aware of language forms to facilitate both learning and retrieving such forms, especially in spontaneous language production (Schmidt, 1990).

Albeit similarly structure-oriented, FFI is different from traditional grammar translation-based instruction (Long, 1991). The latter focuses on **discrete** decontextualized forms whereas FFI directs the learner's attention to forms in a lesson that integrates the study of form and meaning. As FFI becomes a potential solution to existing communicative problems among a particular group of learners, they are exposed to activities that potentially direct their attention to target language forms, which they may not notice otherwise, during learning (Fotos & Nassaji, 2011).

Noticing is believed to be a catalyst for language learning. Although whether it is conscious (Schmidt, 1990; 2001) or conscious and unconscious (McLaughlin, 1987; Sharwood-Smith, 1981) is a matter of debate, noticing is best defined as a process of attending to the linguistic features of the input.

FFI is also grounded in cognitive psychology, as focused explicit instruction is believed to facilitate learning and later retrieval (Sanatullova-Allison, 2014; Spada & Lightbown, 2008). Rehearsal, defined as the learner's conscious effort to memorize new language forms, is another catalyst for the storage and retention of learned knowledge (Dahlen & Caldwell-Harris, 2013).

Research (e.g., Williams, 1999; Yu, 2011) suggests that noticing works best when accompanied with rehearsal, as consciously noticed knowledge is stored in the long-term memory. During rehearsal, cognitive processes connect the information in the short-term memory with previously stored information in the long-term memory and construct them in the learners' schemata (Williams, 1999), a process in which drills may play a key role (Ellis, 2002).

Robinson (1995) views *noticing* as both what is detected by learners and what is activated through the allocation of attentional resources, a view which combines the concepts of noticing and rehearsal which involves the learners' conscious effort to memorize the noticed forms through, among others, silent repetition of a word/phases/ sentence or reading the sentences a few times to help commit the linguistic feature to short-term memory (Zhang, 2012).

Incorporating FFI in a communicative classroom potentially develops students' accuracy (Nassaji, 1999), as learning outcomes become more durable than in implicit instruction (Norris & Ortega, 2001). FFI may take various forms: planned (proactive) and incidental (reactive) FFI are used per the learners' needs. In incidental FFI, teachers do not select the target forms in advance but the attention to them arises during a communicative instructional episode. On the other hand, planned FFI requires teachers to decide on the forms prior to the instructional episode (Brown, 2001; Ellis, 2001; Nassaji, 1999).

Similarly, when the language teacher plans to use FFI in his/her instruction, he/she must select from a variety of FFI techniques such as *input flooding, task essential language, input enhancement, negotiations, recast, output enhancement, interactions, dictogloss, consciousness-raising tasks,* and *garden path* (Bani Younes & Bataineh, 2016; Bataineh & Bani Younes, 2016; Long, 2000; Farrokhi & Talabari, 2011). In the current research, only two of these techniques are used: *consciousness-raising* and *input enhancement tasks*.

In *consciousness-raising tasks,* learners' attention is explicitly drawn to the form of a specific target language feature (Harley, 1998; Rutherford, 1987), as conscious awareness of form is believed to facilitate the acquisition of grammatical knowledge (Rutherford & Sharwood-Smith, 1988; Sugiharto, 2006). On the other hand, *input enhancement* refers to drawing the learner's attention to the form by coloring, highlighting or underlining it in the text (Long & Robinson, 1998), as highlighting selected forms in input is believed to enhance the saliency of

those forms.

The significance of speech acts derives from their interactive functions in day-to-day interaction (e.g., apologizing, inviting, requesting, thanking, suggesting). A speech act is a minimal functional unit in human linguistic communication (Searle, 1965) as doing something by uttering it (Austin, 1962). Speech act theory (Austin, 1962; Brown & Levinson, 1978; 1987; Searle, 1965; 1969; 1975) is believed to be the crux of pragmatic knowledge (McKay, 1985) and, thus, forms the basis of pragmatic competence development since it explains how language functions in various situations.

Opting for FFI, the teacher may select from a variety of techniques (Farrokhi & Talabari, 2011). In *input flooding*, students are given numerous examples on the form under focus whereas in *task essential language* and *input enhancement,* students are exposed to completion tasks and texts in which the target form is highlighted, respectively. In negotiations, students ask and answer questions using the target form whereas *recast* involves repeating a corrected form of the students' wrong utterance. O*utput enhancement* is achieved through the students' active involvement to ensure correct output whereas *interaction enhancement* involves students' collaboration to correct one another's output. *Dictogloss* involves the students' delayed reconstruction of a dictated text while *consciousness-raising tasks* involve explicit instruction of the target form. Finally, while *input processing* involves using students' interlanguage errors as input, *garden path* involves drawing students' attention in the input to the rule and its exception.

Through their collective experience as EFL practitioners, the researchers have observed weakness in the socio-cultural aspects of English even among reasonably proficient students, which often culminated in difficulties in self-expression in authentic situations in and outside the classroom. These observations, coupled with research findings that Jordanian EFL learners have difficulty comprehending, producing and responding to speech acts in real-life encounters (e.g., Bataineh, 2001; Bataineh & Bataineh, 2005; 2006; 2008), have instigated this research.

EFL instruction worldwide has been criticized for focusing mainly on formal grammar at the expense of other aspects, most prominent amongst which is pragmatic knowledge (e.g. Farashaiyan & Tan, 2012). Thus, like other EFL learners around the globe, Jordanian EFL learners have been reported to struggle with communicative performance (e.g., Al-Rabadi &

Bataineh, 2015). Following on previous research (e.g., Assaf, Al-Shboul, & Alodwan, 2012; Huwari & Al-Shboul, 2015) which suggests that FFI is potentially effective in the language classroom, this study examines its potential effectiveness in the acquisition and retention of pragmatic knowledge.

In this study, only two FFI techniques are targeted: *Consciousness-raising* and *input enhancement* tasks. In the former, learners' attention is explicitly drawn to the form of the function under focus (Harley, 1998), on the assumption that conscious awareness of a form leads to better language learning. The latter draws the learners' attention to the form by coloring, highlighting or underlining it in the text (Long & Robinson, 1998). The researchers' choice of these techniques has been brought about by the fact that they lend themselves readily to the relatively short class sessions (viz., 50 minutes) at the university under study. However, this does not detract from the merit of the research, as the literature reviewed utilized a range of one to three tasks (e.g. Salemi, Rabiee & Kitabi, 2012 and Gholamia & Aghaeib (2012) on implicit and explicit instruction on the acquisition of speech acts; Hernàndez (2011) on the effect of explicit instructions and input flood on the acquisition of Spanish discourse markers).

1.1 Purpose and Questions of the Study

This study aims to examine the potential effect of form-focused instruction on Jordanian EFL university students' acquisition and retention of pragmatic knowledge. More specifically, it seeks to answer the following questions:

Does form-focused instruction affect Jordanian EFL students' acquisition of pragmatic knowledge?

Does form-focused instruction affect Jordanian EFL students' retention of pragmatic knowledge?

1.2 Significance of the Study

The significance of the study may derive from the novelty of its topic, the effect of form-focused instruction of the acquisition and retention of pragmatic knowledge which, to the best of these researchers' knowledge, has not been attempted in the Jordanian EFL context. This study is

the first of its kind in Jordan that examines the potential utility of FFI instruction for improving EFL learners' pragmatic knowledge, both immediate and retained.

The results of this study are hoped to benefit teachers, students, and curriculum designers. Not only does it provide teachers with a set of techniques for teaching pragmatics in the English language classroom but it also avails learners with communicative opportunities to develop their pragmatic knowledge.

1.3 Limitations of the Study

This study is limited to one aspect of language proficiency (viz., pragmatic knowledge). Besides, as the sample of the study is one of convenience, the generalizability of the findings is not sought. In addition, the treatment spanned only one semester, which may also affect the amount of pragmatic development amongst the participants, not to mention that only two FFI tasks (viz., *consciousness-raising* and *input enhancement*) and three language functions (viz., *apologies, requests,* and *suggestions)* are examined.

2. Review of Related Literature

A plethora of research attests to the effectiveness of form-focused instruction in language learning and the acquisition of linguistic and pragmatic knowledge alike. Empirical literature highlights the effectiveness of FFI in developing various aspects of language (e.g., relative clauses (Abdolmanafi, 2012; Doughty, 1991), questions (Spada & Lightbown, 1993; 1999), discourse markers (Hernández, 2011), vocabulary (Saeidi, Zaferanieh & Shatery, 2012), writing accuracy (Afshari & Oroujlou, 2012; Mehdiabadi & Arabmofrad, 2015; Mourssi, 2013), and pronunciation (Lan & Wu, 2013)).

In a series of related studies, Lightbown and Spada (1990) and Spada and Lightbown (1999) examined the effect of FFI on the grammatical accuracy and question formation of French learners of English. They reported that the inclusion of FFI within a communicative context results in both better language learning and better acquisition of question formation processes.

More recently, Gholamia and Aghaeib (2012) and Salemi *et al.* (2012) examined the effect

of implicit and explicit instruction on Iranian EFL learners' acquisition of speech acts. Their collective findings suggest that explicit instruction is effective in the acquisition of speech acts, a responsibility shouldered by teachers as most EFL textbooks do not include such information.

Hazaymeh (2012) studied the effect of an instructional e-program on developing Jordanian EFL students' pragmatic knowledge. She reported a marked development in the pragmatic knowledge of the students who received pragmatic instruction.

Maiz-Arévalo (2014) examined the connection between linguistic proficiency and pragmatic knowledge and the effect of explicit instruction on the acquisition of pragmatic knowledge. She reported a strong relationship between linguistic proficiency and pragmatic knowledge, not to mention the effectiveness of explicit instruction in developing the students' pragmatic knowledge.

Aliakhbari and Gheistasi (2014) examined Iranian EFL students' pragmatic knowledge of the speech act of request. They found that Iranian students face difficulty in using the appropriate request in social context. Not only did they highlight the need for explicit teaching of pragmatics for more effective pragmatic knowledge development, but they also emphasized the importance of incorporating pragmatic and communicative activities in EFL curricula.

Rafieyan, Sharafi-Nejad, and Eng (2014) investigated the effect of form-focused pragmatic instruction on developing Iranian EFL learners' ability to produce conventional expressions. The findings revealed the effectiveness of FFI in developing pragmatic competence.

The literature points out the importance of developing linguistic and pragmatic knowledge as vital parts of EFL learner's overall communicative competence. FFI has been reported to develop not only linguistic competence, as it combines teaching language forms with CLT (Long, 1991; 2000; Spada, 1997) but also accuracy and better language learning (Nassaji, 1999; Norris & Ortega, 2001).

This study is a continuation of the previous research, as it examines the effectiveness of form-focused instruction in the acquisition and retention of pragmatic knowledge. It highlights the importance of explicit instruction by means of FFI in foreign language learning (viz., the role of *consciousness-raising* and *input enhancement* tasks in pragmatic acquisition and retention). It

also makes use of speech act theory and its formal analysis of speech acts (viz., *apology, request,* and *suggestion*) and communicative language teaching to provide authentic classroom practice of the structures and speech acts under study for better learning.

3. Methods and Procedures

3.1 Participants

The study adopts a quasi-experimental, two-group design. The participants of the study are two intact sections of *English for Nursing* course (n= 47) chosen conveniently from the Language Center of Al Al-Bayt University, Jordan. The course is meaning-based and provides students with every-day professional concepts and expressions used by nurses, with little attention to grammar and virtually no attention to pragmatics (Al Al-Bayt University, 2015).

The participants were divided into two groups: a control group of 20 students taught by the original course instructor per the guidelines of the course book, *Oxford English for Careers: Nursing 1* (Grice & Maheen, 2009) and an experimental group of 27 students taught by the first researcher using an FFI-based instructional program which comprises activities targeting the speech acts of *apology, request,* and *suggestion*.

3.2 Instruments

To collect the data, a 30-item Discourse Completion Test (DCT, Appendix 2), which focuses on the speech acts of *apology, request,* and *suggestion* in several scenarios to which students were asked to respond in writing, was used as the pre-test (administered at the onset of the treatment), immediate post-test (administered at the end of the treatment), and delayed post-test (administered four weeks after the end of the treatment).

To establish the validity of both the DCT and the instructional program (detailed below), they were examined by a jury of 12 university professors of linguistics, curriculum and instruction, and measurement and evaluation. The jury provided comments concerning the content and appropriateness of the DCT and instructional program to the purpose of the study, which were all taken into consideration in the final versions of the DCT and the instructional

program. Similarly, to establish the reliability of the DCT, it was piloted on 15 students studying the same course in the semester preceding the one in which the study was conducted with a three-week interval between the two administrations. The reliability coefficient amounted to 0.83, which is deemed appropriate for the purpose of the study.

In scoring the DCT, two points were given to each correct response. One point was allocated for using the appropriate speech act and another for using the correct form, with a total of 60 points. Both intra- and inter-rater reliability of scoring was established by asking another rater to assess a sample of students' responses to the tests. The intra-rater reliability coefficients for the two raters and their inter-rater reliability coefficients amounted to 0.87, 0.83 and 0.91, respectively, which are all deemed appropriate for the purpose of this research.

3.3 Instructing the Two Groups

Two intact sections of *English for Nursing* were conveniently chosen as the sample of the study. With a flip of a coin, one section was assigned as the experimental group and the other as the control group. The entire sample was pre-tested, and a paired-sample t-test was used to assure equivalence between the two groups.

The control group was taught following the guidelines of the course book*, Oxford English for Careers: Nursing 1*. The instructor generally begins with a warm-up exercise which entails a picture about the topic of the unit, a nursing-related concept, and questions about it. Each unit includes a language spot which the instructor explains and helps the students do exercises on it. The reading comprehension texts are read aloud by the students, and the comprehension questions are answered in class. In the listening exercises, the instructor reads the scripts for students and then helps them answer the questions. Writing is always given as homework following the instructor's explanation of the requirement of the exercise.

The experimental group was taught using the instructional program, designed to teach the materials of the course book, supplemented with the speech acts of *apology, request,* and *suggestion*, per the FFI techniques of *consciousness-raising* and *input enhancement*: Each speech act was matched with its underlying grammatical structure(s) (Appendix 1) and taught per the *consciousness-raising* technique. Each structure was explicitly explained to make students

aware of it (Harley, 1998). After explaining each structure, it was matched with its functions through dialogues containing the speech act under study. *Input enhancement* technique was used as the speech act in question is underlined to draw students' attention to it (Long & Robinson, 1998). The participants worked in pairs or groups to read or role play the dialogues.

Following the treatment, participants were post-tested to determine potentially significant differences in the groups' performance, which can be attributed to the treatment. Four weeks after the immediate post-test, the experimental group was tested again to determine potentially significant changes in the participants' retention of pragmatic knowledge over time.

4. Findings and Discussion

To answer the first question, which addresses the extent to which FFI potentially affects Jordanian EFL students' acquisition of pragmatic knowledge, the means and standard deviations of students' scores on the pre- and immediate post-test were calculated according to the teaching method (FFI vs. course book), as shown in Table 1.

Table 1

Means and Standard Deviations of Students' Scores on the Pre- and Immediate Post-test

Group	**n**	**Pre- test**		**Immediate Post- test**		**Adjusted Mean**	**SE**
		Mean	SD	Mean	SD		
Control	20	32.10	9.15	24.80	11.91	23.41	2.34
FFI	27	28.51	12.23	40.70	13.26	41.73	2.01

Table 1 shows an observed difference in the mean (and adjusted mean) scores of the control and the FFI groups, with a higher mean for the control group on the pre-test and higher mean and adjusted mean scores for the FFI group on the immediate post-test. It is evident that a difference ensued in the pragmatic knowledge of both groups, but it was positive only for the FFI group. Thus, to ascertain the potential significance of these differences, ANCOVA was used, as

shown in Table 2.

Table 2

ANCOVA of the Students' Immediate Post-test scores

Source	Sum of Squares	Df	Mean Squares	F	Sig.	Partial Eta Squared
Method	3754.14	1	3754.14	34.57	0.000*	0.44
Error	4776.93	44	108.56			
Corrected Total	10174.80	46				

n = 47 *significant (at α = 0.05)

Table 2 shows a statistically significant difference in the students' scores on the immediate post-test (at α = 0.05) in favor of the FFI group (F = 34.57, df = 64, P = 0.000), which suggests that FFI positively affects the students' acquisition of pragmatic knowledge.

To answer the second question, which addresses the potential extent to which FFI affects Jordanian EFL students' retention of pragmatic knowledge, the means and standard deviations of the experimental group students' scores on the immediate and delayed post-tests were calculated, as shown in Table 3.

Table 3

Means and Standard Deviations of the Students' Immediate and Delayed Post- Test Scores

FFI Group	n	Immediate Post- test		Delayed Post- test		t	Df	Sig
		Mean	SD	Mean	SD			
	27	40.70	13.26	39.25	13.00	1.98	26	0.058

Table 3 shows observed differences in the students' mean scores on the immediate and delayed post-tests for the FFI group. The participants seem to have performed better on the immediate than on the delayed post-test.

A paired-sample t-test was used to determine whether or not this difference is statistically significant (at $\alpha = 0.05$). As also seen in Table 3, no statistically significant difference was found between the students' scores on the immediate and delayed post-tests, which seems to suggest that the students were able to retain the learned pragmatic knowledge even with the four-week lapse of time.

The questions of the research sought to investigate the extent to which FFI affects Jordanian EFL university students' acquisition and retention of pragmatic knowledge. Not only did the findings reveal that the FFI group outperformed the control group on the immediate post-test, but they also showed that FFI improved both the students' acquisition and retention of pragmatic knowledge. The findings suggest that the participants were able to retain their learned pragmatic knowledge despite the four-week time lapse.

The superior performance of the experimental group may be attributed to the effect of the FFI techniques used in this study. Two FFI techniques were combined, namely *consciousness-raising* and *input enhancement*. Students noticed the speech acts through the explicit instruction of these acts and their underlying structure. They were further made to notice non-salient target language features in the input through *input enhancement,* by highlighting and drawing their attention to these features, per Schmidt's (1990, 2001) noticing hypothesis. Students noticed the speech acts in the input they were provided with in two ways: (1) by using explicit instruction to relate each grammatical structure to its function and (2) by underlying the speech acts within a context of authentic situations. Students noticed the target speech acts, processed and stored them for later use, and retrieved them whenever needed.

The cooperative nature of the activities may have also been another catalyst (Alanís, 2011) for the acquisition and retention of pragmatic knowledge. As they engaged in real-life-like scenarios, students were exposed to speech acts in a non-threatening atmosphere which helped them learn and retain for later retrieval.

5. Conclusions, Pedagogical Implications, and Recommendations for Future Research

This study sought to investigate the extent to which FFI affects Jordanian EFL university

students' acquisition and retention of pragmatic knowledge. The results showed the FFI group's superior performance in the immediate post-test. A statistically significant difference was found in the students' scores (at $\alpha = 0.05$) in favor of the FFI group which indicates that FFI improved students' acquisition of pragmatic knowledge. Moreover, analyzing the data of the immediate and delayed post-tests revealed no statistically significant difference in students' scores in the delayed post-test, which suggests that the students were able to retain the learned pragmatic knowledge over the four-week time lapse.

The findings of this research echo those of previous research on the effectiveness of FFI on one hand and integrating formal and functional literacy in language instruction on the other (Day & Shapson, 2001; Oka, 2004), as students are afforded opportunities both to practice language and notice pragmatic knowledge, in cooperative real-life-like activities. These findings are also consistent with those of earlier research (e.g., Billmyer, 1990; Gholamia & Aghaeib, 2012; Lingli & Wannaruk, 2010; Rafieyan *et al*., 2014; Salemi *et al*, 2012) which established the effectiveness of explicit pragmatic instruction and form-focused pragmatic instruction in developing pragmatic knowledge.

FFI facilitates the process of language learning in general and learning grammar in particular as the teacher relates his/her instruction to situational contexts which highlight the intended forms to facilitate learning. Yet, this may even be inadequate in this day and age as foreign language learners need, more than ever before, to communicate with others both face-to-face and through synchronous and asynchronous technologies. Foreign language learners today need to engage in the type of instruction which would help them develop holistic knowledge of language which is hardly attained through the traditional focus on discrete language in isolation.

This study provides EFL instructors with pedagogical options for presenting form and functions in the classroom. Language instructors are recommended to make use of the FFI techniques used in this study. As pragmatic knowledge comprises an integral part of communicative competence, it is recommended that attention be directed to teaching it to heighten students' pragmatic awareness and facilitate their language learning.

This study highlights the importance of pragmatic knowledge in forming students' communicative knowledge. Therefore, textbook designers are recommended to incorporate

pragmatic illustration in EFL textbooks.

The limitations of the current study constitute recommendations for future research. As the focus of the study is limited to pragmatic knowledge, further research, which addresses both pragmatic ad linguistic knowledge, is recommended using a larger, more diverse sample over a longer duration. Furthermore, since the current research targets only two FFI tasks (viz., *consciousness-raising* and *input enhancement*) and three language functions (viz., *apologies, requests,* and *suggestions)*, further research is recommended on the effect of other FFI techniques (Viz., input flood, structure-based, focused communication, error correction, and garden path tasks) on learning speech acts and other language aspects.

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Appendix 1

The speech acts of the study and their underlying structures[6]

Speech Act	Structure	Examples
Apology	Simple Present	*I hereby apologize for..* *I (hereby) offer my apology.* *I am sorry.* *I regret that..* *I promise that it will never happen again; this is my fault.*
	Must Gerunds	*I must apologize for..* *Shouting at you is a big mistake. I was very nervous.*
	Request	*Please, accept my apology for..* *Please, let me pay for the damage I've done.* *Please, forgive me.*
Request	Simple Present Present Perfect	*We don't want a crowd.* *You have left the kitchen a mess.*
	Modals	*I would like to ask you to move your car.* *You have to move your car.*
	Imperatives	*Clean up the kitchen.* *Move your car.*
	Questions	*How about cleaning up?* *Could you clean the mess in the kitchen?*
Suggestion	Simple Present	*I suggest that..* *I propose that..* *Here is one possibility.*
	Modals	*My suggestion would be..* *You could..* *You may..* *You need to..* *You have to..*
	Imperatives	*Don't try to..* *Let us..* *Go talk to your manager.*
	Questions	*Why don't you..?* *How about..?* *Have you thought about..?*
	Conditionals	*If I were you, I would..* *It would be helpful if you..*

[6] This material is based on Azar (1989), Bataineh (2001), Bataineh and Bataineh (2005; 2006; 2008), Blum-Kulka (1987), Frazer (1981), and Jiang (2006).

Appendix 2

The Discourse Completion Test

Dear Respondent,
The researchers are conducting a study entitled *The Effect of a Form-Focused Instructional Program on Jordanian EFL University Students' Acquisition of Pragmatic Knowledge*. You are kindly requested to answer the items of this test carefully and accurately. Rest assured that the information you provide will be kept confidential and used only for the purposes of academic research. Your time and effort are highly appreciated.Respond to the following situations:

1. You borrowed your friend's sunglasses, and you broke them. What would you say to him/ her?

_____

2. It is a class session in which the professor would discuss the group's graduation project, but you arrived 20 minutes late. What would you say to them?

_____

3. You were invited to a friend's birthday party, but you could not go because you were sick. What would you say to him/her?

_____

4. You sat in your colleague's seat in the class while s/he was in the bathroom. What would you say to him/her when s/he comes back?

_____

5. You accidentally stepped on your colleague's foot. What would you say to him/her?

_____

6. You borrowed your friend's notebook and promised to return it the next day, but you forgot. What would you say to him/her?

_____

7. During a discussion, you offended a friend. What would you say to him/her after that?

_____

8. Your mother asked you to pick her up from a friend's house, and you were busy. What would you say to her?

_____

9. You arrived 15 minutes late for your morning class. What would you say to the professor?

_____

10. You were in class and your mobile phone rang. What would you say to the professor?

_____

11. While at the mall, you saw a beautiful watch. You want to ask the salesman to show you the watch. What would you say to him?

_____

12. You are in the English language classroom, and the teacher is speaking so fast that you cannot understand. You want him/her to speak slowly. What would you say to him/ her?

_____

13. You are trying to sleep and your roommate is watching TV at top volume. What would you say to him/her?

_____

14. Your brother/sister studied in your room and left a mess behind. You want him/her to

clean up the mess. What would you say to him/her?

15. You are trying to copy from the board, but your classmate is standing in your way. What would you say to him/ her?

16. Your professor is standing by the door, and you are in a hurry. You want him/her to let you pass. What would you say to him/her?

17. You are at the dinner table with your family, and you want your brother to pass the salt. What would you say to him?

18. You want to borrow a fellow students' notebook. What would you say to him/ her?

19. You are having trouble understanding something, and you need help from a fellow student. What would you say to him/ her?

20. You feel cold, and your friend is standing beside an open window. What would you say to him/ her?

21. You are at the university, and your friend looks tired. What would you say to him/ her?

22. Your younger brother is planning to study at university and asked you for advice. What would you say to him?

23. You are walking with your professor on a rainy day, and he/she looks cold. What would you say to him/ her?

24. You are going to university with your friend. You are so late you cannot wait for the bus. What would you say to him/ her?

25. You entered your brother's room and you notices how cluttered his desk is. What would you say to him?

26. A classmate is searching for a topic for his/her graduation project. What would you to him/ her?

27. You were planning a weekend holiday with your family but could not decide where to go. What would you say to them?

28. Your colleague is having a problem with his/her class schedule. What would say to him/ her?

29. Your father's car is so old it usually breaks down. What would you say to him?

30. Tomorrow is your friend's birthday, and your friends are not sure what to buy for him/her as a gift. What would you say to them?

Storytelling as a Way for Humanizing Research Methods

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ABSTRACT

This article examines how the use of storytelling can serve as a pedagogical strategy in the teaching of research methods. Research methods and statistics anxiety is fairly widespread among students in higher education. Introducing storytelling has been found to decrease this anxiety. The term "humanizing research methods" implies a focus on students' needs that goes beyond transferring knowledge of the content of the curriculum. Storytelling is an approach for creating a safe-learning environment where the students may even be able to enjoy research methods. The case, and examples of stories, refer to a compulsory course for executive students at the Norwegian Business School.

Key Words: Storytelling, Teaching Research Methods, Humanizing, Executive Students

"Anyone who thinks there is a big difference between education and entertainment knows nothing about either subject". Marshall McLuhan

1. Introduction

Storytelling as a pedagogical strategy is not new or unique. Egan (1988:2) has argued for the conceptualization of teaching as storytelling: ".the story, then, is not just some casual entertainment; it reflects a basic and powerful form in which we make sense of the world and experience". Storytelling can be perceived as tangible when individual awareness advances storytelling into the educational content of the curriculum (Abrahamson, 1998). As a pedagogical strategy, "teachers themselves [can] gain insights into their practices and set new directions for their professional development" (Wood, 2000: 199).

The author's experience with storytelling stems from more than five years of teaching research methods to participants in the Executive Master of Management program at the Norwegian Business School (NBS). The research methods course was introduced in 2005 as a compulsory introductory course for executive students. The curriculum and the teaching methods for this course were designed to reflect the diversity of the participants in both educational and professional backgrounds. Using storytelling as a teaching strategy, however, happened more or less accidentally. When this (new) course and the curriculum were introduced, it became clear that a good portion of the executive students were outright frightened of not being able to pass the exam and thus earn their master's degree. From the school's point of view, it therefore became necessary to find a way to "soften" the course without compromising when it came to the professional level.

What does it mean to teach research methods? Although there is no definite answer to the question, research tends to focus on teacher's content knowledge and/or pedagogical knowledge, or an integration of the two. Foot et.al (2011) suggest that teachers seeking to communicate a subject effectively and comprehensively should be equipped with an in-depth understanding of content knowledge. However, having an in-depth understanding of content knowledge in research methods does not necessarily equate to or result in teaching research methods effectively. In

addition to knowledge of the content of research methods, in order to be successful the teacher must also develop expertise in pedagogy for teaching research methods and, not least, knowledge of the students (Foot et al, ibid). As we have briefly described above, executive students constitute a student body with a mixture of educational backgrounds as well as diverse work life experiences. The requirement for admission to the program (in addition to at least five years work experience) is that an applicant has a certain number of credits (equivalent to a bachelor's degree). Many of the executive students who were admitted to the master's program had not taken any courses in research methods in their previous studies, and were not enthusiastic when they realized that a compulsory research method's course stood between them and the grade they wanted. Thus, the problem the school had to solve was to deliver a solid, rather standardized course in research methods, and at the same time see to it that the course was positively received by students with little or no knowledge of research methods from previous education.

Clearly, this called for new ways of teaching research methods, and storytelling emerged, more as a coincident than being part of a pedagogical plan, as a mean of transmitting knowledge to this particular group.

The purpose of this article is to outline and discuss how the use of storytelling can serve as a pedagogical strategy, that is, how it can be used in teaching research methods, and how and why storytelling is an appropriate pedagogical practice in executive students' education.

2. Review of literature

Storytelling is quite simply the use of stories as a communication tool to share knowledge (Abrahamson, 1998). As a pedagogical tool storytelling draws on a range of techniques to engage, involve and inspire the listener, uses everyday language that is more authentic than "academic buzzword speak" and employs narrative forms that most students find interesting and, at times, even entertaining. In this sense, storytelling differs markedly from the more common pedagogical methods used in teaching research methodologies. While talking about the role of education, Doxiadis (2003:2) states that "... [it] should be, at its best – a process involving the complete human being". Using narrative inquiry as a pedagogical tool strengthen the possibilities

of obtaining just that. "Interestingly storytelling has also been found to support teachers' epistemological development (Clark and Medina, 2000), i.e. teachers' theories of knowledge which serves to decide how problems related to teaching and learning will be studied and solved. Using storytelling gives the teacher a new epistemological tool for teaching students of e.g. the important difference between causal and correlational explanations, why Popper stressed that a hypothesis has to be falsifiable, or why significant relationships need not be meaningful ones.

Even though storytelling has existed for thousands of years as a means of exchanging information and generating understanding, teachers have only recently begun to use it as a deliberate pedagogical tool (Burk, 1998). According to Hogg (1995), one of the pedagogical advantages of storytelling is that it helps create a "shared experience in the classroom". There is little doubt many students consider the course on research methods to be difficult. However, by sharing stories instead of simply listening to the teacher and taking notes, students are able to gain insight and understanding of even relatively complex issues.

As mentioned above the diverse educational and professional backgrounds of executive students present a further challenge to conventional teaching strategies. In this case, storytelling enables students and teachers to cultivate a learning environment open to what one might term "multi background dialogues" where everyone has an opportunity to contribute. Putman (1993: 11) stresses the importance of considering "the unique needs, characteristics, and learning styles of all students in the design and delivery of instruction". Using a variety of teaching methods, including storytelling, increases the likelihood of students having positive avenues for achieving success in the classroom (Burk, 1998).

As the following story illustrates, one of the main advantages of storytelling is its ability to communicate complexity. The filmmaker George Lucas invited John Seely Brown, who holds a PhD in computer science, to participate in the making of a film about education and the future of education in the 21st century. While discussing the content of the film, Seely Brown realized that Lucas planned to include a number of very complex aspects of cognitive theory and retorted: "George, there's no way anybody is going to hear about this stuff! No way!"

To which George Lucas replied: "John, perhaps you don't know, but most people consider me a pretty good storyteller".

Besides being a pretty good story itself, this anecdote effectively underscores the point that storytelling can provide a simple platform for communicating complex matters. In contrast to the conventional approach to information, where communication is viewed as a message sent from a communicator to a recipient, storytelling presupposes a more interactive process. As a listener is able to imaginatively recreate a story in his or her own mind, the information is not perceived as coming from the outside, but as something, that is part of the listener's own identity. The story actually becomes the listener's own (Denning, 2001).

Ramsden (2004) has outlined the following three generic ways of understanding the role of the teacher in higher education, each of which has corresponding implications for how students are expected to learn:

1. Teaching as telling or transmitting information
2. Teaching as organizing student activity
3. Teaching as making learning possible

The first description implies that there are two distinct roles in the classroom: the teacher as the active transmitter of knowledge, and the students as passive recipients. This way of describing the role of the teacher is similar to what is often referred to as "the banker model of education" (Freire, 1973), meaning that the teacher deposits knowledge into the students' minds and then ask students to withdraw requested knowledge. With the second view, however, the focus moves from the teacher to the student. From this perspective, teaching is seen as a supervisory process that involves articulating techniques to ensure that students learn.

While the first two roles focus on the teacher and the student respectively, the third looks at teaching and learning as two sides of the same coin and hence communicates a more complex view of the relationship between teaching and learning. According to this outlook, teaching also involves learning about students' expectations and misunderstandings and creating a context that encourages students engage with the subject matter. In short, creating a learning environment that empowers students.

Robinson (1994) suggests that empowerment signifies respect for each individual in the

classroom, in the sense that each individual has a valuable contribution to make. Furthermore, empowered students see themselves as significant contributors to the classroom environment (Mirman et al., 1988). Especially where it allows students to contribute their own stories, storytelling can give students a better understanding of specific and complicated concepts through the linkage to personal experience. For example, students may relate how the work climate in their organization is measured, which is a topic that can be turned into a discussion about methods, with reference to measurement scales (e.g. with or without an arithmetic mid-point) or the need for quantitative or qualitative data – or a mixture of both.

Although the content of research methods courses may vary, a survey of various postgraduate courses in the UK (Morris, 2005) revealed that all aimed to provide a basic practical introduction to research principles, methods and practices to prepare students for their dissertations. The following topics are typically covered on most of the courses surveyed:

- Introduction to the research process
- Research design
- Identifying research issues and developing research questions
- Literature searching, reviewing and citation
- Methods of data collection; qualitative and quantitative
- Sampling
- Data analysis
- Dissertation and report writing
- Research ethics

An interesting observation from this survey is that research methods teaching seems to have undergone changes during the last five years (Morris, op. cit). There appears to be a shift away from theoretical topics and a heavy reliance on lectures towards more practical “hands-on”, student centred approaches to learning. More use is also being made of Virtual Learning

Environments and discussion boards. This is especially important for executive students who may not always be able to attend class because of work and/or family obligations. Not restricting involvement to stated times and to be able to allow students to participate in courses at times suitable to their personal schedules is of great importance to executive programs. With technology now being infused into all dimensions of society, higher education has the means to ensure students are provided with requisite learning opportunities (Ivankova and Stick, 2005). Still, there is ample evidence that the teaching of research methods tends to cause much anxiety among students (Dilevko, 2000; Bos and Schneider, 2007; Wilensky, 1997). This is probably even more so among executive students, as the typical executive student has not been required to learn research methods since s/he was a student many years earlier. Moreover, executive programs attract students from a wide array of fields, many of which do not require research method courses at the undergraduate level. Often accustomed to high levels of achievement in their jobs, executive students suddenly find themselves being introduced, often at great speed and with significant conceptual shortcuts, to a largely alien mathematically based logic-driven discipline. The new and challenging material confronting executive students taking statistics and research methods courses is likely to trigger a number of responses. As Onwuegbuzie and Daley (1999: 1091) remark, statistics anxiety "occurs as a result of encountering statistics in any form and at any level and . . . appears to involve a complex array of emotional reactions which have the propensity to debilitate learning".

In many ways, student anxiety about research methods courses creates a sort of a paradox: on the one hand, students need a solid methodology background to succeed with their thesis work while, on the other hand, classroom exposure to research methods often contributes to difficult learning experiences (Dilevko, 2000). Accordingly, the development of teaching strategies to tackle this anxiety and to turn the learning experiences into something positive is of the utmost importance. In her survey of research methods courses in the UK, Morris (2005) uses the term "best practice" to characterize the most successful aspects of research methods teaching. These so called "best practices" include efforts to get students to apply the knowledge they have learnt in seminars and practical situations, getting students to teach each other, enabling students to critique each other's proposals, and letting the students present their research ideas in the form of a viva. Optional workshops and the use of multi-media were also considered innovative. A few institutions introduced an online multi-choice question assessment (the course at NBS also uses

online multi-choice questions).

Despite these changes in classroom teaching, as well as the introduction of a computer-mediated learning environment, Morris states that these innovative practices have had little effect on the way research methods are taught.

Consequently, a necessary question to ask would be: How can teachers of research methods design specific classroom techniques to facilitate learning (and avoid frustration) among students? (Bos and Schneider, 2007).

3. The Case

When a new, compulsory introductory course in Research Methods and Thesis Writing for executive students was planned for implementation in the Fall semester of 2005, the particular needs of the student body were taken into consideration with regard to both structure (modular based) and content. It was quickly recognized that the main objective of this course should be to provide a basic practical introduction to research principles, methods and practices to prepare students for their dissertations. Because the executive students enrolled in the Master of Management program lived and worked all over Norway, in 2006 the School decided to also offer the course through the Web, using the Blackboard platform. In addition to this compulsory course, the school also offers two optional two-day workshops, one covering quantitative methods (including a demonstration of SPSS) and one covering qualitative methods (including demonstration of software programs such as NVivo). The workshops are offered "on demand" and at a time when the students are expected to have progressed into the stage of their thesis work when data collection and analysis are their main concerns.

3.1 The problem – and what to do.

Confronting the problem(s) outlined above, this paper draws from phenomenology rather than (pure) pedagogy. Consequently, the central question needed to be answered is not "How to (most effectively) teach research methods?", but rather "What does it mean to teach research methods?" This question is inspired by Van Manen (1991) who has stated that the meaning of

pedagogy encompasses far more than the principles of effective teaching and learning, more than a "strategy tool-kit". He even goes so far as to suggest that it is possible to learn all the techniques, but still remain pedagogically unfit to teach. The main criteria for what may be coined phenomenological pedagogy is to increase the awareness of the needs, interest and abilities of the students at hand. None has expressed this more clearly and convincing than Kierkegaard (1998:61) as he writes that…" If one is truly to succeed in leading a person to a specific place, one must first and foremost take care to find him where he is and begin there", and "…[in] order to truly help someone else, I must understand more than he – but certainly first and foremost understand what he understands".

The teaching strategy proposed in this paper is designed to decrease student anxiety through humanizing research methods. The idea of humanizing stems from teaching mathematics. Research on teaching mathematics (Doxiadis, 2003, Chapman, 2008), suggest that humanizing mathematics requires teaching mathematics in a way that focuses on the "being" of a student as a participant in mathematics which is beyond delivering content of mathematics or teaching certain skills set. From a humanistic perspective, Chapman (2008:16) reveals that storytelling is "..a way of specifying experience, a mode of thought, a way of making sense of human actions or a way of knowing". In the same way, Storytelling humanizes research methods because the students are able to relate to research methods at a personal level. Stories of people actually doing research using different methods, sometimes right and sometimes wrong, create situations for the students to experience both surprise and disappointment. Modi (2012:31) states, "the value of story to teaching is precisely its power to engage the students' emotions". Storytelling creates an environment of imagination, emotion, and thinking which makes research methods both more enjoyable and more memorable for the students.

In his analysis of research methods and statistics anxiety, Onwugebuzie (1997) reveals that teaching strategies that impart knowledge of the value of research methods and statistics and its useful application are the key to a successful course. Accordingly, the teaching strategy described here is primarily designed to decrease student anxiety by improving the perceived value of knowledge of research methods.

The core element in this strategy is storytelling that can be further divided into two sub-elements; the first is to use stories based on current issues. Typically, these are current news

stories from major Norwegian newspapers, though stories drawn from other sources are also used. The second element is to use stories from the history of science or/and books that deal with science related topics which are fundamental to understanding and mastering research methods.

3.2 Stories

A conventional and typical start of the research methods course is to define and discuss the concept "science". It is, however, not obvious what "science" means (Chalmers, 1982) or what is to be regarded as scientific knowledge. Because a mere theoretical discussion of the idea of science will probably not draw much enthusiasm from executive students, creating a story using the bestselling author, Michael Chricton's (2006) sceptical approach to the conventional scientific explanations for global warming makes a much better, and not least relevant, introduction to this topic. Chricton's main argument is that the dominant scientific community suppresses open and frank discussion of the data indicating global warming. Chricton's view is more or less in line with that of Polanyi (1964) who defines science as a *guild* in which masters train apprentices to the point that they are able to frame and pursue scientific problems of their own. Science, according to Polanyi is thus a practice and a body of knowledge socially constructed by scientists. Concepts such as "paradigms" (Kuhn, 1962) and "paradigm shifts" can also be used in stories to give students a more realistic and complex picture of science. A story about a Norwegian politician who wanted to include alternative medicine in the national health budget, and who met considerable opposition from physicians who argued that only scientific proven medicine was worthy of the state's money, gives rise to further discussion of what science is in the real sense of the word. This story usually leads to rather heated discussions among the students because many has personal (often positive) experiences with the use of alternative medicine.

Both of the elements mentioned above are intended to introduce and explain basic concepts and methodological issues. The concepts of *statistical correlation* and *cause and effect relationships* are illustrated using a newspaper article where the Norwegian Prime Minister lectures a Supreme Court judge about the difference between the two. The judge had recently given a speech criticizing the family policies of the ruling Social Democratic party, especially it's emphasize on building kindergartens to allow moms to work outside their homes (instead of staying at home and taking care of their children). Social statistics at the time revealed that more

youngsters than before were coming into conflict with the law and the judge concluded that this had to be an effect of the family policies of the Social Democrats. In response, the Prime Minister (a Social Democrat *and* a Social Science graduate) underscored the important point that although two phenomena appear to be simultaneous, this in no way implies that one causes changes in the other. In other words, relationships between variables (in this case between a high rate of women working outside the home and a high rate of juvenile delinquency) do not have to be causal. The fact that more mothers working outside the home does not leads to more young people breaking the law! It is particularly important to teach executive students the problem(s) of causality because in their jobs they have a tendency to treat complex matters as if they can be explained by simple cause and effect relations – sometimes referred to as "naive" reasoning – where the cause is usually attributed on a post hoc basis (Dooley et al., 1998).

Another newspaper article is used to illustrate the difference between an axiom and a hypothesis. The article concerns the use of incentives and their assumed (positive) effects on employee attitudes and behaviour. The provision of different forms of bonuses to employees is quite widespread and indicates a rather strong belief among human resource managers that bonuses create incentives. Rather than having been critically evaluated, this belief has more or less obtained its status as an *axiom,* i.e. a self-evident truth or something taken for granted as valid. The newspaper article presents the (somewhat surprising) findings of a study, which revealed that bonuses had zero effect on motivation and commitment, favoured lazy employees, and were expensive to administer! (See Kuvås, 2006 for the original journal article.)

The students find the distinction between an axiom (a statement which is regarded as self-evident) and a hypothesis (a statement which is closer to "an educated guess" and which has to be tested to find out if it holds or not) much clearer after having been told this story.

Another story concerns the worst outbreak of cholera in Victorian London (Johnson, 2006) and explores how Dr. John Snow's solution revolutionized the way we think about disease, cities, science, and the modern world. Johnson's book, "The Ghost Map," tells of Dr. Snow's struggle to convince the scientific community that the then dominant theory of how the disease spread was wrong. The general assumption at the time was that cholera spread through *miasma* (polluted smells stemming from the river Thames). This, in turn, lead to a hypothesis of elevation, i.e. that higher ground was safer. A tabulation of cholera deaths in relation to elevation

seemed to confirm the hypothesis, as the number of deaths decreased as the height of the ground rose. However, as Johnson (p. 101) comments: "This would prove to be *a classic case of correlation being mistaken for causation*: the communities at the higher elevation tended to be less densely settled than the crowded streets around the Thames, and their distance from the river made them less likely to drink its contaminated water. Thus higher elevations were safer, but *not* because they were free of miasma. They were safer because they tended to have cleaner water".

Concepts such as *paradigm* and *falsification* are also well illustrated in Johnson's story. By the late 1840s, the miasma theory had established itself as the dominant paradigm (see Kuhn, 1962) regarding the question of the cholera's transmission. Not only was it dominant among the professionals, folklore and superstition were also on the side of the miasmatics; the foul inner-city air was widely believed to be the source of most disease. Even when proof against the miasma theory was produced by Dr. John Snow, the scientific establishment refused to accept his theory that contaminated water was the source of the disease. Blinded by their ideas, and fearing loss of authority, the scientific establishment continued to fight against the "threat" of seeing their theory falsified (see Popper, 1959).

Another story is about Dr Ignaz Semmelweis and the Hypothetico-Deductive Method.

Perhaps the most popular story told during the methodology course (based on student reactions and evaluations) is this story about the Austrian-Hungarian physician Ignaz Semmelweis, who discovered that the incidence of puerperal fever (or child fever) could be drastically cut by improving hand washing standards in obstetrical clinics. Puerperal fever was common in mid-19th century hospitals and was often fatal, with mortality at 10-35%.

Semmelweis' set out to find the cause of the mortality, and the way he went about it is a near perfect example of the Hypothetico-Deductive method of investigation. After having become the titular house officer of the First Obstetrical Clinic in 1846, Semmelweis realized that the mortality rate due to puerperal fever at the clinic was 13.10%, as opposed to 2.03% at the Second Clinic. Systematic observations revealed that the women at the First Clinic gave birth while lying on their back, while the women at the Second Clinic lay on their sides. Accordingly, Semmelweis first hypothesized that the fever was caused by women giving birth lying on their backs. However, this hypothesis had to be rejected after the women at the First Clinic changed

their position without any reduction in the number getting the fever. Next, he hypothesized that the women were frightened of the priests who went through the rooms to give dying women "the last rite", and that this fear was the cause of the fever. As the situation did not change when the priests stopped going through all the rooms, he also had to reject this hypothesis. Semmelweis' third hypothesis was a result of the observation that, in spite of the differences in mortality rate between the two clinics, the only difference between the two was the people working there. At this stage in the story there is also an opportunity to discuss whether Semmelweis is in fact carrying out a quasi-experimental research design, in reference to the phrase "all other things being equal", (see, e.g., Cook and Campbell, 1979). The decisive difference between the two clinics was that the first was the teaching clinic for medical students, while the second had a few years earlier been selected for the instruction of midwives. The students performed autopsies in the morning, and did not wash their hands before going to the clinic. Semmelweis' hypothesis was that the students brought infected "particles" on their hands that were introduced into women and caused the fever. He then ordered everyone who had performed autopsies to wash their hands before attending the women. However, this order met resistance, among other things it was claimed that it went against the principle of academic freedom!

The breakthrough occurred when a colleague died from an infection contracted after his finger was accidentally punctured with a knife while performing a post-mortem examination. The autopsy showed a pathological situation similar to that of the women who died from puerperal fever. Following this, Semmelweis' instituted policy of washing hands between autopsy and patient examination was finally accepted, and shortly after the mortality rate at the First Clinic dropped from about 13% to 1%!

Obviously statistical and mathematical concepts can also be communicated with the aid of storytelling. For example, a newspaper article based on a study that found a significant negative correlation between female leaders and profit margins is used to challenge the concept of significance. Because the sample of firms investigated was rather big (1500) even a modest negative correlation between gender and profit (in this case $r = .089$) proved to be significant. This example gives an opportunity to discuss the relationship between significance versus meaningfulness (Salkind, 2006).

3.3 What are the benefits?

According to Hannabuss (2000), storytelling, when used effectively, offers numerous advantages over more traditional techniques:

- Stories communicate ideas holistically
- Storytelling provides the context in which knowledge arises as well as the knowledge it-self
- Stories are an excellent vehicle for learning, as true learning requires interest
- Stories are memorable
- Storytelling help make abstract matters more "human"
- Humans enjoy sharing stories

According to Denning (2001), effective stories also need a "hero". In the above stories, Semmelweis and Snow definitely stand out as heroes. They are figures everyone in the classroom can instantly empathise with, as the students can resonate with their dilemmas and understand what they were going through.

Stories that are either sensational, like those of the Cholera outburst or the mortality rate of women giving birth at hospitals, or that make instant sense to executive students as they concern bonus systems or female leaders, contribute to more effective learning. Furthermore, as a teaching method storytelling emphasizes connections to the learner's knowledge that make a transition to new knowledge both safer and more meaningful (Wilensky, 1997). Stories also contributes to "an atmosphere in which it is safe for students to express their partial understanding and values regardless of their degree of correspondence with canonical mathematical or statistical truths" (Wilensky, op. cit: 176). In short, storytelling as a method for teaching research methods gives value and significance to matters which normally fill students with anxiety and/or indifference.

Students' evaluations seem to underscore this. Close to 1500 executive students who have finished the course provide a pretty good basis for evaluating.

One measure is the success-failure rate of the final exam of the course. The exam is based on an on-line multiple choice questionnaire containing 30 questions, drawn by random from a pool of between 100 and 200 questions. The failure rate has on average been about 10%, and is reduced to close to zero after the students who failed take the exam for the second time.

More important, though, for evaluating the course than student pass–fail rates are the students' own perceptions of the course. For this evaluation, the School has chosen the web-based tool Questback, which allows students to evaluate the course using a 7-point Likert-scale and by giving personal comments. While the average score through the years has been closer to 6.0 than to 4.0, the students' feedback has provided the most relevant measure for verifying to what degree storytelling has contributed to overcoming students' learning barriers. Nonetheless, the fact that many students enter the research methods course with low expectations also has to be taken into consideration when interpreting the students' evaluations. Comments such as "I really did not look forward to this course, because I believed that research methods courses were dull and full of statistics and mathematics which I never have been comfortable with", were common. Referring to the "theory of disconfirmation" (Parasuraman et al., 1985), that is, how well experiences meet expectations, one may argue that teachers of research methods courses are in a favourable situation. With such low expectations the possibility of experiences exceeding expectations (e.g. "positive disconfirmation") should be fairly good. Even so, teaching research methods to students with diverse backgrounds is a challenging task. Despite the best intentions of lecturers, research methods courses tend to cultivate methods anxiety among the majority of students (Onwuegbuzie and Daley, 1999). According to the students' comments, however, there seems to be little doubt that integrating storytelling as a method of teaching research methods has contributed to reducing anxiety and fear and thus removing a serious obstacle to learning. Comments such as "This course was not as I had expected, but was genuinely interesting and provided me with new knowledge and insight of the practical usefulness of research methods", or "I am convinced that the story of the Hungarian physician ensures that I will never forget what the Hypothetico-Deductive method is about" are typical examples.

4. Discussion and conclusions

Despite the fact that storytelling seems to compensate for many of the shortcomings of conventional teaching methods, it is important to stress that it does not replace analytical thinking. Instead, storytelling supplements analytical thought by providing context and meaning. Abstract analysis is often easier to understand when seen through the lens of a well-chosen story.

For a story to be effective, it must stimulate learning. Effective stories are also context–specific, i.e. they are developed or chosen within a specific context, in this case the context of a research methods course. Effective stories also have drama; they must be capable of grabbing the attention of the listeners (Ready, 2002). In our case, the stories about the Cholera outburst in London and the puerperal fever in Vienna have such drama. Using Michael Chricton's novel "State of Fear" to illustrate what science is (and is not) in relation to the issue of global warming certainly grabs the students' interest.

Given that research methods anxiety hampers the willingness of many students to participate in class discussions, the ice must be broken by offering relevant stories, which may interest and entertain the students. Once they have realized that methodological concepts can be interesting and approachable through discussions of relevant and meaningful stories, students are likely to feel relieved, stimulated and more open to the subject (Dilevko, 2000). Moreover, telling stories relating to recent and relevant events will gradually erode the perception of research methodology as a dry academic field.

Students' comments on this Research Methods course emphasize that the use of stories provides "connections to the learner's knowledge that make the transition to new knowledge both safer and more meaningful" (Wilensky, 1997:178). Even if we take into consideration that the sampling procedure used, i.e. self selection, does not create a basis for generalization in a strict statistical manner, the comments offered by the students over the years are so consistent in their positive evaluation of the use of stories that it leaves little doubt as for their positive effect on minimizing anxiety and promoting learning.

Although storytelling cannot replace conventional teaching altogether, it can contribute to "breaking the ice" and thus offering research methods teachers a tool that might improve their

courses to better address student barriers.

If the goal of a research methods course is that students should feel comfortable doing all of the steps of the research process on their own, teachers must take into account what is generally known about students' perceptions of research methods courses. There is ample documentation that many students fear such courses. Reducing that fear is necessary to "pave the way" for learning. The use of storytelling may do just that.

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Assessing Motivation in an Educational Setting

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ABSTRACT

Understanding motivational factors of university students is critical to the success of research and study programs in higher education today. In this study, we measure intrinsic and extrinsic dimensions of motivation in a university setting. We borrowed the Academic Motivation Scale (AMS-C 28) College (CEGEP) Version from Vallerand, Pelletier, Blais, Brière, Senécal, and Vallières (1992) to measure three dimensions of intrinsic motivation: (i) to know, (ii) toward accomplishment, (iii) to experience stimulation; as well as three dimensions of extrinsic motivation: (i) identified, (ii) introjected, and (iii) external regulation. We sampled students at a small regional university in the Midwest USA. Findings indicate students who obtain higher than median GPAs or have plans for further education were more extrinsically motivated-identified; while non-athletes and employed students were more extrinsically motivated by introjected regulation; especially financial aid and student generation do not motivate university students.

Key Words: motivation, students, education, intrinsic, extrinsic

1. Introduction

Motivation plays an important role in education because it affects what makes students want to study and achieve high results. As one of the four essential drivers of individual behavior and performance (motivation, ability, role perceptions, and situational factors) motivation refers to the forces within a person that affect the direction, intensity, and persistence of his/her voluntary behavior (McShane & Von Glinow, 2013). Heider (1958) argued that many theories of motivation were based on the perception that human behavior is created by internal and external influences which result in differences among individuals (Miller, Reynold & Weiner, 2013; Anderman & Gray, 2015). Many discussions of motivation are from analyzing the differences between intrinsic and extrinsic motivation.

Intrinsic motivation is that which comes from within individuals. In contrast, extrinsic motivation is what comes from outside individuals. The purpose of this study is to explore how motivation manifests in university students. We will look at theories of motivation including the tenets of Self-Determination Theory (SDT) that was originally developed by Deci and Ryan (2015). SDT focuses on different components of intrinsic and extrinsic motivation and amotivation. SDT demonstrates how an individual's social environments can affect his/her psychological needs and well-being. SDT affirms three forms of intrinsic motivation: *for knowledge*, *towards accomplishment*, and *to experience stimulation* and four types of extrinsic motivation: *external regulation, introjected regulation*, *identified regulation*, and *integrated regulation*. To better understand how motivation manifests in university students, we sought to answer this question: What are the similarities and differences in intrinsic and extrinsic motivation across various categorical variables such as college major, student athletes, grade point average-GPA, employment status, future plans, financial aid, and student generation?

2. Literature Review

2.1 Self-Determination Theory

Barron, Fairchild, Horst and Finney (2005) suggested that intrinsic and extrinsic motivation have been studied greatly through Self-Determination Theory (SDT). Researchers

such as Deci and Ryan, who have extensively studied this theory, have examined the different types of motivation on the basis of how motivation may be considered self-determined. SDT presumes that individuals have different degrees of motivation (how much motivation), and different motivational orientations (types of motivations). Deci and Ryan (2015) suggested that individuals are born with certain traits that cause them to want to learn more about their surroundings. A person's surroundings can either support or not support their psychological needs and have a major impact on the individual's motivation, cognition, and wellbeing (Barron et al., 2005).

2.2 The Motivational Continuum of Self-Determination Theory

The different types of motivation fall along a motivational continuum that shows self-determination in individuals ranging from intrinsic to extrinsic to amotivation. SDT presumes that individuals prefer to use their internalized values and behave in a way that imitates their external environment (Lam, 2014). SDT not only shows the difference between intrinsic and extrinsic motivation but also proposes that extrinsic motivation can exhibit the same attitude and behaviors as intrinsic motivation when the extrinsic motivation is internalized. SDT shows that the individual's internalization can evolve into integration only if the individual experiences satisfaction in his or her external environment.

Niemiec, Lynch, Vansteenkiste, and their colleagues (2006) suggested that a supportive academic setting can lead to a greater internalization in students (as cited in Larson, Pesch, & Surapaneni, 2015). For example, when teachers rationalize with students, acknowledge the students, and give the students a choice in making decisions rather than speaking with control, the teacher is facilitating the student's internalization and is motivating the students extrinsically. In this example the student's internalization would be more integrated than introjected. If the teacher does not rationalize with the student, nor acknowledge the student, nor give the student a choice, the student's internalization will decrease; the student's internalization will be more introjected rather than integrated (Corr & Mathews, 2009).

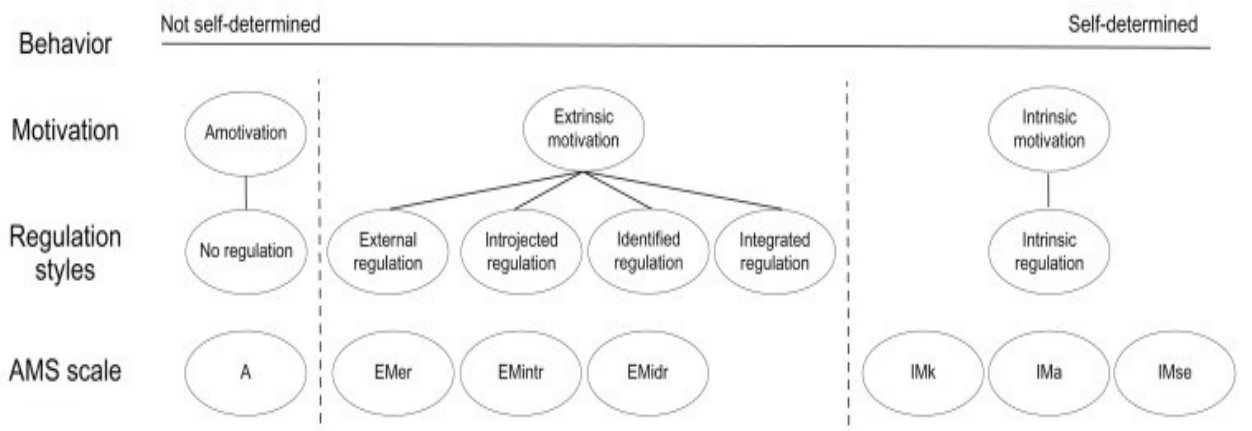

Figure 1: The Motivational Continuum of Self-Determination Theory Diagram (Boubeta, Iglesia, Liporace, & Stover, 2012*)*

Ryan and Deci came up with the self-determination continuum diagram (see Figure 1) which places various dimensions of motivation along a *self-determination* continuum. On the far left of the continuum (i.e., the *amotivation* side of the continuum), individuals demonstrate no self-determination. Deci and Ryan (2015) suggest that individuals who move from left to right within the Extrinsic Motivation dimensions (i.e., from *external regulation* to *integrated regulation*) start to show more intrinsic traits than extrinsic. For the *external regulation* dimension, there is very little self-determination because of the external impacts or rewards. Moving along on the continuum to the right of *external regulation*, the next type of motivation is *introjected regulated* behaviors which are those behaviors influenced by the external environment and include negative reinforcements that are within the individual (i.e., introjected) such as the feeling of guilt and obligation. *Identified regulation* comes next on the continuum followed by *integrated regulations*. *Integrated regulations* are closely related to intrinsic motivation but are not exactly the same (Barron et al., 2005).

Ryan and Deci (2000a; 2001) argue that being intrinsically motivated for an individual is not always possible due to societal pressures such as the individual's perception of volition and will (as cited in Reynold et al., 2013; Anderman & Gray, 2015). This has caused SDT researchers to not only examine the differences between intrinsic and extrinsic motivation but also to examine the effects of various aspects of social environments on self-determined (autonomous) versus controlled types of motivations. Controlled motivation is the impact on a behavior by

external factors and is classified as external regulation and introjected regulation. Self-determined motivation is the motivation of behavior by internal values and is classified as identified regulation and integrated regulation (Reynold et al., 2013; Anderman & Gray, 2015). Each of these dimensions will be further explained herein.

2.3 Extrinsic Motivation Dimensions

Deci and Ryan (2015) suggest that there are four types of extrinsic motivation that vary in degree on the self-determination continuum: *external regulation*, *introjected regulation*, *identified regulation*, and *integrated regulation* (as cited in Barron et al., 2005). Deci and Ryan (2015) also suggest that *external regulation* refers to the goal to engage in an activity just to satisfy an external demand or receive an external reward (as cited in Tsubakita & Shimazaki, 2015). For example, a student might attend college just to ensure that he or she will have a better financial future compare to a student who only completed high school. *Introjected regulation* refers to the drive to help the self-esteem or to satisfy internal contingencies (e.g. guilt and obligation). For example, a student might attend college just to feel worthy, a sense of accomplishment, or pride about his or her self. *Identified regulation* is when an individual performs a behavior out of his or her own choice and considers that choice to be important. For example, a student might attend college because he or she believes that having a higher education is important in today's society even though the student does not find any enjoyment in attending college. *Integrated regulation* refer to an individual's self-evaluations and beliefs in personal needs. For example, a student might attend college to gain the knowledge and skills that he or she needs in order to get a job (Pisarik, 2009).

2.3.1 External regulation: Guay, Litalien, Morin, Vallerand, & Valois (2015) explain that external regulation is typically controlled by rewards or constraints. Participation in activities is usually only done if a student feels they are being urged to do so by the instructor. A fun activity may be performed only because the student wants to avoid negative consequences. These consequences may include criticisms from the teacher. This type of motivation is extrinsic because the reasons for the student's actions are not for the enjoyment of participating but rather in order to avoid negative consequences. External regulation also refers to behaviors that are fueled by receiving rewards. For example, students may work hard in school in order to receive a certain reward rather than have the satisfaction of doing a good job. In this instance, the

motivation is still extrinsic since it is driven by the desire for a reward. A student experiences an obligation to have certain behaviors regardless of the goal and also feels controlled by the outcome of those behaviors (Guay et al., 2015).

2.3.2 Introjected regulation is a type of internal regulation that controls conflicting impulses that seemingly create dichotomies such as to do or not to do, to refrain or not to refrain. In this dimension, students perform actions due to a feeling of pressure and their behaviors are such that they would feel guilt or anxiety if they did not perform the action (Deci & Ryan, 2015). They also perform the actions in order to gain ego-enhancements or pride in doing the actions. A classic form of introjected regulation is when a student performs an action or activity in order to gain or maintain self-esteem and/or self-worth (Deci & Ryan, 2015).

When a student is using introjected regulation, they tend to internalize the reasoning behind their actions (Guay et al., 2015). When this is internalized, the source of control over the actions is inside the individual. This form of internalization is not truly self-determined since it is limited to the fact that the external contingencies have been internalized to the person. In this instance, the individual is internally controlling and therefore, the rewards or constraints are not imposed by the individual (Guay et al., 2015).

Although there is a complex relationship between external controls and intrinsic motivation, it has been shown that providing a reward for particular actions or activities that a student already finds interesting will result in decreased intrinsic motivation associated with that activity (Tomasello & Warneken, 2014). The students come to believe that they are performing the actions or activities not because they enjoy doing so but because they want the reward (Deci & Nguyen, 2016). In reality, however, many activities that students are required to engage in are not intrinsically motivating. For example, children often enjoy painting and drawing, but they do not enjoy learning grammar or the multiplication tables. Yet in order to function as adults in society, they must do these things. In the beginning the actions are required, but over time, the external regulations concerning social actions will likely become internalized (Deci & Nguyen, 2016).

2.3.3 Identified regulation: A more self-determined form of extrinsic motivation is regulation through identification. Extrinsic identification is when an individual has identified the

personal importance of a behavior and has accepted it as his or her own (Deci & Ryan, 2015). Individuals will remember a certain behavior if it is important and has value. An individual acting without any external or internal forces is said to be acting with extrinsic identification. Such behaviors are said to be relatively self-determined (Deci & Nguyen, 2016; Guay et al., 2015). The individual is choosing behaviors that he or she feels are important. Identified regulation is considered to be different from external regulation because it is more self-determined as the individual is choosing to do the activity that has value and is considered important (Evaggelos, Haralambos, Vassilis, & Yannis, 2015). Yet, identified regulation is still considered an extrinsic dimension because the behavior is not being performed for the individual but instead is performed to improve his or her ability of doing a behavior (Guay et al., 2015). Individuals take it upon themselves to learn new behaviors because they feel that it will be beneficial later in life. An example of identification would be a student saying "I have chosen to study because it is something important to me". When individuals are able to choose his or her own behaviors, they have a sense of direction and purpose instead of having to feel externally pressured or compelled to perform those behaviors (Guay et al., 2015).

2.3.4 Integrated regulation: Deci and Ryan (2015) propose that integrated regulation is the most self-directed of all the extrinsic motivation dimensions. Regulation to integrate is met when an individual has fully understood identified regulation. Once an individual understands identification regulation he or she then takes the valued behaviors and connects them with his or her other goals, values, and regulations (Deci & Ryan, 2015). Guay et al. (2015) state that individuals have reached integration when they have related the behaviors together. An example of integrated regulation is when a student says, “I have decided to study for this exam instead of taking part in a fun activity because school is more important to me as a person.” An individual chooses to do an activity that will be beneficial to them later on. When integrated regulation has been met he or she has met the highest form of self-determination within the extrinsic dimensions (Guay et al., 2015).

2.4 Intrinsic Motivation Dimensions

SDT defines three psychological needs that impact intrinsic motivation: competence, autonomy, and relatedness (Miller, Reynold, & Weiner, 2013; Anderman & Gray, 2015). Competence is defined as an individual’s interpretation on how well he or she can complete a

task. Autonomy is the individual's self-determination. Relatedness is the sense of belonging that an individual feels with another individual (Miller, Reynold, & Weiner, 2013; Anderman, & Gray, 2015). SDT revolves around these three basic psychological needs (Corr & Mathews, 2009). The theory proposes that the features of an individual environment and the way the person perceives the environment can determine if the individual's psychological needs are being met and whether the person is sustaining a sufficient amount of growth from the environment (Corr & Matthews, 2009). Deci and Ryan (2015) suggested that intrinsic motivation is the individuals' desires to perform certain activities to achieve inherent satisfactions. Intrinsic motivation results in actions based on the joy or challenge and is suggested that people do for themselves, not for others or for rewards. The motivation of a student when attending college could be considered intrinsic motivation if the student enrolled in college to get pleasure and to experience a new student life (Fairchild, Horst, Finney, & Baron, 2005). When a person is intrinsically motivated, he or she will engage in more curious and persistent activities, and experience a higher level of energy from the activity (Reynold, Miller, & Weiner, 2013; Anderman & Gray, 2015).

Eilot, Katz, & Nevo (2014) suggest that when a student is participating in an interesting activity, his/her behavior is distinguished by concentration and engagement that occurs spontaneously. The student then becomes fully absorbed in that activity. For example, a university student may decide to go to the student activities center to play billiards in his or her spare time even though there are no specific incentives or punishments associated with doing so. In this situation, playing billiards would be self-fulfilling to the student's need for his/her psychological well-being.

SDT affirms three forms of intrinsic motivation: *for knowledge* (e.g. participating in academics for the delight and achievement associated while learning, exploring, or trying to learn something), *for accomplishment* (e.g. engaging in academics for the delight and achievement out of pleasing oneself, and trying to reach new individual goals), and *for experiencing stimulation* (e.g. participating in academics to experience the stimulating feeling that comes from the engagement) (Doron, Stephan, Maiano, & Scanff, 2011).

2.4.1 To know: Students that are intrinsically motivated *to know* will explore subjects that he or she may not be familiar with in order to learn something (Deci, Pelletier, Rocchi, Ryan, & Vallerand, 2013). Students are curious to learn new material and may set higher priorities to

achieve their goals. Intrinsic motivation to know causes the student to have motivation to know more and understand more about his or her lessons (Deci et al., 2013).

2.4.2 Towards accomplishment: Intrinsic motivation towards accomplishment has been studied in developmental psychology as well as research for education (Deci et al., 2013). It can be defined as engaging in an activity for pleasure and satisfaction in attempting to accomplish goals. Students interact with their environment not only to feel competent but also to create different and unique accomplishments. Students would rather focus on achieving a goal than the actual results. They try their best to achieve pleasure and satisfaction, believing that it is not necessary to actually obtain a result as long as they are making progress toward accomplishment (Deci et al., 2013).

Terms such as mastery motivation, efficacy motivation, and task-orientation can all be used to describe intrinsic motivation towards accomplishment (Deci et al., 2013). Deci and Ryan (1975; 1985; 1991) suggested that students have to adapt to their academic settings in order to accomplish the task that is given (as cited in Deci et al., 2013). An example of intrinsic motivation towards accomplishment would be a student experiencing pleasure as he or she surpasses his or herself in a personal accomplishment. If a student tries to master a certain subject at school (e.g. math, science, history, etc.) to feel accomplished, then that individual is motivated intrinsically towards accomplishment (Deci et al., 2013).

2.4.3 To experience stimulation: Experience stimulation is a type of intrinsic motivation defined as an individual's desire to engage in different activities. Greene, Mansell, & Walker (2006) argued that intrinsic motivation to experience stimulation is when an individual engages in an activity in order to experience pleasure and enjoyable feelings associated mainly with his or her senses (as cited in Bodey, Perkins, & Ross, 2016). Researchers say individuals want to be involved in activities that they have fun with and have feelings about. Some students go to class to feel the excitement of class, engaging in discussions, or reading books to feel the intense feeling of cognitive pleasure from the passages (Deci & Ryan, 2000). When individuals engage in certain activities that they like, the individuals want to keep doing activities because they enjoy and have fun during the engagement. Academic or physical feelings may reflect on an individual's experience (Barron et al., 2005).

Researchers have been able to distinguish the different types of motivation based on human needs and their surroundings (Barron et al., 2005). Outside of being intrinsically motivated, the individual can also experience extrinsic motivation or amotivation. Extrinsic motivation is engaging in an activity because the individual feels obligated to do so due to external factors. Deci and Ryan (1985; 2000a) suggest that deadlines, performance evaluations, and negative consequences are all considered to be extrinsic motivators (as cited in Barron et al., 2005). These extrinsic motivators can cause individuals to feel pressured and can ultimately reduce intrinsic motivation (Li, Liu, & Sheldon, 2015). For example, if a student attends college because he or she believes that having a college degree will help in making a better choice regarding his or her career in the future, then the student is considered to be extrinsically motivated (Reynold et al., 2013; Anderman et al., 2015). Amotivation occurs when an individual does not want to engage in an activity at all (Barron et al., 2005).

2.5 A Word About Amotivation

Ryan and Deci (2000) argue that the least self-determined motivation is amotivation, which comes from an individual feeling the inability to perform a task, a lack of motivation, and the belief that his or her performances will have little or no effect in any outcome of a task (as cited in Barron et al., 2005). When an individual is in a state of amotivation, he or she believes that performing an activity for satisfaction or pleasure is not relevant compared to being otherwise motivated. Also when individuals are in the amotivation state they discern their behaviors as being caused by external factors that are not within their control (Gaudreau & Gunnell, 2015). They are neither intrinsically or extrinsically motivated. For example, when a student is in an amotivation state, the individual no longer has a good reason for why he or she continues to attend school. Eventually the student might even drop out of school because the individual might feel that attending college is wasting his or her time. Amotivation is considered to be the lowest autonomy on the continuum of the different types of motivation (see Figure 1), whereas intrinsic motivation has the highest level of autonomy (Barron et al., 2005).

Herath (2015) indicated that amotivation is connected with poor well-being within college students. This may stem from a poor connection that the student may feel relative to the university he or she attends which may lead to feelings of decreased levels of competence. Ryan and Deci (2000) suggested that motivation is relatively low in college students that experience

higher levels of exhaustion and burnouts (as cited in Pisarik, 2009). Amotivation can also be associated with procrastination within college students. Procrastination is as the deficiency or absence of ones self-coordinated performance (Seker, 2015). Lee and Yang (2011) suggested procrastination is the custom to put off or to avoid an event within the individual's control. Amotivation can also be associated with college students cheating in an academic environment.

Katartzi, Kontou and Vlackopoulos (2013) showed intrinsic and extrinsic motivation can be affected by an individual's amount of amotivation. Katartzi et al. (2013) found a negative correlation between intrinsically motivated individuals and amotivation and a positive correlation between extrinsically motivated individuals and amotivation. Katartzi et al. (2013) concluded that individuals who are intrinsically motivated are more likely to have a healthier and more productive motivation style compared to those who are extrinsically motivated.

Our primary focus was to measure intrinsic and extrinsic motivation in university students. We did not include amotivation because the relationship between amotivation and SDT is weak and likely nonexistent (see Figure 1). The end result was a more parsimonious instrument.

2.6 Motivation in Action

2.6.1 The social environment: In order to better understand how an individual's social environment can affect his or her levels of motivation, researchers have performed laboratory research using external factors such as rewards, feedbacks, and deadlines on participants to see if their intrinsic motivation would be affected (Corr & Mathews, 2009). Deci (1971) conducted the first such study and examined that when an individual received money for solving a puzzle the participant was less intrinsically motivated compared to the participant who did not receive any money for solving the same puzzle (as cited in Baruch, Daniel, Lester, & Wandi, 2015). Harvey and Pope (2015) noted external rewards seem to decrease the participant's internal drive in solving the puzzle. Deci, Koestner and Ryan (1999) have repeated the same experiment more than 100 times and came up with the same results (as cited in Chatzisarantis, Hagger, & Koch, 2015).

De Charms (1968) and Heider (1958) suggested that when an individual receives an

external reward for his or her behavior, then the behavior starts to become dependent on the reward causing motivation to shift from being internal to external (as cited in Corr & Mathews, 2009). The individual starts to feel more controlled by the reward and the individual's autonomy and intrinsic motivation starts to decrease. SDT presumes the external factor, in this case the reward, becomes more important to the individual and is the reason the individual's intrinsic motivation decreases. On the other hand, if an individual was to receive positive feedback rather than a reward, the individual would be less likely to perform the activity to receive the positive feedback – albeit unknowingly. Therefore, the individual autonomy would not be hindered. In such a case, the individual would feel more satisfied which, in turn, would increase the person's competence and intrinsic motivation (Corr & Mathews, 2009).

Researches have shown rewards and certain feedback can also have a negative effect on individual behaviors (Corr & Mathews, 2009). In many situations, positive feedback usually has a positive effect on the individual's competence and intrinsic motivation, but positive feedback can also have a negative effect on an individual if the feedback is given in a controlling language. An example would be a professor telling a student "good job, you finally listened" using sarcasm. In this example, the student may not feel personally responsible for his or her actions because of the professor's comment. Koestner, Ryan, Bernieri, and Holt (1984) suggested that if positive feedback is given to a student in a controlling way, then the feedback can decrease the student's intrinsic motivation, but if the positive feedback supports the students sense of autonomy then it will not decrease the student's intrinsic motivation (as cited in Corr & Mathews, 2009).

Behaviors that are more internalized and integrated generate more sense of self-determination. On the other hand, if a student's academic setting is controlling and rejecting, then the student's internalization to learn may decrease; leaving the student to depend on his or her external or introjected regulations (Corr & Mathews, 2009). Compared to the external dimension of introjected, identified and integrated regulations are considered to be more self-determined. Identified regulation requires the individual to identify and accept the worth and importance of the behavior and to apply it to his or her self. The outcome is that identified regulations help turn external regulations into intrinsic motivation in an educational setting (Barron et al., 2005).

2.6.2 Cognitive evaluation theory: According to cognitive evaluation theory (Deci & Ryan, 1985; 1991), student's motivation can vary depending on how the individual perceives his

or her ability to learn or how self-determined the student may be (as cited in Kersey & Spray, 2015). If a student wants to learn new material in school or is self-determined, then his or her intrinsic motivation and identified regulations should go up while the students' introjected, external regulations and amotivation go down. If a student is not self-determined or does not want to learn new material, then the student will experience a loss in intrinsic motivation and identification, and experience a gain in external regulation, introjection, and amotivation (Kersey & Spray, 2015).

Cognitive Evaluation Theory has four different parts to it with each part having two sides: one that improves intrinsic motivation and one that decreases intrinsic motivation (Li, Liu, & Sheldon, 2015). The four different parts, enhancing and decreasing intrinsic motivation respectively, are as follows: part 1 assesses if the student feels in control of their own actions or if the student feels controlled by outside sources; part 2 assesses if the student has competence and knowledge on the subject or if they feel they are incapable; part 3 assesses if rewards and punishments are informational or if they are amotivating; part 4 assesses if the individual's thoughts are task oriented or if their thoughts are ego oriented. Furthermore, there is research to show that certain characteristics help build motivation by a teacher such as: giving students choices, reducing external factors, giving challenges, increasing knowledge base, and working on improvement in school as well as in the student's personal life (Mandigo & Holt, 2000). Li et al. (2015) suggested that much of a student's motivation, whether it be intrinsic or extrinsic, is developed from their growing and learning environments. Children with intrinsic motivation have shown to have a better understanding of their academics and a better presence in the classroom (Li et al., 2015). The qualities these students possess are the ability to feel they have control over their learning, enjoy learning about the subject, and being able to relate and understand the topic (Li et al., 2015).

A student's interpersonal behavior also plays a major role in his or her motivation. Allen, Gregory, Hafen, Mikami, Pianta, & Ruzek (2016) have studied teacher's behaviors towards students in an academic setting. Research has shown that informational behaviors, such as the teacher providing positive feedback to a student can increase self-determination in the student and lower amotivation. If the teacher's feedback has a positive effect on the student's autonomy, supportive behaviors, and interpersonal behaviors then the student will feel more comfortable

learning the new material. If the teacher provides negative feedback to the student, that individual may lose interest in learning the new material and experience amotivation (Allen et al., 2016).

2.6.3 Achievement motivation: Another component of motivation is looking at student's achievement motivation. Sturman (1999) defined achievement motivation as a continuous internal drive where the individual strives for excellence by achieving new standards and setting the bar high for challenges (as cited in Goodman, Keresztesi, Mamdani, Mokgatle, Musariri, Pires, & Schlechter, 2011). Intrinsic motivation has different aspects involved with achievement compared to extrinsic motivation. An intrinsic persona include confidence, positive self-concept, problem solving ability, enjoyment in the task at hand, and taking calculated risks. This intrinsic persona is in stark contrast to the persona of an extrinsic person who lives by rewards and punishments, uses intangible rewards, expects increases of good behavior, and works well in a collective type of setting. Drass-Brailsford (2005) found that those with the intrinsic persona were more likely to overcome certain obstacles in their life such as pressures from family, a poor home life, and other negative factors (as cited in Goodman et al., 2011). McClelland (1990) found both intrinsic and extrinsic motivators can have a positive impact, however intrinsic motivation will need to have a more constant presence for this to be true (as cited in Chatzisarantis, Hagger, & Koch, 2015). Research has shown that informational behaviors such as the teacher providing positive feedback to a student can increase self-determination in the student and lower amotivation.

2.6.4 Motivation in a work environment: Dath, Hoogenes, Matsumoto and Szalay (2013) looked at how motivated individuals were through teaching styles in the surgery room. In their results, they found differences among those who were intrinsically motivated vs. extrinsically motivated. Individuals who learned better by initiating surgery and different jobs in the operating room were more intrinsically motivated as the need for them to be successful at their job ultimately depended on themselves rather than having to be extrinsically motivated and dependent on others. Dath et al. (2013) also found those who were able to claim responsibility for their successes and failures was an intrinsic quality that is found in all learning occasions. Additionally, another quality of intrinsic motivation was for individuals to have a liking and a sense of belonging for what they were doing/accomplishing. An extrinsically motivated individual was found to need more direction and guidance when performing certain tasks. Other

qualities of extrinsic learners were being action oriented, double checking for errors, and needing feedback (Dath et al., 2013).

In the health of individuals, the qualities of motivation are used as well. Deci and Ryan (1985) found those who are attempting to change exercise or diet habits have been more successful when they are motivated rather than amotivated (as cited in Emond, Guertin, Lalande, Pelletier, & Rocchi, 2015). Having a positive support system, competence and knowledge about the changes they are making, and wanting to have an improvement with their lifestyle, individuals with intrinsic motivation are more likely to succeed than extrinsic motivation. Deci and Ryan (1985) suggested that individuals who are able to accept themselves and take responsibility for health changes will likely increase their intrinsic motivating factors (as cited in Corr & Matthews, 2009). Students at a university, especially first year students, may be experiencing many eating and exercising life changes. Those students that are motivated are more likely to overcome these obstacles than students that are amotivated.

Deci and Ryan (1985) are in agreement with the medical model for the qualities needed in a work environment which include initiation, feedback, and taking responsibility for their actions (as cited in Corr & Matthews, 2009). Deci and Ryan (1985) also established other characteristics that are shown in motivated individuals such as: trust in coworkers and higher administration, a constructive and optimistic work attitude, having accessible information readily available, and having a sense of satisfaction with their jobs. This relates to the students in university as learning techniques and motivation qualities are present in both students and workers.

3. Methodology

There are two major categories of research designs: exploratory or conclusive (Hair, Babin, Money, & Samouel, 2003; Malhotra, 2007). In exploratory research, the researchers need to provide insight into a problem (Bertsch, 2009), the primary research question is ambiguous, and the researchers are willing to explore new information (Zikmund & Babin, 2007). To summarize our approach in support of our methods, this article is exploratory in nature. As stated earlier, we set out to explore the similarities and differences in intrinsic and extrinsic motivation

across various categorical elements (such as college major, student athletes, GPA, employment, future plans, financial aid, student generation). Our literature review leads us to believe that there are no research involving in those categorical elements. In additional, we seek to discover new information; therefore, we have selected a sample based on convenience, an important allowance within exploratory research (Bertsch, 2009; Zikmund & Babin, 2007). Our sample was drawn from students in the College of Business (COB) and the College of Arts and Sciences (CAS). Such sampling is suitable and convenient in exploratory research designs (see, for example, Hair et al., 2003; Malhotra, 2007; Zikmund & Babin, 2007).

3.1 Instrumentation

We borrowed the Academic Motivation Scale (AMS-C 28) College (CEGEP) Version developed by Vallerand, Pelletier, Blais, Brière, Senécal, and Vallières (1992). The original instrument measures three levels and seven types of motivation (Gravel et. al, 2016): extrinsic motivation – external regulation; extrinsic motivation – introjected; extrinsic motivation – identified; intrinsic motivation - to experience stimulation; intrinsic motivation - toward accomplishment; intrinsic motivation - to know; and amotivation. Note that the AMS scale does not measure extrinsic motivation – integrated regulation. Also, and as discussed earlier, we did not include the amotivation measures.

The AMS-C measures an individual's perceived reasoning for participating in an activity. The 28 item instrument is assessed on a seven point scale. The instrument contains three subscales for extrinsic motivation, three subscales for intrinsic motivation, and one subscale for amotivation. Scoring high on a subscale means the individual has a high affiliation with the specific type of academic motivation. The AMS-C has proven to have adequate levels of consistency, reliability, and validity (Damirchiloo & Ghaemi, 2015).

We decided to eliminate the amotivation subscale from the questionnaire as discussed previously. According to the developers of this instrument, amotivation is the absence of the desire or drive to accomplish something due to the failure of the individual to make a connection between their behavior and the activity (Gravel et al., 2016). Individuals with amotivation display low levels of or possibly no self-determination. We focused on intrinsic and extrinsic motivation which has been previously considered to outline a range of self-determination (Deci & Ryan,

2015). The survey items are included in Appendix.

3.2 Sampling and Data Collection

With the cooperation of faculty, we were able to disperse the survey to students attending 300 and 400 level classes in both the College of Business and in the College of Arts and Sciences at a small regional university in the Midwest USA. Our target sample size is supported by Tande, Lamon, Harstad, Ondracek, and Bertsch (2013) whereby we sought a 3:1 ratio of respondents to items on our survey. After all the surveys were completed, the data was entered into Microsoft Excel for analysis.

4. Data Analysis

After keying the data we performed typical data purification techniques (Bernard, Klein, Ley, Ley, & Licata, 2013; Bertsch & Pham, 2012). We then proceeded with the analysis of the remaining surveys, with 51.4% coming from the College of Business (COB) and 48.6% coming from the College of Arts and Science (CAS).

4.1 By College Major

Our literature review did not reveal any published research comparing motivation by college major. Our sample and analysis as illustrated in Table 1 found no statistical differences between the students in the College of Business compared to students in the College of Arts and Sciences across all measured dimensions of motivation.

Table 1

Motivation by college major (COB n=38; CAS n=36)

Dimension	mean COB	mean CAS	Significant?
External regulation	6.18	5.86	No
Introjected regulation	5.45	5.54	No
Identified regulation	5.96	6.03	No
To Know	5.19	5.37	No
Towards accomplishment	4.85	5.03	No
To experience stimulation	3.66	3.90	No

4.2 By GPA

For GPA, we ran correlation analyses (Pearson's r). Table 2 illustrates our finds and whether the correlation was significant.

Table 2

Correlations between motivation dimensions and GPA (n=74)

Dimension	Pearson's r	Significant?
External regulation	0.165	No
Introjected regulation	0.034	No
Identified regulation	0.267	Yes, at $p<0.05$
To Know	0.186	No
Towards accomplishment	0.110	No
To experience stimulation	0.041	No

As illustrated in Table 2, the only dimension that yielded significant correlation with GPA was the extrinsic motivation dimension: identified regulation (at $p<0.05$). This demonstrates how students identify the need to acquire knowledge for the purpose of bettering their situation later in life. Our results are similar to Guay et al. (2015) in that individuals who score high on identified integration also experience positive academic behaviors.

4.3 By Student Athletes

We grouped the responses by whether they were or were not an athlete. Table 3 summarizes our findings.

Table 3

Motivation by student athlete (Athlete n=24, Non-athlete n=50)

Dimension	mean Athlete	mean Non-athlete	Significant?
External regulation	6.06	6.02	No
Introjected regulation	5.13	5.67	Yes, at $p<0.05$
Identified regulation	5.86	6.06	No
To Know	5.17	5.33	No
Towards accomplishment	4.71	5.05	No
To experience stimulation	3.80	3.77	No

The only dimension yielding statistically significant results ($p<0.05$) was extrinsic: introjected regulation. With a mean score of 5.67, non-athletes were more extrinsically motivated by introjection regulation than athletes with a mean score of 5.13. As stated in the literature review individuals demonstrating this dimension of extrinsic motivation, engage in order to boost self-esteem and ego. Extrinsic motivation- introjected means the students want to achieve rewards not enjoyment after performing the actions (Deci & Nguyen, 2016).

4.4 By Employment

We compared the means of those employed outside the classroom vs. those not employed outside the classroom. See Table 4.

Table 4

Motivation by employment status (Employed n=57, Unemployed n=17)

Dimension	mean Employed	mean Unemployed	Significant?
External regulation	6.00	6.12	No
Introjected regulation	5.64	5.00	Yes, at $p<0.05$
Identified regulation	5.97	6.06	No
To Know	4.99	5.36	No
Towards accomplishment	4.57	5.05	No
To experience stimulation	3.41	3.89	No

The only dimension with a significant difference was extrinsic motivation: introjected regulation. With a mean score of 5.64, employed individuals showed higher introjected regulation motivation than those unemployed (mean score=5.00) at $p<0.05$. Employed students show more motivation by introjected regulation than unemployed students. Deci and Ryan (2015) argue that external regulation refers to the goal to engage in an activity just to satisfy an external demand or receive an external reward (as cited in Tsubakita & Shimazaki, 2015). As it seems, employed students find going to school to have more significance concerning their self-esteem and ego than unemployed students.

4.5 By Future Plans

Our final analysis included grouping the data by whether the respondent intended to go on to graduate school (n=49) or not (n=25). Table 5 illustrates those results.

Table 5

Motivation by plans for graduate school

Dimension	mean Yes	mean No	Significant?
External regulation	6.04	6.01	No
Introjected regulation	5.43	5.61	No
Identified regulation	6.13	5.73	Yes, at $p<0.05$
To know	5.42	4.99	No
Towards accomplishment	5.04	4.74	No
To experience stimulation	3.92	3.51	No

The only analysis resulting in a significant difference was extrinsic motivation by identified regulation. With a mean score of 6.13, individuals with plans for further their education were more extrinsically motivated by identified regulation than individuals with no plans to further education (mean = 5.73; $p<0.05$). Recall that identified regulation is when an individual performs a behavior out of his or her own choice and considers that choice to be important. The results makes perfect sense, due to the fact that students' planning to further their education identify going to school as an important step in gaining knowledge, which will prepare them for

further education.

4.6 By Financial Aid

We grouped the responses by whether they receive financial aid or not. There were no statistical differences across all measured dimensions of motivation when we grouped respondents by whether or not they received financial aid.

4.7 By student generation

We compared the means of first generation college students vs. second generation students. There were no statistical differences between those who were first generation college students versus those who were not the first generation college student.

5. Conclusions

Our research used the Academic Motivation Scale (AMS-C 28) College (CEGEP) Version from Vallerand, Pelletier, Blais, Brière, Senécal, and Vallières (1992) to collect data about educational setting motivation factors on university students. We considered important categories such as college major, student athletes, grade point average-GPA, employment status, future plans, financial aid, and student generation. From our data, we determined that comparing students by college major and financial aid had no significant results while we can conclude that several elements can affect a university student's motivation. The students with higher GPA and who have future plans such as further education were more extrinsically motivated-identified; while non-athletes and employed students were more extrinsically motivated by introjected regulation. Our results suggested extrinsic motivation is the dominant type of motivation displayed by the students.

Through gaining a better understanding of the results, we infer students at university may be acquiring a degree because they are more concerned with the regulated rewards and avoidance of negative consequences, and not the internalized rewards, such as gaining wisdom and being autonomous. In simplest terms, students should strive to be in an environment that is supportive and facilitates their internalized needs. More effective motivation comes from within an

individual who finds their own meaning, rather than trying to find a means to an end. It is recommended that teachers give regular feedback, use rationality when assessing, and limit the amount of obligation given to students. Furthermore, by having thorough understanding of the dimensions of motivation explained in this report, instructors can more effectively accommodate to their students' needs, which should generate the ideal environment for learning. Future research should develop this stream of research further with a larger sample size over a larger geographical area, with a multi-state and possibly multi-national empirical setting.

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Appendix 1

Motivation Questionnaire

Categorical Questions

1. What is your status?

Freshman Sophomore Junior Senior

2. What is your cumulative GPA? _____

5. What is your current employment status?

Unemployed Part-time (32 hours per week or less) Fulltime (>32 hours per week)

6. Are you an athlete? Yes No

10. Do you participate in extracurricular activities? Yes No

Without the amotivation subscale, the survey will contain 24 items assessing academic motivation. The survey contains the following items within the 6 subscales:

(Why do you go to college?)

Intrinsic Motivation- To Know

2. Because I experience pleasure and satisfaction while learning new things

8. For the pleasure I experience when I discover new things never seen before.

14. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.

20. Because my studies allow me to continue to learn about many things that interest me.

<u>Intrinsic Motivation- Toward Accomplishment</u>

5. For the pleasure I experience while surpassing myself in my studies.

11. For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.

17. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.

23. Because college allows me to experience a personal satisfaction in my quest for excellence in my studies.

Intrinsic Motivation- To experience stimulation

4. For the intense feelings I experience when I am communicating my own ideas to others.

10. For the pleasure that I experience when I read interesting authors.

16. For the pleasure that I experience when I feel completely absorbed by what certain authors have written.

22. For the "high" feeling that I experience while reading about various interesting subjects.

Extrinsic Motivation- Identified Regulation

3. Because I think that a college education will help me better prepare for the career I have chosen.

9. Because eventually it will enable me to enter the job market in a field that I like.

15. Because this will help me make a better choice regarding my career orientation.

21. Because I believe that a few additional years of education will improve my competence as a worker.

Extrinsic Motivation- Introjected Regulation

6. To prove to myself that I am capable of completing my college degree.

12. Because of the fact that when I succeed in college I feel important.

18. To show myself that I am an intelligent person.

24. Because I want to show myself that I can succeed in my studies.

Extrinsic Motivation- External Regulation

1. Because with only a high-school degree I would not find a high-paying job later on.

7. In order to obtain a more prestigious job later on.

13. Because I want to have "the good life" later on.

19. In order to have a better salary later on.

Happiness & Optimism: Does Industry Volatility Matter?

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ABSTRACT

We aim to explore the nature of both optimism and happiness as they relate to industry stability. Happiness is an attitude that is traditionally identified by contentment and feelings of life, and optimism is a mood that is related to the future and one's level of expectation about that life. We investigate whether the energy industry and its current state, meaning whether that industry is in a "boom" or "bust", has a direct effect on one's level of optimism and happiness. A survey was generated to capture relevant data from employees who work both internal and external of the energy industry. Responses on the topics of happiness, positive optimism, negative optimism, and quality of life were collected and analyzed. The collected results support the hypothesis that employment in the energy industry does have a direct effect on one's level of optimism, however the data does not conclude that happiness is driven by energy industry employment.

***Key Words*:** Optimism, happiness, industry stability, energy industry

1. Introduction

Since the fall of 2014, two years immediately prior to this writing, the oil and gas industry has witnessed a collapse in commodity prices that has devastated the sector. We come from the industry and have experienced this downturn first hand; we have seen the effect the most recent collapse has caused on colleagues' morale, and therefore seek to explore the relationship between downturns in industry and people's level of optimism and happiness. Specifically, we investigate self-reported levels of optimism and happiness across the energy industry (for example oil and gas, renewables, utility, etc.). We also included non-energy industry professions and compare similarities and differences between optimism and happiness in 'boom and bust' prone industries (e.g. the energy sector) to more 'stable' industries that do not have exposure to commodity prices**.** Consequently, we seek to answer questions and generate insights regarding the following questions, as they relate to individual/employee feelings of happiness and optimism.

1. What are the differences or similarities in an individual's level of happiness and optimism in industries that are traditionally stable, versus those that are more volatile?
2. In volatile industries, is the measure of happiness and optimism related to the specific cycle in which the industry currently finds itself (i.e. boom period versus bust period)?
3. Does age and length of time in the workforce influence the level of happiness and optimism in specific industries, and/or in 'stable' versus 'volatile' industries?
4. Is there a distinction between the level of happiness and optimism that men experience versus women in volatile industries, and/or in specific industries in general?
5. Do low happiness and optimism levels translate to individuals taking actions, such as intending to change jobs or even change industries?

2. Literature Review

Our literature review focuses on employees' feelings of happiness and optimism in order to address our defined research questions. We review the published body of knowledge regarding happiness, optimism, and satisfaction of life to lay the foundation for our research. Understanding and referring to the literature ensures our research is designed in a way that considers existing insights and generates results that are valid, and determine whether our findings are consistent

with, or contradict, previous knowledge. We begin by defining some key concepts that our research addresses.

Our research focuses on individuals and their underlying self-reported perceptions of optimism, happiness, and life satisfaction in the context of the workplace. Additionally, we focus on the relationship of perceptions and the current state of the industry in which groups of people are currently, or were recently, employed. We seek to investigate specific demographics including gender, marital status, employment status, income, education, and industry tenure.

Carver, Scheier, & Segerstrom (2010) define optimism as an individual difference that reflects the degree which people hold generalized favorable expectancies for their future. There are many different views of optimism from a time perspective, but we seek to measure its existence at a particular point in time in an individual's life – that being the current period of depressed commodity prices, which has affected their livelihood and altered their level of optimism regarding their employment and career trajectory.

Aristotle stated that happiness is the highest of all goods achievable by human action (Ryff, 1989). Happiness is a fundamental state of being that every individual hopes to enjoy, and an individual's pursuit of happiness encompasses every facet of his or her daily lives. Whether within a relationship, within one's own self-concept, or within the workplace, an individual's actions are dictated by their pursuit of a state of happiness (Ryff, 1989). In the workplace and within one's career specifically, this happiness is of utmost importance (Leader to Leader, 2012). Careers and daily experiences within the workplace define one's being because so much time is spent within the confines of the workplace, and within the greater paradigm of one's career. Careers define self-concept and happiness (or lack thereof) and, as such, well-being is very much linked to contentment in those careers. Using various survey methods adapted in prior case studies, we hope to discover how much of our happiness is dictated by career choice and career path. More specifically, for those in volatile industries like oil and gas, we hope to discover the affect that downturn cycles have on an individuals' happiness and well-being.

Our targeted survey questions are posed to provide us with framework for an investigation into the plausibility of a link between the lack of stability, (i.e. the volatility in industries impacted by commodity prices) and the working individual's feelings of optimism, happiness,

and satisfaction of life. Our research is focused to this end, and we aim to quantify the hypothesis that an employee's level of optimism, happiness, and overall satisfaction of life in the context of the current state of the energy market.

2.1 Optimism

Optimism and optimistic behavior can be described in many different ways. Higher levels of optimism have been related prospectively to better subjective well-being in times of adversity or difficulty (Tiger, 1979). Another view suggests that optimism is generally defined as a mood associated with an expectation about the social or material future (Tiger, 1979). A key point by Tiger (1979) is that optimism can be learned. Optimistic people can be pessimistic, and vice versa, which means optimism can have both a state and a trait component, and that state of optimism can be varied and affected by a manager's expectations and attitude. Thus, trait optimism relates to general outcomes, like long-term health, because of the general nature of this variable. Meanwhile, state optimism, as experienced in the workplace, will relate more closely to work related outcomes (Tiger, 1979).

Carver, Scheier & Segerstrom (2010) show that education and income level directly impact optimism with higher levels in one, the other, or both leading to more feelings of optimism (Carver, Scheier, & Segerstrom, 2010). This concept also raises the importance of the Expectancy-Value Model of motivation which assumes that certain behaviors are taken in pursuit of objectives or desired states, and the more likely those objectives are attainable then the more energized, encouraged, motivated, and therefore optimistic, one will be (Carver, Scheier, & Segerstrom, 2010). Carver, Scheier & Segerstrom (2010) also make a connection between individual perception of different states of well-being when problems exist, and discuss the influence of happiness and optimism versus dissatisfaction and pessimism. Carver, Scheier, & Segerstrom (2010) provide insight into the plausibility that certain people may exhibit traits of optimism or pessimism in general, and those traits may or may not be influenced or changed in a major way by the volatility of the industry where a person works. This premise introduces the notion that correlation is not the same as causation (Carver, Scheier, & Segerstrom, 2010).

2.1.1 Optimism in the workplace: We attempt to determine whether employees in volatile industries, such as certain segments of the energy industry, are less optimistic and experience less

personal happiness given the current energy market downturn. We understand the limitation of our research design, as it does not capture variables that are not related to work environment but those that likely affect levels of happiness and optimism.

Kleumper, Little & Degroot (2009) focused on Positive Organizational Behavior (POB) which includes the measurement, development, and management of human resources strengths for the purpose of performance improvement. Kleumper, Little & Degroot (2009) suggest that optimism is a malleable and manageable construct, and that there is a difference between state and trait optimism, which has been deemed as widely assumed but rarely measured (Kluemper, Little, & Degroot, 2009). We attempt to build on Kleumper, Little & Degroot (2009) and answer their call to investigate the relative influence of state optimism variables and how they impact feelings of organizational commitment and job satisfaction given a specific scenario, such as a downturn in commodity prices, which may in turn impact individuals' career paths and livelihoods. Our research is designed to identify two groups of individuals; those employed in volatile industries who are currently impacted by low commodity prices, and those who are in more stable industries where commodity prices do not represent an external threat to their career path. We will measure state optimism related to the current state of the energy market as the survey questions provide insights into the desire to leave a company, and potential motivation to switch industries which are directly related to organizational commitment and overall job satisfaction levels.

Optimists are psychologically and physically better adjusted than their pessimistic counterparts (Crosno, Black, Rinaldo, Kelley. 2009). In addition, optimists are usually better performers in tasks that require persistence to overcome obstacles (Crosno, Rinaldo, Black, & Kelley, 2009). These beneficial effects of optimism extend to job satisfaction; thus Crosno, et al. (2009) conclude that those employees that are optimistic are likely to remain high performers in their organization and more likely to exhibit higher levels of happiness relative to their counterparts.

We believe the current period of sustained low commodity prices (since mid-2014) represents a significant external impact on organizations. In companies affected by the downturn, this external factor has forced management to institute major organizational changes that have had direct and severe impacts on employees and their families over a relatively short period of

time. Glicken and Robinson (2013) found that instituting excessive change such as restructuring, layoffs, and other downsizing activities often characterize corporate actions in depressed commodity markets which results in disgruntled employees. Excessive change may result in stress, worker unhappiness, and a general decline in the quality of work from employees.

Youssef & Luthans (2007) examined the impact of hope, optimism, and resilience on desired work-related employee outcomes (i.e. performance, job satisfaction, work happiness, and organizational commitment). Youssef & Luthans (2007) used two different studies, which included self-reported employee performance and organizational performance appraisals to determine employees' positive psychological capacity related to the outcomes. Hope and optimism also relate to these outcomes but to a lesser extent. Youssef & Luthans (2007) focus their attention on hope, optimism, and resilience with the goal of explaining the effects of those criteria on positive organizational behavior in the work place, utilizing a positive organizational behavior approach to their study.

2.2 Happiness

Happiness or well-being, has been analyzed, debated, and discussed by innumerable scholars, theorists, and intellectuals for centuries (Linley, Maltby, Wood, Osborne, & Hurling, 2009). Finding a common thread, which reveals the root of all happiness, has been difficult to surmise. Even defining the word is difficult because the factors leading to it as well as the state of mind being described is different for different people. Happiness is defined as a state of being characterized by well-being and contentment (Merriam-Webster, n.d.). More specifically, in the context of the workplace, happiness is defined as "the joy we feel striving after our potential (Anchor, 2010)." This happiness occurs as we strive to achieve our potential, not when that potential is achieved (Leader to Leader, 2012). The concept of happiness as it relates to the well-being of the individual will be the focus of how we define happiness. Recently, due to the emergence of positive psychology, the nature and structure of human well-being has become the central focus of studies and literature (Linley, Maltby, Wood, Osborne, & Hurling, 2009).

Positive psychology is the study of optimal human functioning (Linley, Maltby, Wood, Osborne, & Hurling. 2009). Ultimately, the field of study seeks to determine what makes a person happiest in life. The study has seen differing perspectives on how to achieve this and, as such,

psychologists have diverged to two primary perspectives in the field – subjective well-being and psychological well-being (Linley, Maltby, Wood, Osborne, & Hurling. 2009). Followers of either branch of the study are neither wrong nor right in their assertions however; ultimately, we will side with one for the purposes of our study.

Subjective well-being has an emotional and cognitive component about the understanding of an individual's satisfaction in their lives. Through the lens of this perspective, individuals are aware of positive and negative affects to outcomes in their lives. Individuals are also aware of how their life is judged and how, accordingly, they judge their own lives (Linley, Maltby, Wood, Osborne, & Hurling, 2009).

Psychological well-being is best represented by "engagement with existential challenges of life" (Linley, Maltby, Wood, Osborne, & Hurling, 2009). Based on the observations of numerous psychological theorists, Ryff (1989) concluded that the core dimensions of psychological well-being could be best described by six different factors. She noticed that these factors seemed to be mentioned in numerous studies on psychological well-being. Self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth were the six common factors common among the theorists that she observed (Ryff, 1989).

1. Self-acceptance: Central feature of mental health as well as self-actualization, optimal functioning, and maturity (Ryff, 1989).
2. Positive relations with others: Warm, trusting interpersonal relations are vital. The ability to love is seen as a central component of mental health (Ryff, 1989).
3. Autonomy: Self-determination, independence, and regulation of behavior from within (Ryff, 1989).
4. Environmental mastery: An individual's ability to choose or create environments suitable for their own optimal mental health (Ryff, 1989).
5. Purpose in life: Beliefs that give individuals the feeling that there is purpose and meaning in life (Ryff, 1989).
6. Personal growth: The continual growth of an individual's potential – to grow and expand as a person (Ryff, 1989).

The scope of psychological well-being is such that we feel it embodies the values of happiness

that we hope to analyze within this paper. The psychological factors conceptualized by psychological well-being theory are often manifested within the workplace. The happiness in individual's experiences within their careers is directly tied to the aforementioned factors, as described by Ryff (1989). These factors will be the basis for our basic understanding of happiness. Through the implementation of our survey and research, we hope to determine if the individuals within our study fulfill these basic criterions of happiness.

2.2.1 Happiness in the workplace: Within the American culture, happiness is predicated on the concept of the American Dream. Within this paradigm, hard work and determination in an individual's career yields the resources needed to realize that dream; a dream complete with the perfect spouse, healthy children, financially stability, and a beautiful house in the suburbs (Gavin & Mason, 2004). The success or failure in attaining this dream is determined by the careers in which we labor. Without a stable career, this dream, and the associated happiness, is unattainable. Without stable careers, jobs are not fulfilled, society is not able to survive, and those within that society are not bettered for having been a member of it (Gavin & Mason, 2004).

As the international slump in commodity prices continues to depress energy markets and reduce the number of quality careers within the economy, the happiness of workers has diminished as well. Workers in affected industries grow fearful of termination or learn to cope with the realities of their existing unemployment. The fear and stress as a result of job uncertainty has severe social, emotional, and financial consequences. Job-specific stressors such as long working hours, high workloads, and work versus family conflicts, as well as organizational stressors such as job insecurity, interpersonal conflicts, and major changes in working conditions may all affect the happiness of a worker (Glicken & Robinson, 2013). Workers may experience anxiety, depression, stress, sleeping problems, and/or strained relationships because of these stressors in the workplace (Glicken & Robinson, 2013). The stresses of our career have incredible repercussions on our physical and mental health, as well as our contentment and happiness. Efforts to minimize these stresses in the workplace will allow workers to increase their happiness.

The National Institute for Occupational Safety and Health (NIOSH) defines job stress as "the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker (Glicken & Robinson, 2013)." These stressors, if not managed by the worker or the manager will make it very difficult to remain

happy in one's career. The full NIOSH report details a list of numerous job conditions that should be avoided to ensure reduced stress and happier workers. The conditions relevant to our study are (Glicken & Robinson, 2013):

- Work roles: Conflicting or uncertain job expectations.
- Career concerns: Job security and lack of opportunity for growth, advancement, or promotion.
- The worker's role in the organization: Uncertainty about job duties and responsibilities.
- Organizational structure and climate: The extent to which a worker can be involved in and influence the decision-making process.

These stressors, left unchecked, can lead to job dissatisfaction, worker burnout, and inevitably reduced happiness and well-being. Job dissatisfaction arises when a worker's perceived job stress becomes too difficult to control. Worker burnout, the result of job dissatisfaction and low morale, occurs when the worker is worn out and alienated from the pressures of work (Glicken & Robinson, 2013). The worker, dissatisfied with both the physical and mental stressors of the workplace, will inevitably burn out. Creating an environment where the worker's happiness can be nurtured should be the ultimate pursuit in the workplace to ensure this burnout is avoided.

Happiness is a holistic ideal wherein the individual is comfortable in the fact that their reasonable desires are fulfilled over a lifetime. If unable to attain these desires, the individual is secure in knowing that others will rally around them to aid in the event of misfortune (Glicken & Robinson, 2013). The fundamental principles of happiness derive from three key characteristics of this ideal:

1. Freedom: Happiness results from individual's ability to make choices (Glicken & Robinson, 2013).
2. Knowledge: Happiness requires information, knowledge, and the ability to reason (Glicken & Robinson, 2013).
3. Virtue: Happiness requires moral character (Glicken & Robinson, 2013).

A worker empowered by a workplace that embraces these ideals, will know happiness and

prosperity. Employers who can assist with ensuring these conditions will guarantee those workers have the tools to enable them to experience true happiness.

The goal of the positive psychology movement as discussed previously is to transition from a healing perspective to one of prevention (Glicken & Robinson, 2013). The positive psychology approach can also be implemented to address happiness in the workplace. At the subjective level, efforts can be made to enrich human experiences such as well-being, contentment, satisfaction, hope, and optimism (Glicken & Robinson, 2013). At the individual level, a focus on developing positive traits such as capacity to love, courage, perseverance, forgiveness, and originality can be fostered (Glicken & Robinson, 2013). Lastly, at the organizational or group level, the civic virtues of responsibility, altruism, civility, tolerance, and work ethic should be encouraged (Glicken & Robinson, 2013). The preventative methods of the positive psychology approach to happiness in the workplace are effective tools to ensure that trust between the employer and the employee is not broken. If that trust is broken, the organizational stressors that the worker experiences in the workplace may forever alter the worker's happiness and their associated quality of life.

2.3 Quality of Life

The term "satisfaction of life" often correlates to "quality of life" in the sense that life satisfaction is a global assessment of a person's quality of life (Diener, Emmons, Larsen, Griffin. 1985). The correlation between a person's quality of life and life satisfaction can be explained as prudential happiness, or a state of "well-being" (Sirgy, 2012). This general state of "well-being" is the basis for naming the survey section "quality of life", because we aim to investigate happiness as it manifests in the workplace.

Measuring our respondents' answers relating to their quality of life is important and relevant to our research because in today's society, individuals spend a significant amount of time in their place of work. Therefore, when analyzing their perceived quality of life, it is necessary to determine how the industry in which one is employed can impact this measurement (Veenhoven, 2013).

2.3.1 Quality of life in the workplace: Variables such as industry volatility, job security,

and unstable working conditions can affect a person's quality of life and overall satisfaction. Individuals having a higher quality of life and those who are happier, are more likely to be open to organizational change, share ideas with team members, and take less time off from work, which are all beneficial to the individual and their employer (Youssef & Luthans, 2007).

A subset of our research questions is intended to investigate potential relationships between industry type, industry volatility, and one's perceived quality of life. By asking questions related to workplace satisfaction, we can attempt to make a distinction between overall satisfaction of life and workplace happiness.

3. Methodology

The methodology to address our research objectives involves (i) a description of the survey instrument design, (ii) an explanation of the survey distribution method and target population sample, and (iii) an overview of the analysis plan to derive insights from the survey results. The final survey instrument administered to the sample group is in the Appendix of this document.

The survey instrument was designed to measure four specific categories of questions related to demographics, optimism, happiness, and satisfaction of life. Apart from the demographic questions, the other question categories were borrowed from previous research to ensure the instrument was effectively targeting the right questions to provide measurable results.

The demographic questions in the survey instrument were developed to provide insights into the similarities and/or differences between those who answered "Yes" and those who answered "No" to our primary research question - "Has the recent downturn in commodity prices had a negative impact on the outlook of your industry, your company, or your career?" For the purpose of our research, the "Yes" response indicates a volatile industry, while a "No" response indicates a relatively stable industry. We focused on basic demographics such as sex, age, and marital status but also included specific questions such as what industry they work in, income level, highest education level, and length of time in current employment. Our demographic questions were designed to provide a basis for drilling down into the optimism, happiness, and

quality of life measurements as derived from the survey instrument.

3.1 Measuring Optimism

The survey questions in the optimism category were sourced from Scheier, Carver, & Bridges' (1994) research on optimism, and specifically the Life Orientation Test Revised version (LOT-R). However, we revised some of the questions to represent work-related feelings of optimism versus pessimism to allow for a more accurate industry and work related survey. The 10 questions in the LOT-R are designed to identify feelings of optimism or pessimism and comprised of three questions that measure optimism, three that measure pessimism, and four that are to gauge optimism and pessimism (Scheier, Carver, & Bridges, 1994). Survey respondents are asked to rate each item on 5-point scale with the following choices: 0 = strongly disagree, 1 = disagree, 2 = neutral, 3 =agree, and 4 = strongly agree (Scheier, Carver, & Bridges, 1994). We added phrases to the original LOT-R such as "in my professional industry", "as it relates to my employment" and "in my current job" to make the connection to our research questions more relevant.

3.2 Measuring Happiness

The survey questions in the happiness category were derived from the research related to happiness and its role in boundary-spanning positions (Crosno, et al., 2009). Survey questions captured various aspects of happiness including role ambiguity, burnout, job satisfaction, and performance. These questions were borrowed from Rizzo, House, & Lirtzman (1970), but were slightly altered to direct respondents to answer from an employment perspective, to align with our primary research objective. These responses were ranked on a five-point Likert scale.

3.3 Measuring Quality of Life

The questions in the quality of life component of the survey were borrowed from Dieners, Emmons, Larsen, & Griffin's (1985) research on the Satisfaction with Life Scale. Understanding the measure of overall satisfaction in life is imperative because it can help indicate a person's rationale in determining life happiness in their career. This scale can be used to measure elements of life satisfaction, including quality of life (Diener, Emmons, Larsen, & Griffin, 1985).

The outcome of the Satisfaction of Life survey questions should provide a comprehensive interpretation of how a person may look at changing jobs or careers in a time where lack of job security exists. However, if a person is truly happy in their life, they might possibly have a stronger desire to change jobs since optimism is stronger. The survey respondents are asked to complete five quality of life questions with the five-point scale; 0 = strongly disagree, 1 = disagree, 2 = neutral, 3 =agree, and 4 = strongly agree.

3.4 Survey Distribution, Target Sample and Data Collection

The survey was distributed through personal email, LinkedIn, and other forms of social media to a convenience-sample group, also known as availability sampling. This means we reached out to a group of people who were conveniently available to us via social media and outlets and other professional contacts (Sauders, Lewis, & Thornhill, 2012). Within that survey group, based on our professional contacts, the majority of respondents were working-age adults employed, or previously employed, in the energy industry, in the United States and Canada. The survey was presented to over 1,000 individuals represented in this target group resulting in approximately 253 responses being collected. We are aware that many sectors in the energy industry are currently experiencing the impacts of sustained low commodity prices and the responsive actions by organizations such as layoffs, downsizing, and other forms of restructuring that affect people. While the current state of the market represents the potential for bias in our research, it also presents a unique opportunity to capture the actual impacts, in terms of any measurable levels of optimism and happiness, of employees working in these sectors and currently feeling these impacts in real time. The research is extremely timely to assess the current commodity sector downturn and it is our hope that the research will provide insights that can help organizations as the energy sector moves into future boom and bust periods.

The results from the 253 survey respondents were exported to an Excel based model where scales on optimism, happiness, and life satisfaction were measured and compared across industry volatility exposure and demographic data points. We have gathered all of our survey results and used Microsoft Excel functions and analytical approaches in order to determine whether there is a statistical significance between the demographic answers by our survey respondents and their level of optimism, happiness and satisfaction of life.

The data was collected using an electronic survey instrument provided by Google Docs. The data from the survey was exported from Google Docs into an MS Excel based model. The total sample size of our data set is derived from 253 completed surveys from individuals in the convenience sample.

Once data collection was complete, we scrubbed the data set for missing data and outlier data. Fortunately, for our research team, each of our completed survey instruments were correctly populated and no missing data was identified. As a result, there was no need for mean substitution or other data assumptions.

Our analysis of the survey responses focused on two distinct groups of respondents based on our key question – "Has the recent downturn in commodity prices had a negative impact on the outlook of your industry, your company, or your career?" Respondents who answered "Yes" to this question are grouped together with their respective scores pertaining to happiness, optimism, and satisfaction of life, and then analyzed based on various demographics. The same process was then applied to the data set of respondents who answered "No".

The data sets from the two distinct groups of respondents, the "Yes" group and the "No" group, are compared using t-tests to assess whether the means of the two groups are statistically different from each other.

The 253 survey results for all four question categories – happiness, positive optimism, negative optimism (pessimism), and quality of life – were scored on a five-point Likert scale, with negative optimism being reverse scored (i.e. 1 = Strongly Agree, as opposed to 5). To qualify for a t-test calculation, the demographic group is required to have at least 20 responses in order to be statistically significant. While this did disqualify some demographic characteristics from being further analyzed, the results allowed the research team to perform a host of t-tests on various groupings, comparing those within a grouping who answered, "Yes" to the research focus question – "Has the recent downturn in commodity prices had a negative impact on your industry, company, or career?" – With those who answered "No", for each of the categories of questions (happiness, optimism (2), and quality of life).

4. Results

Figure 1

Survey Results – Demographic Breakdown

Demographic	Subgroup	Yes	No
Downturn effect	Yes/no	129	124
Gender	Male	102	89
	Female	27	35
Age	18-35	81	54
	26-35	67	51
	36-45	32	45
	36+	48	70
Marital status	Married	83	83
	Single	42	26
Education level	Bachelors	56	47
	<Bachelors	43	38
	Masters+	30	35
Income	$0-$100,000	56	57
	$100K-$150K	43	43
	$150,000+	30	24
Industry	Energy	92	32
	Not Energy	37	92
Length of career	0-5 years	51	40
	6-10 years	41	36
	11+ years	37	48
Position	Mid-level	37	43
	Professional	51	46
	Senior level+	32	30

4.1 Statistical Significance

We performed t-tests using a one-tailed distribution and a two-sample unequal variance heteroscedastically on each of the four question categories for all various demographics who qualified with at least 20 responses, which was 23. Thus, a total of 92 t-tests were performed, which are detailed below in Figure 2. T-test results equaling .05 or less highlighted in green as they are statistically significant.

		Responses		Survey Component T-Stat Results			
Measurement	Demographic	Yes	No	Happiness	Optimism (Pos)	Optimism (Neg)	Quality of Life
Downturn effect	Yes/No	129	124	0.34	0.000	0.002	0.051
Gender	Male	102	89	0.28	0.000	0.014	0.023
	Female	27	35	0.40	0.099	0.027	0.310
Age	18-35	81	54	0.24	0.000	0.003	0.084
	26-35	67	51	0.42	0.001	0.009	0.222
	36-45	32	45	0.31	0.049	0.320	0.169
	36+	48	70	0.49	0.093	0.228	0.209
Marital status	Married	83	83	0.33	0.006	0.061	0.043
	Single	42	26	0.04	0.006	0.008	0.456
Education level	Bachelor's degree	56	47	0.36	0.002	0.024	0.024
	Some college, no degree	31	38	0.38	0.004	0.008	0.009
	Master's degree	41	35	0.39	0.370	0.209	0.178
Income	$0 - $100,000	56	57	0.43	0.004	0.004	0.088
	$100K - $150K	43	43	0.21	0.007	0.053	0.195
	$150,000+	30	24	0.49	0.121	0.176	0.219
Industry	Energy	92	32	0.08	0.003	0.025	0.084
	Not Energy	37	92	0.42	0.038	0.013	0.091
Length of career	0 - 5 years	51	40	0.49	0.000	0.000	0.213
	6 - 10 years	41	36	0.08	0.424	0.107	0.411
	11+ years	37	48	0.35	0.019	0.354	0.050
Position	Mid-level	37	43	0.25	0.005	0.008	0.015
	Professional	51	46	0.45	0.028	0.030	0.288
	Senior level+	32	30	0.34	0.049	0.461	0.126

Figure 1: Demographics and t-test Results

The results from our survey produced interesting findings. Most notably, the strongest significance of both sets of optimism questions was from the "Yes/No" demographic, which is the heart of our research's focus. When looking at all 253 survey responses and separating them between "Yes" versus "No", the positive optimism significance was 0.000210 while the negative optimism t-test calculated a significance of 0.001514 (see below).

Demographic	Yes	No	H	OP	OR	Q
Yes/No	129	124	0.34	0.000210	0.001514	0.05

Figure 2: Optimism and Industry Volatility Correlation

An additional trend our group took notice of pertained to the demographics that showed no statistical significance for any of the four sets of questions, which were:

1. 36 years of age, or older
2. Obtained a masters or other advanced degree
3. Earned more than $150,000 per year
4. Had a career length between 6-10 years

The first three of these demographics are often characteristics of individuals who are thought to be more successful, accomplished, and smarter than their contemporaries are. Of course, this is not to say that people who are younger than 36, do not have an advanced degree, or earn less than $150,000 are not successful, accomplished, or smart, but commonly people who do fit those criteria are thought to be so. Furthermore, this trend would have held true for four out of five demographic groups had the "senior level or executive positions not passed under the .05 threshold by 0.00123 points.

4.2 Research Insights

These results support our research hypothesis regarding the impact of commodity prices on individual's outlook for the future. Specifically, the results show that across various demographic categories there is a causal link between whether someone's career has been impacted by the recent commodity price downturn and their subsequent level of positive optimism. Recall that statistical significance is achieved when the t-stat score result comparing two groups on a particular demographic is less than 0.05. Some of the most interesting research findings are discussed below.

The following discussion presents the most notable results from our t-test calculations across the various demographic groups. While each of the 23 results are not discussed at length, two demographics from each main grouping (age, income level etc.) are detailed to highlight the similarities and/or differences within that grouping.

Yes/No	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
Yes	129	3.19	0.34	3.57	**0.00**	3.46	**0.00**	3.46	0.05
No	124	3.17		3.87		3.76		3.61	

Figure 3: Has the downturn in commodity prices negatively affected your happiness, optimism, and quality of life?

From the 253 respondents, 129 answered "Yes" to our primary question and 124 answered "No". The averages for those who answered "Yes" for Happiness, Optimism (positive), Optimism (negative), and Quality of Life were 3.19, 3.57, 3.46, and 3.46, respectively, while those who answered "No" had averages of 3.17, 3.87, 3.76, and 3.61, respectively. The t-test results were 0.34 for Happiness, 0.00 for Optimism (positive), 0.00 for Optimism (negative), and 0.051 for Quality of Life making the two Optimism scores statistically significant.

Gender	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
Male (Yes)	102	3.20	0.28	3.56	**0.00**	3.43	**0.01**	3.38	**0.02**
Male (No)	89	3.17		3.88		3.69		3.59	
Female (Yes)	27	3.17	0.40	3.62	0.10	3.57	**0.03**	3.74	0.31
Female (No)	35	3.19		3.84		3.93		3.65	

Figure 4: Gender

There were 102 males who answered "Yes" to our primary question and 89 who answered "No". For females, 27 responded "Yes" and 35 replied "No". The averages for males who answered "Yes" for Happiness, Optimism (positive), Optimism (negative), and Quality of Life were 3.20, 3.56, 3.43, and 3.38, respectively, while those who answered "No" had averages of 3.17, 3.88, 3.69, and 3.59, respectively. For females, the "Yes" score t-test results were 0.34 for Happiness, 0.00 for Optimism (positive), 0.00 for Optimism (negative), and 0.051 for Quality of

Life making the two Optimism scores statistically significant.

Age	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
26-35 (Yes)	67	3.14	0.42	3.54	**0.00**	3.39	**0.01**	3.50	0.22
26-35 (No)	51	3.15		3.91		3.74		3.62	
36+ (Yes)	48	3.19	0.49	3.65	0.09	3.67	0.23	3.48	0.21
36+ (No)	70	3.19		3.84		3.79		3.58	

Figure 5: Age

118 surveys were completed by individuals who were between the ages of 26 and 35, with 67 of these respondents answering "Yes" to our primary questions, and 51 answering no. Of those who answered "Yes", the average Happiness score was 3.14, the average Optimism (positive) and Optimism (negative) scores were 3.54 and 3.39, respectively, and the average Quality of Life score was 3.50. Those who answered "No" had average scores of 3.15, 3.91, 3.74, ad 3.62 across the same question categories and the resulting t-tests had scores of 0.42, 0.00, 0.01 and 0.22, making the two Optimism results statistically significant.

Coincidentally, the total number of survey takers who were at least 36 years of age was also 118, but with 48 answering "Yes" and 70 answering "No" to our primary research question related to the downturn in commodity prices. Both averages for Happiness were 3.19. For Optimism (positive), the individuals who answered "Yes" had an average of 3.65, while those who answered "No" averaged 3.84. For Optimism (negative) and Quality of Life, the breakdown was 3.67 ("Yes") and 3.79 ("No") and 3.48 ("Yes") and 3.58 ("No"), respectively. The t-test score for Happiness was 0.04, Optimism (positive) was 0.01, Optimism (negative) was 0.01, and Quality of Life was 0.46, making the first three results statistically significant.

Marital status	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
Married (Yes)	83	3.17	0.33	3.60	**0.01**	3.57	0.06	3.57	**0.04**
Married (No)	83	3.19		3.86		3.76		3.75	
Single (Yes)	42	3.24	**0.04**	3.49	**0.01**	3.28	**0.01**	3.25	0.46
Single (No)	26	3.10		3.91		3.79		3.27	

Figure 6: Marital Status

166 of our survey respondents were married with half-answering "Yes" to our primary research question and half-answering "No". Alternatively, 68 were single and had never been married with 42 answering "Yes" and 26 answering "No". The averages for the Married ("Yes") demographic had averages of 3.17, 3.60, 3.57, and 3.57 for the four categories of questions, and the averages for the Married ("No") demographic averaged 3.19, 3.86, 3.76, and 3.75, respectively. The t-test score was 0.33 for Happiness, 0.01 for Optimism (positive), 0.06 for Optimism (negative), and 0.04 for Quality of Life for the four question categories.

Of the survey takers who were Single and answered "Yes", the averages were 3.24, 3.49, 3.28, and 3.25 for Happiness, Optimism (positive), Optimism (negative), and Quality of Life, respectively, while those who answered "No" scored averages of 3.10, 3.91, 3.79, and 3.27. The resulting t-tests showed statistical significance of 0.04 for Happiness and 0.01 for both Optimism sets of questions, while the t-test result for Quality of Life was not statistically significant at 0.46.

Income	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
$0 - $100,000 (Yes)	56	3.21	0.43	3.41	**0.00**	3.21	**0.00**	3.24	0.09
$0 - $100,000 (No)	57	3.20		3.76		3.62		3.43	
$150,000+ (Yes)	30	3.09	0.49	3.84	0.12	3.77	0.18	3.62	0.22
$150,000+ (No)	24	3.09		4.06		3.97		3.76	

Figure 7: Annual Income Level

A total of 113 results were tallied from people who make less than $100,000 per year, and 54 who make more than $150,000 per year. Of those who make less than $100,000 per year, 56 answered "Yes" to our main research question and 57 answered "No". The average scores for the "Yes" respondents across Happiness, Optimism (positive), Optimism (negative), and Quality of Life were 3.21, 3.41, 3.21, and 3.24, respectively, whereas the "No" group had averages of 3.20, 3.76, 3.62, and 3.43 across the same question categories. The t-test scores for the four groups of questions were 0.43, 0.00, 0.00, and 0.09 making both sets of Optimism questions statistically significant. For the highest earners in terms of salary per year, 30 answered "Yes" to our primary research question and 24 answered "No". The "Yes" group had average scores of 3.09, 3.84, 3.77, and 3.62 for Happiness, Optimism (positive), Optimism (negative), and Quality of Life where the "No" bracket scored averages of 3.09, 4.06, 3.97, and 3.76 across the same question categories.

None of the resulting t-test scores showed statistical significance as Happiness tallied a 0.49, Optimism (positive) recorded a 0.12, Optimism (negative) notched a 0.18, and Quality of Life scored a 0.22.

Education	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
Bachelors (Yes)	56	3.24	0.36	3.46	**0.00**	3.40	**0.02**	3.39	**0.02**
Bachelors (No)	47	3.21		3.85		3.72		3.68	
Masters+ (Yes)	41	3.16	0.39	3.76	0.37	3.70	0.21	3.71	0.18
Masters+ (No)	35	3.18		3.81		3.85		3.54	

Figure 8: Highest Level of Education

113 of the individuals who took part in our survey obtained at least a bachelor's degree, 56 answered "Yes" and 47 answered "No" and 86 had earned a master's or some other type of advanced degree (41 answered "Yes" and 35 answered "No"). The average results for the bachelors "Yes" demographic across the four question categories were 3.24, 3.46, 3.40, and 3.39. For the bachelors "No" demographic the averages were 3.21, 3.85, 3.72, and 3.68 for Happiness, Optimism (positive), Optimism (negative) and Quality of Life, respectively. T-test results showed statistical significance in the latter three with scores of 0.00, 0.02, and 0.02 while Happiness did not show statistical significance with a result of 0.36.

Of those who answered "Yes" in the advanced degree grouping, the averages were 3.16, 3.76, 3.70 and 3.71 for the four sets of questions while those who answered "No" had averages of 3.18, 3.81, 3.85, and 3.54. None of the t-tests for the advanced degree demographic showed statistical significance as the Happiness result was 0.39, the Optimism (positive) was 0.37, the Optimism (negative) was 0.21, and the Quality of Life was 0.18.

Industry	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
Energy (Yes)	92	3.19	0.08	3.55	**0.00**	3.47	**0.03**	3.48	0.08
Energy (No)	32	3.09		3.93		3.78		3.66	
Not energy (Yes)	37	3.19	0.42	3.60	**0.04**	3.44	**0.01**	3.41	0.09
Not energy (No)	92	3.20		3.84		3.75		3.59	

Figure 9: Energy vs. Non Energy

We had a total of 124 respondents who worked in the energy industry, with 92 answering "Yes" to our primary research question and 32 answering "No". The averages for Happiness, Optimism (positive), Optimism (negative) and Quality of Life for those who answered "Yes" were 3.19, 3.55, 3.47, and 3.48, respectively. For the individuals who answered "No" to our primary research question, the average scores for the same four question categories were 3.09, 3.93, 3.78, and 3.66. Similar to those who were between 26-35 years of age, there was statistical significance in the t-test scores for Optimism (positive) and Optimism (negative) with scores of 0.00 and 0.03, respectively, while Happiness and Quality of Life were not statistically significant with both having scores of 0.08.

We had 37 respondents who did not work in the energy industry but answered "Yes" to our primary research question, and 92 who answered "No" for a total number of 129 responses. Those who answered "Yes" had averages of 3.19, 3.60, 3.44, and 3.41 for the four groups of questions, and those who answered "No" had averages of 3.20, 3.84, 3.75, and 3.59. Just like the t-test results for those who work in the energy industry, both sets of Optimism questions showed statistical significance with results of 0.04 and 0.01, while Happiness had a t-test score of 0.42 and Quality of Life had a result of 0.09 making these two not statistically significant.

Length of career	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
2 - 5 years (Yes)	51	3.17	0.49	3.48	**0.00**	3.31	**0.00**	3.38	0.21
2 - 5 years (No)	40	3.17		3.99		3.92		3.51	
6 - 10 years (Yes)	41	3.20	0.08	3.80	0.42	3.59	0.11	3.61	0.41
6 - 10 years (No)	36	3.10		3.82		3.79		3.64	

Figure 10: Length of Employment in Current Industry

91 of our test takers had been in their industry for 2-5 years with 51 answering "Yes" and 40 answering "No" to our main research question. The averages results for Happiness, Optimism (positive), Optimism (negative) and Quality of Life was 3.17, 3.48, 3.31, and 3.38 for those who answered "Yes" while it was 3.17, 3.99, 3.92, and 3.51 for those who answered "No", respectively. The t-tests had scores of 0.49, 0.00, 0.00, and 0.21 for the four sets of questions.

There was no statistical significance in the t-tests for those who had been in their current

industry for 6-10 years with scores of 0.08, 0.42, 0.11, and 0.41 for the four sets of questions. 41 of these respondents answered "Yes" to the main research question with the averages being 3.20, 3.80, 3.59 and 3.61 for Happiness, Optimism (positive), Optimism (negative) and Quality of Life, respectively. Alternatively, there were 36 respondents out of the total of 77 who answered "No" with average scores of 3.10, 3.82, 3.79, and 3.64 for the four sets of questions.

Position	# of results	Happiness		Optimism (positive)		Optimism (negative)		Quality of life	
		Average	T-test	Average	T-test	Average	T-test	Average	T-test
Mid-level (Yes)	37	3.25	0.25	3.32	**0.00**	3.33	**0.01**	3.18	**0.02**
Mid-level (No)	43	3.20		3.67		3.75		3.55	
Senior level+ (Yes)	32	3.11	0.34	3.86	**0.05**	3.81	0.46	3.69	0.13
Senior level+ (No)	30	3.15		4.16		3.83		3.85	

Figure 11: Level within the Organization

Lastly, a total of 80 survey takers had a mid-level position at their company, with 37 answering "Yes" and 43 answering "No" to our primary research question. The averages for the "Yes" group for Happiness, Optimism (positive), Optimism (negative), and Quality of Life were 3.25, 3.32, 3.33, and 3.18, respectively. Those who answered "No" had averages of 3.20, 3.67, 3.75, and 3.55 for the same groups of questions. This resulted in t-test scores of 0.25, 0.00, 0.01, and 0.02 with each group of questions being statistically significant, other than Happiness.

We had a total of 62 respondents who had a least a senior level position at their company, with 32 answer "Yes" and 30 answering "No" to our main research question. The "Yes" group had averages of 3.11, 3.86, 3.81, and 3.69 for the four question categories, while the "No" group had averages of 3.15, 4.16, 3.83, and 3.85. This resulted in t-test scores of 0.34 for Happiness, 0.05 for Optimism (positive), 0.46 for Optimism (negative) and .013 for Quality of Life, meaning Optimism (positive) was the only statistically significant result.

5. Discussion

The various t-tests results generated from our survey instrument indicated that an individual's level of Happiness was not directly linked to the industry type in which the person is

employed (t-test=0.34). This result is above the statistical significance threshold of 0.05. However, the t-test results on the Optimism (Positive) survey results suggested that for the majority of the demographic categories analyzed, with the exception of the outliers mentioned previously, those employed in volatile industries were less optimistic than their counterparts who self-reported they were employed in more stable industries by answering "No" to our primary survey question. The opposite was true for the t-test results for Pessimism or Optimism (Negative). The t-test results for most of the demographic group with the exception of the outlier group discussed above, showed that people working in industries defined as volatile and therefore impacted by commodity prices, were more pessimistic regarding their employment outlook than those who were employed in more stable industries. The t-test results from the Quality of Life survey responses from the "Yes" and "No" groups were more diverse. Specifically, survey respondents self-reporting their highest level of education as "some college, no degree" exhibited a statistically significant t-stat result on the measurement of Quality of Life. This is intuitive because it implies that those with a lower level of education are more impacted by the downturn in commodity prices, and has the potential to impact their quality of life as they may experience layoffs or pay cuts.

The Optimism (Positive) and the Optimism (Negative) t-test results provide strong real-world evidence that the research hypothesis we proposed is more than likely true. In our search for comparable research regarding this hypothesis, we were unable to find historical research addressing the same question.

Our survey question was specific, as it asked about the recent commodity price downturn. For this reason, we believe that the results uncovered by the survey and the t-tests point to the recent commodity downturn as the main attributing factor to reported levels of Optimism (Positive) and Optimism (Negative) as uncovered by our t-test results. The severity of the current commodity downturn has impacted individual's level of optimism related to their careers. We were unable to find comparable research to either support or dispute this finding.

Based on our survey results, it is apparent that age and length of time in workforce is a major factor in determine an individual's optimistic or pessimistic outlook for the future. Specifically, respondents in the "greater than 36 years of age" group, did not exhibit a statistically significant t-test result for any of the four survey question categories. This finding may be

intuitive since education level and level within the organization also generated similar results: those with higher education levels and in higher positions in their organizations indicated that their level of optimism was not as greatly affected as other representative groups in the survey data. Perhaps, this group has "experience" on their side since they most likely have been through downturns before, have the work experience, and education level required to maintain job security through tough times, and have the financial wherewithal to make it through a commodity downturn period.

Men and women show unique results related to their ability to maintain an optimistic outlook, regardless of commodity prices, and an impact on one's career. Females were one of five unique demographic categories that did not show a statistical significant t-test score in the Optimism (Positive) set of survey questions. This result prompted additional questions related to the other demographic categories that did not exhibit t-test scores that were statistically significant on the Optimism measurements such as the women, that were older than 36, had masters or higher levels of education, and earned over $150,000 per year.

While there is ample literature, which addresses the likes and dislikes of workers towards their employment, there is far less literature related to gender differences regarding job satisfaction (Johnson, McClure, & Schneider, 1999). The differing perspectives of job satisfaction among men and women in the workplace has been analyzed in numerous studies. Despite this, this research seems to suggest very few gender differences in terms of job satisfaction (Johnson, McClure, & Schneider, 1999). Furthermore, based on eleven different job satisfaction studies, statistically different responses between men and women were not conveyed in the results. For example, significant differences between men and women in terms of salary, job satisfaction, and whether or not they would start their career over in the same sector were not discovered in these studies (Johnson, McClure, & Schneider, 1999). This research seems to support our findings that gender differences were not statistically significant in determining happiness or optimism in the workplace.

Our original research scope intended to answer this important question: Do low happiness and optimism levels translate to individuals taking actions, such as intending to change jobs or even change industries? However, upon revisiting our survey instrument we concluded that we were unable to provide clarity on the correlation between unhappiness and pessimistic

feelings and individual's decision to search for new job or change their industry of employment. Future research should develop better instrumentation and analyses in order to answer this specific question on the relationship between these two variables.

6. Conclusions and Limitations

As previously mentioned, this research was based on a survey that used convenience sampling. This was mainly due to a shortened deadline and lack of funds that would be needed for larger sampling. This led to a large portion of the respondents being in similar demographics and industries as our team, and limited the diversity of data collected. Ideally, random sampling would have been used to allow for responses from outside our direct reach, including international respondents, which were not represented in this data. Additionally, as seen in the data collected, 124 respondents were from the energy industry and 129 were from other industries. Of those 129, the industries represented were so widespread that we were not able to collect statistically significant data from other groups, such as medical, defense, finance, manufacturing, etc. as a direct comparison. When it comes to commodity price cycles, some individuals are more educated and aware of the market than others, which could potentially lead to misleading research data. A person's knowledge of their industry drivers, such as the price of oil, active drill rig count, overall industry employment rates, etc. could have a large part in their feelings toward a specific industry, however a lack of knowledge could similarly do the same, which is not something we were able to quantify or analyze.

Lastly and potentially most importantly, we recognize that workplace happiness is different from overall life happiness, but the two can never be fully isolated. Circumstances in a respondent's personal life could weigh heavily on their workplace outlook, even though the workplace did not drive those emotions. This is part of human nature that must be acknowledged and accepted in a study like this, but can never be eliminated.

It should be noted that this survey was conducted after a prolonged "bust" period in the oil & gas industry. November 2014 marked the beginning of this downturn, and this survey was distributed in November 2016, a full two years into to one of the worst commodity downturns in

memory. If this survey were repeated in the middle of a "boom" cycle, these results could be vastly different and lead to conclusions not found in this paper.

We believe that if another team were to tackle this subject in the future, there are survey items that could be addressed to build an even stronger case for the relationship between optimism, happiness, and various industries. For example, our research indicates that happiness levels among men and women vary drastically. Even more specifically, there is a disparity between energy and non-energy careers when comparing happiness levels. Further research might indicate additional detail to the differences within the energy sector among specific demographic areas. A more detailed review in specific demographics could be done to further understand a correlation between these levels of happiness and optimism and other factors considered. This additional research study would be helpful in determining if there are learnings in certain business segments within the energy industry, which could be useful for human resources when developing items such as career ladders, and mentoring and coaching junior employees in their development.

A person's optimism, which we showed to be directly related to industry, can impact their future career plan decisions. In the future, teams should be prepared to analyze whether this has an impact on career selection or will the optimism of a related industry drive a person to seek new employment in their industry. This secondary approach to the research is helpful in determining what employee segment is likely to make a larger change and seek out a more stable industry. Lastly, this topic could be even further useful in a down economy or a volatile time in any industry that researchers choose to evaluate. Regarding the observation that individuals with more career tenure, higher income, and higher education tend to be less susceptible to the volatility within an industry, we believe this warrants its own study. This observation may imply that those individuals who have more life experience, more stability from a financial perspective, and have achieved a higher level of education understand that a commodity downturn event does not impact their ability to maintain a positive outlook on the future in terms of their careers and quality of life expectations. Specifically, reviewing results of those who have earned a bachelor's degree or less in their life, we notice that levels of happiness, optimism, and quality of life in this group may be directly attributed to their job or industry and was affected by the downturn in commodity prices.

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Appendix 1

Survey Instrument

Happiness & Optimism Workplace

Please answer the following questions:

* Required

Age *
- 18-25
- 26-35
- 36-45
- 46-55
- 55+

Gender *
- Male
- Female

Marital status
- Single, never married
- Married
- Separated
- Divorced
- Widowed

What is your highest level of education?
- Some high school, no diploma
- High School
- Some college, no degree
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree

Income *
- $0 - $50,000
- $50,000 - $100,000
- $100,000 - $150,000
- $150,000 - $200,000
- $250,000 +

Ethnicity *
- White / Caucasian
- Black / African American
- Native American / American Indian
- Asian / Pacific Islander
- Hispanic / Latino
- Middle Eastern / North African

In what industry do you work? *
- Energy
- Medical
- Defense
- Finance
- Manufacturing
- Service
- Other :

If in the energy industry, which category best describes wl you work?
- Upstream oil & gas
- Midstream oil & gas
- Downstream oil & gas
- Regulated electricity
- Deregulated electricity
- Renewable energy
- Other : _____

How long have you worked in your current industry? *
- Less than 1 year
- 1 - 2 years
- 2 - 5 years
- 6 - 10 years
- 11 - 20 years
- 20 + years

What Is Your Position *

- ○ Entry Level
- ○ Professional
- ○ Mid-level
- ○ Senior level
- ○ Executive

Has the recent downturn in commodity prices had an negative impact on your industry, company, or career? *

- ○ Yes
- ○ No

Happiness

Please select how much you agree or disagree with each statement

I feel certain about how much authority I have at my job *

- ○ Strongly disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly agree

I have clear, planned goals and objectives for my job *

- ○ Strongly disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly agree

I know what my responsibilities are at my job *

- ○ Strongly disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly agree

I know exactly what is expected of me at my job *

- ○ Strongly disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly agree

I feel fatigued when I get up in the morning and have to face another day on the job *

- ○ Strongly disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly agree

I feel burned out from my work *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I feel frustrated by my job *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I feel very energetic *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I can easily create a relaxed atmosphere with my coworkers *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I feel exhilarated after working closely with my coworkers *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I feel I treat some coworkers as if they were impersonal "objects" *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I don't really care what happens to some coworkers *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I feel coworkers blame me for some of their problems *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

All in all, I'm satisfied with my job *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

In general, I like working for my company *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

In general, I do not like my job *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I would rate my overall job performance as: *

- Well below average
- Slightly below average
- Average
- Slightly above average
- Well above average

Optimism

Please select how much you agree or disagree with each statement

In uncertain times, in my professional industry, I usually expect the best *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

It's easy for me to remain stress free regardless of the state of my industry *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

If something can go wrong, in my job, it will *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I'm always optimistic about my professional future *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I enjoy my coworkers *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

It's important for me to keep busy in my current job *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I hardly ever expect things to go my way, as it relates to my employment *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I don't get upset too easily, as it relates to my industry's outlook *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

I rarely count on good things happening to me, from a work perspective *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Overall, I expect more good things to happen to me than bad *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Quality of Life

Please select how much you agree or disagree with each statement

In most ways my life is close to my ideal *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

The conditions of my life are excellent *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

I am satisfied with my life *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

So far I have gotten the important things I want in my life *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

If I could live my life over, I would change almost nothing *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree