The relationship between first-year university students' academic self-concept and lifelong learning tendency

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Abstract

Not all first-year university students possess the academic self-concept necessary for an effective transition from high school to university. This may impact their aptitude for learning so negatively that their engagement in lifelong learning (LLL), a prerequisite for success at and beyond university, may be limited. Therefore, the relationship between self-concept and LLL tendency is critical. This paper aims to describe this relationship among Arab first year university students. 149 students (77 males and 72 females) in two consecutive courses were involved in the study. Data were collected using two surveys, one on students' self-concept, and another on their LLL tendency. Comparisons were made to determine whether gender and courses attended played a role in students' academic self-concept and LLL tendency. The relationship between academic self-concept and LLL tendency was also analyzed. Results showed that students possessed a relatively high academic self-concept and that their LLL tendency scores were higher than the scale midpoint. The female students' scores for academic effort (a sub-scale of self-concept), and for curiosity (a sub-scale of LLL), were comparatively higher than those for males. The courses attended did not make a significant difference in students' perception of their academic self-concept; however, students in the second level course scored higher for self-regulation, a sub-scale of LLL, therefore receiving a slightly higher rating for LLL. Results also indicated a positive relationship between self-concept and LLL scores. The association between the academic effort and self-regulation domains of the scales was noteworthy. Recommendations are made to enhance students' academic self-concept and LLL tendency, with an aim to strengthen the relationship between the two concepts.

لا يمتلك جميع طلاب السنة الأولى في الجامعة مفهوم الذات الأكاديمي الضروري للانتقال الفعال من المدرسة الثانوية إلى الجامعة. قد يؤثر هذا على استعدادهم للتعلم بشكل سلبي لدرجة أن مشاركتهم في التعلم مدى الحياة (LLL)، وهو شرط أساسي للنجاح في الجامعة وخارجها، قد يكون محدودًا. ولذلك، فإن العلاقة بين مفهوم الذات واتجاه LLL أمر بالغ الأهمية. تهدف هذه الورقة إلى وصف هذه العلاقة بين طلاب الجامعات العرب في السنة الأولى. شارك في الدراسة 149 طالبًا (77 من الذكور و72 من الإناث) في دورتين متتاليتين. تم جمع البيانات باستخدام مسحين، أحدهما عن مفهوم الذات لدى الطلاب، والآخر عن اتجاه LLL. أجريت مقارنات لتحديد ما إذا كان الجندر والدورات التدريبية قد لعبت دوراً في مفهوم الطلاب الأكاديمي الذاتي واتجاه LLL. كما تم تحليل العلاقة بين مفهوم الذات الأكاديمي واتجاه LLL. أظهرت النتائج أن الطلاب يمتلكون مفهومًا ذاتيًا عاليًا نسبيًا، وأن درجات ميلهم للغة الإنجليزية كانت أعلى من منتصف النطاق. كانت نتائج الطالبات الإناث للجهد الأكاديمي (مقياس فرعي لمفهوم الذات)، وفضول (مقياس فرعي من LLL)، أعلى نسبيا من تلك بالنسبة للذكور. لم تؤد الدورات التي حضروها فرق كبير في إدراك الطلاب لمفهومهم الذاتي الأكاديمي؛ ومع ذلك، فإن الطلاب في دورة المستوى الثاني حصلوا على درجات أعلى في التنظيم الذاتي، وهو مقياس فرعي لـ LLL، وبالتالي حصلوا على تصنيف أعلى قليلاً لـ LLL. أشارت النتائج أيضا إلى وجود علاقة إيجابية ضعيفة بين مفهوم الذات ونتائج ال LLL. كان الارتباط بين الجهد الأكاديمي ومجال التنظيم الذاتي في المقاييس جديرًا بالملاحظة. لذا نوصي بأهمية لتنمية مفهوم الطلاب الأكاديمي الذاتي واتجاه ال LLL، بهدف تعزيز العلاقة بين المفهومين.

Introduction

The transition from high school to university can be a challenging experience. Changes in daily routine together with professors' high expectations may be overwhelming for some students (Deveci & Ayish, 2017). *Self-concept*, defined as

> a self-description judgment that includes an evaluation of competence and the feelings of self-worth associated with the judgment in question in a specific domain (Pajares & Schunk, 2005, p. 105),

manifests itself in students' new academic lives in a variety of ways. Educational institutions often design activities to develop the self-concept of first-year students in particular. These activities help students adapt to tertiary education, requiring them to be active agents in their own learning process inside and outside the classroom, as well as in the future beyond their university studies. Being active agents in their learning is linked to students being lifelong learners; and the relationship between self-concept and lifelong learning requires closer attention. However, it appears that this relationship is often taken for granted and has not attracted much interest from researchers.

Regarded as centers of knowledge production and dissemination, universities are expected to offer students lifelong learning opportunities (Kehm, 2001) and to incorporate lifelong learning skills in their curricula. However, students' low self-concept may inhibit their involvement in these opportunities; as a result, universities' efforts to cultivate lifelong learning skills in students may be hampered. This may be the case for first-year students in particular. Therefore, it is essential that instructors be mindful of newly admitted students' self-concept and lifelong learning tendency, designing instructional interventions accordingly. Such an approach to teaching first-year students will support their academic self-concept, and encourage immersion in a variety of learning experiences. An increase in students' academic self-concept and willingness to participate in more learning experiences may have positive effects on their peers' learning, too, given the nature of many university courses which require students to collaborate with each other. However, if first-year students do not possess the necessary skills for self-directed learning, both their own and their peers' learning will be inhibited (Ayish & Deveci, 2018). In this paper, I first discuss the relationship between academic self-concept and lifelong learning, and then present the results of a study aiming to investigate the relationship between first-year students' self-concept and lifelong learning tendency in the UAE context. I also offer recommendations to strengthen the relationship between these student capacities through purposefully developed teaching activities, so that students' learning experience at and beyond university can be more enjoyable and rewarding.

Literature review

Self-concept

An attempt to define self-concept requires a definition of the notion of the self. However, the real nature of the self has been argued to be undefinable as the self cannot be differentiated from its manifestations (Kohut, 1977 as cited in Siegel, 1996). Despite this, the answer to the question 'Who am I?' gives indications of what the self is (Myers, 2009). The answer may include our physical characteristics (our "outer self" – Ferguson, 2013) and psychological characteristics (our "inner self"). According to Baumeister (1999), our *beliefs about ourselves*, including personal attributes as well as who and what we are, determine our self-concept.

Self-concept is context-dependent and can, therefore, only be understood by considering the context of the person is involved (Mercer, 2011). Among the various types of self-concept, two major ones are non-academic and academic. The former is related to a person's perception of himself/herself in non-academic contexts (Suntonrapot, Auyporn & Thaweewat, 2009) such as social, physical, moral, ethical, personal and familial aspects (Fin & Ishak, 2014). On the other hand, the latter refers to what

> a student believes about his or her academic ability and how his or her academic standing can be comparable to his or her academic peers' (Srivastava & Joshi, 2011, p. 332)

Liu and Wang's (2005) study of the literature on self-concept led them to identify two sub-scales of academic self-concept: *academic confidence* and *academic effort*. The former refers to students' feelings and perceptions about their academic competence, while the latter refers to students'

commitment to and involvement and interest in schoolwork. Liu and Wang (2005) used these two-subscales to give their operational definition of academic self-concept as

> [s]tudents' [self-]perceived academic competence and their commitment to, and involvement and interest in schoolwork, as indicated by their responses to the items in the academic confidence and academic effort subscales. (p. 21)

Liu and Wang operationalized this definition in their study with Asian learners, but I consider this definition to be appropriate also for the student profile covered in the current study.

One's academic self-concept is positively affected by success attained at school (Marsh & Yeung, 1997), which in turn has an impact on the student's motivation for learning and academic undertakings (Prince & Nurius, 2014). Academic self-concept also affects the amount of effort students put into learning endeavors, how persistent they are in the face of learning challenges, their approaches to tackling these challenges with the help of others, and their overall motivation for learning (Bong & Skaalvik, 2003).

Furthermore, Bryce, Frigo, McKenzie and Withers (2000) note that academic self-concept is comprised of aspects including verbal self-concept, mathematical self-concept, and a general school self-concept. Over time, learners become increasingly aware of various self-concepts and differentiate between subject specific self-concepts. As a result, they are likely to become more positive about themselves in certain subjects compared to others.

The relationship between non-academic and academic self-concept has also received considerable attention. It has been noted that

> individuals with a higher perception of self in the aspects of personal, family, morality and ethics, physical and social may believe more in their academic ability and level of academic achievement. (Fin & Ishak, 2014, p. 187)

It is also argued that the non-academic self-concept is likely to have a greater influence on learners' academic performance when academic achievements are related to their character, behaviour and social orientations (Damrongpanit, Reungtragul & Pittayanon, 2009). However, the current study left non-academic self-concept outside its scope. The main reason for this is the cultural context in which the study was conducted; that is, within the Emirati culture, it is often thought to be inappropriate to ask individuals questions related to their personal lives, families, and moral and ethical orientations. As an expatriate instructor, I would feel particularly uneasy asking Emirati students about these aspects of their lives – even more so as a male instructor with female students. Also, within the context of Emirati educational institutions, discussions on such topics often bring up religion since it has a major influence on almost every aspect of Emirati life; and instructors are usually advised to refrain from discussing religion with students.

Lifelong learning and self-concept

Considering learning as a continuous endeavor in and outside of the formal classroom throughout one's life span, it may be seen as a lifelong striving. This approach to learning as a lifelong endeavor is inherent in the following definition:

> [A]ll learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective. (Commission of the European Communities, 2001, p. 9)

It can be inferred from this definition that for individuals to be lifelong learners their acquisition of

> the knowledge, values, skills, and understanding … throughout their lifetimes [should be accompanied by a skill of] apply[ing these] with confidence, creativity, and enjoyment in all roles, circumstances, and environments. (Longworth & Davies, 2013, p. 22)

Coşkun and Demirel (2012) conducted an extensive literature review on different aspects of lifelong learning skills that university students would normally require. Their effort collected a number of skills under certain themes, which they subjected to factor analysis conducted with data from 700 university students from seven different universities. The results revealed four sub-domains: motivation, perseverance, self-regulation, and curiosity. Collectively, these provide an indication of students' perceived tendency for lifelong learning, pointing to skills they seem to possess and/or have deficiencies in. Following Coşkun and Demirel (2012), this study defines the 'lifelong learning tendency' as students' inclination and self-perceived preparedness for engaging in lifelong learning activities through the use of motivation, perseverance, self-regulation, and curiosity skills. This definition, I believe, reflects characteristics of university students involved in both Coşkun and Demirel's study and this current study. Their students were from the Turkish context, while those in the current study were in the UAE context. Both countries are Middle Eastern countries with relatively comparable religious and cultural traditions as well as similar approaches to learning and education. Therefore, members of these countries may be expected to exhibit similar attitudes towards lifelong learning, despite the existence of certain differences (Deveci, 2014).

Although individual members of society should be provided with institutional support in their attempt to pursue lifelong learning experiences, it is mainly the learners themselves who are supposed to assume responsibility for learning. Therefore, their perception of which skills they already have and which ones they need to improve and/or acquire plays a key role in their succeeding in their lifelong learning endeavors. Perhaps, it is the skill of 'learning to learn' which they first need to develop. 'Learning to learn' is defined by the European Commission (2007) as

> the ability to pursue and persist in learning, to organize one's own learning, including through effective management of time and information, both individually and in groups. (p. 8)

The Commission warns that for effective use of this ability, learners need to be cognizant of their learning needs and available opportunities and have appropriate strategies for overcoming any obstacles they face during the learning process.

The increasing amount of responsibility put on the shoulders of learners points to the role of 'self-directedness' in learning. Knowles (1975) states that self-directed learners

> take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes. (p. 8)

Self-directed learners' aptitude for and skill in taking responsibility for initiating and guiding their own learning journey is also at the heart of lifelong learning, which could take place in many settings including in one's work-place, local community, home, through the media, etc. (Muongmee, 2007), as well as in a variety of formats (formal education, informal learning, non-formal learning, etc.). Together these point to the fact that

> if a person develops a will to learn, has a skill to learn, is motivated to learn, and has a supportive environment to learn, he[/she] would have [many] opportunit[ies] and be able to initiate and guide himself[/herself] to learn. (Muongmee, 2007, p. 39)

Equipped with the ability to analyze problems and identify learning needs and the ways in which they could be best addressed, self-directed learners will be more able to commit themselves to learning again and anew throughout their lifetimes even when they are no longer involved in formal training programs (Muongmee, 2007). This is at the very heart of lifelong learning.

Knowles (1992) also points out that learners' self-concept progresses from teacher dependence to self-reliance and self-directedness as they mature. One implication of this is that (young) adults with greater maturity, as compared to children, need to have their awareness raised about their own self-directedness characteristics, and they should be assisted in taking more responsibility for their own

learning. However, as is also discussed above, students with low academic self-concept will be hindered from developing themselves as lifelong learners. Knapper and Cropley (2000) reiterate this by saying that a lifelong learner "possesses a self-concept conducive to lifelong learning" (p. 47).

Zargar and Ganai (2014) draw attention to the role of self-concept in a person's understanding of his/her own existence and life, and caution that a lack of understanding of oneself may result in lower self-concept. They also note that

> a student's memory, reasoning, problem solving, thinking, understanding, recall, recognition, perception, attention and memorization ...are [all] influenced by his[/her] self-concept. (p. 24)

A lower self-concept, therefore, can easily impact a learner's cognitive development in formal educational settings as well as his/her enthusiasm for engagement in learning outside and beyond school. A learner with low self-concept likely lacks the motivation required for engagement in lifelong learning endeavors. Therefore, lifelong learning opportunities provided by governmental and non-governmental agencies will fail to reach such individuals. However, should learners' academic self-concept be high, they will remain focused and try hard to succeed (Biney, 2015); furthermore, they will be more likely to engage in lifelong learning activities than those with low self-concept.

In research conducted among 9,658 high school students in the USA, Prince and Nurius (2014) found that improvement in students' academic self-concept had a positive impact on their future-oriented academic aspirations. They also found that such improvement makes it more likely that students will access counselor guidance for educational purposes. Similarly, Marsh and Martin (2011) found that an enhancement of academic self-concept stimulates other desirable educational outcomes. Indeed, academic self-concept has a predictive relationship with future personal interests (Fryer, 2015), increasing the likelihood of a student with high academic self-concept becoming immersed in greater lifelong learning experiences.

My teaching context and rationale for the study

This research was conducted at the Petroleum Institute (PI), now a part of Khalifa University of Science and Technology in Abu Dhabi, United Arab Emirates. The curricula across the PI emphasize the importance of lifelong learning skills for students' college studies as well as for their future professions. To this end, the university houses a variety of support programs, one of which is the Communication Department (CD) where this research was initiated.

In their first year of study at the PI, students are required to take two CD courses (COMM101 & COMM151). These courses focus on building academic literacy skills through practical application of critical thinking, problem solving, and academic communication skills. Overall, the courses are skills-based courses with a holistic approach. What is meant by "holistic" is that

> a broad range of skills, aptitudes and knowledge [...] work in combination to accomplish a real world task successfully [... and] language elements and skills are taught in combination to achieve the communication aims determined by the type of projects students are engaged in. (Deveci & Nunn, 2018, p. 29)

Students taking CD courses work individually and in teams conducting projects on topics relevant to their experiences as freshmen. Their involvement in a project assignment engages them in situations where they need to learn and practice a variety of 'soft skills'. These include curiosity skills that help them develop interest in the issues by which they or others in their immediate surroundings are confronted. Another skill is related to accessing sources of information that assist them in understanding their chosen topics. They are also required to collect primary data to increase their understanding of the issues with an overall aim of developing recommendations to help resolve them. The teamwork they engage in throughout the process also requires development of the kinds

of communication skills necessary for successful completion of their assigned tasks (Deveci & Nunn, 2018). This often entails them using effective intrapersonal and interpersonal communication skills, one of which is conflict-resolution. Collectively, this process requires students to develop and use lifelong learning skills (Deveci & Nunn, 2017), which are explicitly indicated in the course learning outcomes (CLO) together with performance indicators in the syllabi for both courses. Core CLOs and performance indicators common to both courses are summarized in Table 1.

Despite the heavy focus on lifelong learning skills in both courses, relatively little attention has been paid to students' propensity and preparedness for the seemingly challenging skills expected of first-year university students. Having just been exposed to a semester-long, project-based course, students in the second course may be expected to have increased their aptitude for lifelong learning as they have matured academically. Yet a plethora of skills is required for one to be an efficient lifelong learner. Students need continuous and extended support for their development as lifelong learners. Therefore, it is necessary to monitor students' preparedness continuously. I acknowledge the fact that it is not always easy to measure how good students are at lifelong learning skills with particular assessment tools, but we, as faculty, need to be mindful of student preparedness for lifelong learning and the ways in which their preparedness levels can be increased. We attempt to monitor and assess our students' lifelong learning skills using generic tools such as their literature review assignment, student course reflections, and their engagement in discussion on learning-related issues in teacher-student consultation sessions; however, given the nature of lifelong learning skills, our attempts only provide an indication of how students develop during the course of one academic year. The challenge becomes more pronounced when the institution aims to remain accredited by the Accreditation Board for Engineering and Technology (ABET). According to the third criterion adopted by ABET, engineering students need to have "recognition of the need for, and an ability to engage in life-long learning" (2014, p. 3). However, no guidelines are provided relative to defining the term or determining how it could be assessed. This causes an institution to rely on the faculty's expertise in their given disciplines and common sense to figure out how best to introduce the idea to students, gear teaching towards it, and assess it using different instruments. The latter, however, is a formidable challenge.

Table 1: Course learning outcomes and performance indicators.

Course Learning Outcomes After completing this course, the student will have:	Performance Indicators
1) participated effectively and professionally in a team.	a) make useful and effective contributions to process and products. b) collaborate and cooperate.
2) engaged in independent study and the development of lifelong learning skills.	a) locate and organize topic-relevant sources of information about a specified topic from the library and/or the World Wide Web. b) demonstrate reflective and critical thinking skills.

The nature of project-based courses puts students at the center of the learning process so that they assume greater responsibility for their learning. The required self-directedness for this may not be acquired easily, especially for students who come from a traditional teacher-centered educational background. Past research in the UAE suggests that rote-learning and deductive teaching in public schools inhibit students' development of the very critical thinking skills essential for lifelong learners (Thabet, 2008). Previous research in the PI also showed that freshman students' critical thinking skills are limited (Deveci & Ayish, 2017). This has been noted by the UAE government as a significant factor inhibiting students' chances of taking full advantage of their university studies (Evans, 2014). As well, students' academic self-concept is closely related to their lifelong learning tendency. It has

been noted that Emirati children's autocratic upbringing may encourage them to develop a dependent self-concept as they approach their youth (Abu-Hilal & Bahri, 2000); therefore, they may not be ready for lifelong learning experiences when they start their tertiary education.

Young people experience intensive physical, mental, emotional, social and psychological changes during their adolescent years (Hernandez, 2017). Together with these changes, recent technological developments may alter young people's self-concept significantly. As a result, their orientations towards learning are often impacted. Despite the significance of this, the hypothetical relationship between self-concept and learning orientations has not been studied empirically. This study aims to do this. An investigation into the developments in students' self-concept at the end of a project-based course can provide a greater understanding of this development, which may be considered as a prerequisite for, or a result of, engagement in academic endeavors. By identifying students' lifelong learning aptitudes after some experience of project-based courses, some light may be shed on students' preparedness for engagement in self-directed learning. This is related to the lifelong learning skills the PI wishes to cultivate in students.

As is indicated above, PI students' engagement in lifelong learning is a university requirement. This necessitates students having a genuine aptitude for academic studies, which is often affected by their academic self-concept. Therefore, the complementarity between learners' lifelong learning aptitude and academic-self-concept plays a key role in their learning journey throughout life. Considering this, the current study aims to answer the following research questions:

1) a) What is the first-year Petroleum Institute students' academic self-concept?

   b) Is their self-concept different according to gender and current course attended?

2) a) What is their lifelong learning tendency?

   b) Is their lifelong learning tendency different according to gender and current course attended?

3) a) What kind of relationship exists between students' academic self-concept and their lifelong learning tendency?

   b) Is this relationship different according to gender and current courses attended?

Methodology

Participants

A total of 149 first-year Emirati students participated in this study. Of this number, 83 (56%) were registered in the first course (COMM101), and 66 (44%) were registered in the second course (COMM151). Seventy-seven (52%) of the students were male, and 72 (48%) were female. Their ages ranged between 18 and 22, with the mean age of 19.

Data-gathering instrument

The instrument used to gather data for this study comprised three sections, presented in English only. The first section collected demographic data including students' gender, age, and current project course. The second section was related to academic self-concept. For this purpose, the Academic Self-Concept Scale (ASCS), developed by Liu and Wang (2005), was used. ASCS has two sub-scales: Academic Confidence and Academic Effort; each sub-scale is represented by ten items (see examples in Appendix). Given in a mixed fashion, the twenty-item ASCS scale included both negatively and positively worded statements; reverse scoring is applied for the former group of statements. Items 1, 3, 5, 7, 9, 11, 13, 15, 17, and 19 represent the Academic Confidence scale; items 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20 represent the Academic Effort scale. In this current study, Cronbach alpha coefficient for ASCS was calculated to be .77. The internal consistency coefficients of the sub-scales were as follows: Academic Confidence, $\alpha = .74$, and Academic Effort, $\alpha = .71$.

The third section of the instrument was related to lifelong learning orientations. In this section, the English version of the Lifelong Learning Tendency Scale (LLTS) (Deveci, 2014), originally developed by Coşkun and Demirel (2012), was used. A six-point Likert type scale, LLTS comprises four sub-scales: Motivation (six items), Perseverance (six items), Self-regulation (six items), and Curiosity (nine items). The minimum score one can get on the scale as a whole is 27 (indicating a weak orientation) while the maximum one can get is 162 (indicating a strong orientation). A medium score of 94.5 indicates a non-fixed orientation. The Cronbach's alpha internal consistency coefficient of the LLTS was found to be .89 by Coşkun and Demirel. In the current study, it was calculated to be .88. The internal consistency coefficients of the sub-scales were as follows: Motivation, α = .84, Perseverance, α = .76, Self-regulation, α = .65, and Curiosity, α = .79.

Procedures and analysis

Data were collected from COMM101 students during the last two weeks of the course and from the COMM151 students during the second and third weeks of the course. The students were given the two data-gathering instruments during class time by either their classroom teacher or myself. Participation was on a voluntary basis, and the students were assured that their responses would be kept confidential and used for research purposes only. They were also assured that their decision to participate or not to participate in the study would have no effect at all on their grades for the course. All the students that were present in the classes at the time participated in the study. They were given sufficient time to fill in the questionnaires, and they were allowed to use their dictionaries for any unknown words or consult their teachers when they required assistance for comprehension.

Data were analyzed using SPSS (Version 22), and various analyses were performed. Descriptive statistics such as mean, standard deviation (SD), minimum and maximum were used to describe the data collected. Student's t-test was used to compare data sets according to gender and courses attended. In addition, the Pearson product-moment correlation coefficient (r) was used to measure the strength of association between the ASCS and LLTS scores. A p-value at .05 was considered statistically significant in determining differences.

Results

The first research question aimed to describe the students' academic self-concept. The summary of results for this question can be seen in Table 2.

Table 2: Academic Self-Concept scores.

	Academic Confidence				Academic Effort				t	p
	Min.	Max.	x̄	SD	Min.	Max.	x̄	SD		
Whole Population (N=149)	21	47	38	4.47	22	49	39	4.7	-1.5654	.0592
Males (N=77)	24	47	38	4.59	22	48	38	5.14	-.6447	.26
Females (N=72)	21	46	38	4.36	25	49	39	4.16	-1.66	.0495
COMM101 (N=83)	21	46	38	4.72	25	49	39	4.69	-1.2857	.1001
COMM151 (N=66)	24	47	38	4.14	22	48	39	4.76	-.897	.1857

p<.05

Academic Self-Concept comprises two sub-scales: Confidence and Effort. As shown in Table 2, the students' scores for the former varied between 21 and 47 with a mean of 38. Similarly, their scores for the latter varied between 22 and 49 with a mean of 39. There was no statistical difference between these scores (p=.0592>.05). Both these scores are above the midpoint (25) on the sub-scales. These data indicate that the students' academic confidence and academic effort were both relatively developed.

When the male students' scores are considered, it is seen that their Confidence scores varied between 24 and 47 with a mean of 38, and their scores for Effort varied between 22 and 48 with a mean of 38. There was no statistically significant difference between these scores for males (p=.26>.05). On the other hand, the female students' scores for the two sub-scales differed at a statistically significant level (p=.0495<.05). Their scores for the first sub-scale varied between 21 and 46 with a mean of 38. However, the variation for their academic effort was less varied (25-49) with a slightly higher mean (39). Further analyses conducted between genders for Academic Confidence and Academic Effort yielded no statistical difference (p=.3512>.05 and p=.1083 respectively).

In regards to the course variable, the mean scores for both courses were quite similar in that their average scores were 38 for Academic Confidence, and 39 for Academic Effort. Moreover, there was no statistically significant difference between the two domains for either of the courses (p=1.1001>.05 and p=1.1857>.05). The analysis between the courses with regard to academic confidence and academic effort also yielded no statistically significant difference (p=.3012>.05 and p=.4273>.05, respectively).

The second research question was related to the students' Lifelong Learning tendency. Table 3 summarizes the results relevant to this question.

Table 3: Lifelong Learning scores.

Sub-scales	Lifelong Learning Scores (N=149)			
	Max	Min	x̄	SD
Motivation	17	36	30	4.2
Perseverance	10	36	25	4.9
Self-regulation	11	36	26	4.7
Curiosity	14	54	35	7.3
Scale as a whole	*59*	*160*	*117*	*16.5*

As can be seen in Table 3, the students' Lifelong Learning scores ranged between 59 and 160. The mean score was 117, which is above the midpoint of the scale (94.5). When the sub-scales are considered, it is seen that the students' mean scores were higher for Motivation and Curiosity (30 and 35 respectively) than for Perseverance and Self-regulation (25 and 26 respectively).

The students' Lifelong Learning scores were also analyzed according to gender. The results are summarized in Table 4 below.

Table 4: Lifelong Learning scores according to gender.

Sub-scales	Males (N=77)				Females (N=72)				t	p
	Min	Max	x̄	SD	Min	Max	x̄	SD		
Motivation	17	36	30	4.4	17	36	30	4.1	.0062	.4975
Perseverance	10	36	25	5.6	15	34	25	4.1	-.5632	.287
Self-regulation	11	35	26	4.9	13	36	27	4.5	-1.1714	.1216
Curiosity	14	49	33	7.6	19	54	38	6.5	-3.3784	.0004*
Scale as a whole	*59*	*147*	*114*	*17.5*	*87*	*160*	*121*	*15*	*1.978*	*.0249*

(*p<.05)

It is seen in Table 4 that the female students' mean score for the scale as a whole was higher than that of their male counterparts at a statistically significant level (p= .0249<.05). Coupled with the lower SD value (15 vs 17.5), this result may point to the female students' stronger motivation and preparedness for lifelong learning. When the sub-scales of LLTS are considered, it is seen that both genders received the same average scores for Motivation (30) and Perseverance (25) with no statistically significant differences between them (p=.4975>.05 & p=.287>.05). However, the significantly lower SD value for the female students' Perseverance score compared to that of the

male students (4.1 vs. 5.6) indicates less variation among the female students. The students' Self-regulation mean scores (26 & 27) were quite similar too, and there was a lack of statistically significant difference (p=.1216>.05). However, a marked difference was detected between the students' mean scores of Curiosity to the advantage of the female students (33 vs. 38). The t-test showed a difference at a statistically significant level (p=.0004).

The second research question also asked whether the students' lifelong learning tendency differed according to the courses they attended. The results are summarized in Table 5, showing that statistically there was no significant difference between the overall scores for the two courses (p=.0788>.05). Despite this, the higher SD value (17.2) for the first-level course compared to that of the second-level course (15.4) reflects a larger amount of variation in the former.

When the sub-scales of the instrument are considered, it is seen that the students' mean scores for Motivation and Perseverance were the same (30 and 25 respectively) on both courses, with a lack of statistical difference between the scores (p=.4055>.05 and p=.4141, respectively). However, the SD values for these sub-scales for the second course in comparison to the first one were lower (3.9 vs. 4.7 and 4.5 vs. 5.6, respectively). The case was similar with the Curiosity scores. Despite a lack of statistically significant difference between the scores for this sub-scale (p=.0973>.05), the COMM151 mean score was slightly higher than that of the COMM101 students (36 vs. 35). The noticeable difference between the SD values (6.6 vs. 8.3) also points to a wider variation in these COMM101 students' responses.

Table 5: Lifelong Learning Scores according to level of study.

Sub-scales	COMM101 (N=83)				COMM151 (N=86)					
	Min	Max	x̄	SD	Min	Max	x̄	SD	t	p
Motivation	17	36	30	4.7	20	36	30	3.9	-.2393	.4055
Perseverance	10	36	25	5.6	13	35	25	4.5	.2171	.4141
Self-regulation	11	36	25	5.3	13	36	27	4	2.9821	.0017*
Curiosity	14	54	35	8.3	19	51	36	6.6	1.303	.0973
Scale as a whole	*59*	*160*	*115*	*17.2*	*76*	*147*	*119*	*15.4*	*-1.420*	*.0788*

(*p<.05)

Table 5 also shows that the COMM151 students' self-regulation skills were different from those of the COMM101 students at a statistically significant level (p=.0017<.05). Although there was a two-point difference between the scores (25 vs. 27), the SD value was higher for the first level course than it was for the second level course (5.3 vs. 4).

The third research question was related to the connection between the students' academic self-concept and their lifelong learning orientations. Table 6 summarizes the results for this question.

The Pearson product-moment correlation coefficient computed to assess the relationship between Self-concept and Lifelong Learning scores for the whole sample revealed that there was a positive correlation between the two variables (r=.3049, n=149) at a statistically significant level (p=.0001>.05). Similarly, there were weak positive correlations between both male and female students' Self-concept and Lifelong Learning scores at statistically significant levels (r=.2694, n=77, p=.0178<.05 and r=.3049, n=72, p=.0035<.05, respectively). Regarding the course factor, although a positive correlation was detected for both COMM101 and COMM151 (r=.4031, n=83 and r=.1474, n=66, respectively), the difference was at a statistically considerable level *only* for the first course (p=.0001<.05), *not* for the second (p=.2375>.05).

A more detailed analysis was carried out to describe the relationships between the different domains of students' academic self-concepts and lifelong learning characteristics. Table 6 indicates weak positive correlations between Academic Confidence and the four sub-domains of LLTS. The correlation was at a statistically significant level for Motivation (r=.2545, n=149, p=.0017),

Perseverance (r=.2785, n=149, p=.0005), and Curiosity (r=.1867, n=149, p=.0226), but *not* for Self-regulation (r=.0678, n=149, p=.4113). Similarly, the strength of association between Academic Effort and the four LLTS sub-domains was positive, albeit weak. However, this time the relationships between the variables were always at statistically significant levels including Academic Effort and Self-regulation (r=.1896, n=149, p=.0205).

The analysis of the data according to gender indicated weak, positive correlations between the two self-concept domains and the four LLTS domains. However, in the case of the male students, the correlation was at a statistically significant level *only* for Academic Confidence with Motivation (r=.2545, n=77, p=.0017), and for Academic Confidence with Perseverance (r=.2785, n=77, p=.0005). On the other hand, more of the associations between the variables were at a statistically significant level for the female students. These included Academic Confidence with Perseverance (r=.2482, n=72, p=.0355); Academic Effort with Motivation (r=.3139, n=72, p=.0072); Academic Effort with Perseverance (r=.3794, n=72, p=.001); and Academic Effort with Curiosity (p=.4152, n=72, p=.0002).

Table 6: Pearson product-moment correlations of Self-concept and Lifelong Learning orientations.

Sub-scale pairs	Whole sample (N=149)		Gender				Course			
			Males (N=77)		Females (N=72)		COMM 101 (N=83)		COMM 151 (N=66)	
	r	p	r	p	r	p	r	p	r	p
Academic Confidence/ Motivation	.255	.002*	.366	.000*	.121	.312	.393	.000*	.033	.793
Academic Effort/ Motivation	.176	.032*	.082	.480	.314	.007*	.254	.020*	.069	.538
Academic Confidence/ Perseverance	.279	.001*	.300	.008*	.248	.036*	.375	.000*	.114	.363
Academic Effort/ Perseverance	.267	.001*	.201	.080	.380	.001*	.334	.002*	.172	.120
Academic Confidence/ Self-regulation	.068	.411	.136	.238	-.023	.848	.019	.845	.130	.297
Academic Effort/ Self-regulation	.190	.021*	.187	.104	.175	.122	.269	.014*	.076	.494
Academic Confidence/ Curiosity	.187	.023*	.201	.080	.165	.165	.268	.014*	.040	.752
Academic Effort/ Curiosity	.237	.004*	.093	.422	.415	.000	.294	.007*	.156	1.22
Self-concept/ Lifelong learning	*.3050*	*.000**	*.270*	*.018**	*.305*	*.003**	*.403*	*.000**	*.147*	*.238*

* p<.05 (2-tailed)

In the case of COMM101 students, there were weak, positive correlations between the two sub-domains of Academic Self-concept and the four sub-domains of LLTS. The correlation was at a statistically significant level for Academic Confidence with a) Motivation (r=.3932, n=83, p=.002); b) Perseverance (r=.375, n=83, p=.004); and c) Confidence (r=.2682, n=83, p=.0142. However, there was a lack of a statistically significant level of association between Academic Confidence and Self-regulation (r=.019, n=83, p=.8446). On the other hand, all the relationships between Academic Effort and the four LLTS sub-domains were at a statistically significant level including Self-regulation. There were no significant relations among responses for the COMM151 students.

Discussion

This research had three main aims: first, to describe the first-year Petroleum Institute students' academic-self-concept, then to describe their lifelong learning tendency, and then to identify any possible relationship between the two. Regarding the former, it was found that the students` average Academic Confidence score was 38, which indicated a relatively developed academic self-concept. When Srivastava and Joshi's (2011) definition of academic self-concept is considered, this result provides some indication that the participants, as first-year university students, tended to have a positive belief about their academic abilities and how their academic standing compared to their peers. One possible reason for this may have been the recent vigorous university enrollment process they had been through. Having achieved a milestone in their lives may have increased their confidence in their academic abilities with an overall positive effect on their academic self-concept. Considering the reciprocal relationship between academic self-concept and the effect of school success on students' motivation for academic undertakings (Prince & Nurius, 2014; Bong & Skaalvik, 2003), this result is not surprising.

The result related to the students' relatively developed academic self-concept is likely due to the nature of the Communication courses within which this study was conducted. Team-based aspects of the courses in particular may have increased students' academic effort and academic self-confidence. The former is possible because they may have been held accountable for the effort they put in their studies not only by themselves but also their team members. The expectation of the team members in terms of the quality of work produced likely encouraged all team members to make a greater effort on team assignments. The fact that some of the individual assignments also fed into team assignments may well have caused individual students to pay closer attention to the quality of the work produced, increasing their academic effort. The latter, on the other hand, may have been affected by the solidarity established among team members. The fact that the students received the same grade for the team assignments most probably led the students to provide assistance to each other when required. In the case of less able students, this peer assistance likely increased these less-able students' confidence in themselves. This points to the effects of team members on the development of self-concept. Brandt and Dimmitt (2015) indicate that this type of peer-instruction allows for student-centered learning environments in which instructor-controlled expositions are avoided in favor of active learning. They also note that peer-assisted learning helps address individual needs through both individual and team-based activities, allowing for "meaningful and relevant open-ended problems through which they can create, acquire and connect with knowledge" (McCombs, 1997, as cited in Brandt & Dimmitt, 2015, p. 12). This, according to them, supports critical and creative thinking abilities. Furthermore, improvements to students' higher-order thinking skills have been shown to enhance their self-esteem (Pilevarzadeh et al., 2014) and self-confidence (Alzoubi et al., 2016; Lambright, 1995).

When the data were analyzed considering the gender variable, it was seen that the male students' average scores for Academic Confidence and Academic Effort were both 38. On the other hand, the female students' average scores for the two sub-scales were different at a statistically significant level (38 and 39 respectively). The variation for their academic effort was less varied than that for their academic confidence. This data indicates that the female students not only achieved a fairly positive academic confidence, but they also reported an increase in their efforts in academic endeavors. These findings support the results of previous research indicating female students' tendency to have higher self-concept than male students (Pirmohamed, Debowska & Boduszek, 2017; Matovu, 2012; Liu, 2010; Liu & Wang, 2005). The increase was most likely caused by their relatively strong confidence in their academic abilities. Anecdotal evidence from the PI also indicates that female students tend to show comparatively more interest in their studies and put more efforts into their academic endeavors. In a previous study I found that female students at the PI tend to compare themselves to their male counterparts and feel disadvantaged in a traditionally male-

dominated field of work (Deveci, 2014). It may be this feeling that drives female students to try harder academically so that they can be on par with male engineers upon graduation from university. Female Emirati students' strong ambitions to be successful were also found in previous research (Hewlett & Rashid, 2010). Similar factors likely caused the female participants in this study to score higher for Academic Effort than their male counterparts. Despite this, effort may not always be an indicator of higher self-concept. Some learners may in fact make significant efforts believing they need to improve weaknesses instead of maintaining their strengths.

As for the course variable, the results were similar for both courses with no statistically significant difference between different data sets. Relatively new to tertiary education, first-year students may not have developed strong academic and non-academic relationships supporting their acquisition of desired academic self-concept and lifelong learning attributes. There is an increasing body of evidence showing that students' self-confidence is enhanced by contacts they establish with their faculty and peers (Boulter, 2002). Relationships with the former are essential since faculty can guide students in their studies. A lack of sufficient guidance, therefore, may result in lower self-concept in the case of students whose educational background is autocratic. The latter is also important since peers can provide a social-support system, which is particularly useful when faced with stressful situations caused by a failure to ameliorate the challenges of the university experience. In fact, another recent study we conducted in the PI showed that university students' confidence level was boosted by the sense of inclusion they experienced because of their engagement in social activities with their peers and their faculty (Deveci & Ayish, 2017). However, at this early stage in their university education, students may not have benefited from such experiences, especially if there is not a concentrated effort to build relationships with faculties and peers.

The second research question asked what the students' lifelong learning tendency was. Results showed that their average score for lifelong learning tendency was 117, which is above the midpoint of the scale. This indicates above average student preparedness for engagement in lifelong learning. This is similar to findings of two previous studies conducted at the PI (Deveci, 2014; Deveci & Tezcan, 2017). Both these studies identified scores that were slightly above the average score computed for the scale (110 and 109.6 respectively). Taken together, the results from all three of these studies indicate a relatively constant student profile within the context of the PI. The students' relative preparedness for engagement in lifelong learning, as indicated by their average score for LLTS, may have been influenced by the course learning outcomes as well as teaching and learning activities designed to meet these activities. One of the learning outcomes focuses students on engagement in independent study and the development of lifelong learning skills. To this end, students are expected to access relevant sources of information about their team research topics as well as seminar topics from the library and/or the World Wide Web. Students are first provided input sessions organized by the library in cooperation with instructors about searching for sources. In these sessions, they are taught about different kinds of sources and source evaluation. Following this, they conduct their search and write their individual team literature reviews. During this process, they ought to keep in constant contact with their team members to negotiate about the possible texts each member should read. They can consult their instructors as well as the library staff throughout the process. Subsequently, as a team, they are required to produce a literature review. In addition to consulting with their instructors, student teams engage in peer-reviews to produce a well-written literature review. The more effective their interpersonal communication skills throughout this process, the more likely they are to enhance their lifelong learning skills. Commission of the European Communities (2005) underscored the role of interpersonal communication skills in eight "key competences" in their reference framework for lifelong learning stating that individuals ought to be able to

> organize their own learning [...] through effective management of time and information, both individually and in groups, [requiring them to] share what they have learnt [...] and to seek advice, information, and support when appropriate. (p. 15)

The analysis of the data for the sub-scales of LLTS showed that the students' mean scores were higher for Motivation and Curiosity than for Perseverance and Self-regulation. This result indicates that the students were curious about learning in general and have been motivated to engage in lifelong learning experiences; however, their perseverance and self-regulation skills did not match their general interest. This is quite likely to limit successful, sustained lifelong learning involvement. These findings, too, match the results of a previous study conducted with Communication students at the PI (Deveci, 2014). This, again, suggests a relatively persistent student profile in the immediate context of the PI.

Furthermore, when the students' lifelong learning scores were analyzed according to gender, it was found that the female students' mean score for the scale as a whole was higher than that of their male counterparts. However, both the male and the female students received the same average scores for Motivation. Despite this, there was less variation in the female students' Perseverance scores. Also, there was a marked difference between the students' mean scores of Curiosity, to the advantage of the female students. Once more, these results reflect the findings of a previous study with a similar student profile at PI (Deveci, 2014); as well, they resemble the findings of studies with university students in other contexts (Çetin & Çetin, 2017; De Oliveira Pires, 2009; Narayanan, Rajasekaran & Iyyappan, 2007). These findings indicate that female students were more curious about acquiring knowledge and skills that may be directly or indirectly related to their studies than male students were. Learning seemed to be a stronger passion for these female students compared to the male students. This is further reflected in the students' scores for Academic Effort discussed above, which indicated greater effort put into their studies by the female students. Emirati female students' greater motivation for learning was also reported by earlier research (Semmar, 2006). Affected by financial and family factors such as securing economic welfare and finding a suitable husband (Abdulla, 2005), Emirati female students' comparatively higher motivation for learning may be an expected result.

The students' lifelong learning tendency was also compared according to the courses they attended. again no statistically significant difference was found between the overall scores for the two courses, probably because both groups of students were at a relatively early stage in their university education. It has indeed been noted that effective lifelong learning requires a variety of skills and types of knowledge in addition to changing attitudes towards learning across a lifetime; this is not always an easy task. It will take time and focused joint efforts to accomplish it (Government Office for Science, 2017). Lifelong learning often involves "action learning," which requires the acquisition and practice of practical skills to which one needs to allocate a considerable amount of time (Malone, 2014).

When the sub-scales of the instrument were compared, it was found that the students' mean scores for Motivation and Perseverance were the same on both courses. However, the lower SD values for these sub-scales for the second course suggest that the COMM151 students were less diversified in their orientations towards motivation and perseverance sub-skills. A similar finding occurred relative to the curiosity scores. Despite a lack of statistically significant differences between the scores for this sub-scale, the COMM151 mean score was slightly higher than that of the COMM101 students. The clear difference between the SD values also points to a wider variation in COMM101 students' responses.

A striking result was related to the COMM151 students' stronger self-regulation skills. Compared to the first level course, therefore, these students might be expected to have greater preparedness for taking the initiative to diagnose their own needs, set learning goals, identify the required resources and implement appropriate learning strategies (Knowles, 1975). Despite this, their overall score for

self-regulation was not particularly strong. This indicates that these students still need guidance, probably intensively so. It is also important to note that the SD value was higher for the first level course than it was for the second level course. This indicates that the data for the former group of students was widely spread; therefore, it can be suggested that their relatively high mean score may not be reliable and that *not* many of the students in this group are likely to have developed a strong aptitude for self-regulation skills. Collectively, these data give some indication of COMM51 students' relatively stronger inclination for lifelong learning experiences at the beginning of the second academic term. Their successful completion of COMM101 may have increased these students' motivation and preparedness (at least to a certain extent) for self-directed learning. It is likely that, with guidance, these students will learn to assume greater responsibility for enhancing their learning journey in a variety of settings (Muongmee, 2007) including those outside of the classrooms, formally, informally and non-formally.

The third research question asked what kind of relationship exists between the students' academic self-concept and their lifelong learning tendency, and if gender and courses attended played a role in this relationship. Results revealed that there was a weak positive correlation between the scores for ASCS and LLTS. Similarly, weak positive correlations were found between both male and female students' self-concept and lifelong learning scores at statistically significant levels. As for the course factor, a weak positive correlation was detected for both courses; however, the association was at a statistically considerable level for *only* the first course. Collectively, these data indicate a reciprocal relationship between students' concept of themselves as learners and their aptitude for lifelong learning.

Data analysis also revealed weak positive correlations between Academic Confidence and the four sub-domains of LLTS. The correlation was significant for Motivation, Perseverance, and Curiosity, but *not* for Self-regulation. This finding suggests that a higher degree of academic self-confidence was *not* a strong predictor of self-regulation skills. Likewise, the strength of association between academic effort and the four LLTS sub-domains was positive, but weak at statistically significant levels relative to academic effort and self-regulation. This indicates that students who possess self-regulation skills are more likely to make efforts in their academic studies, or vice versa. This lends credence to the argument that learners' high academic self-concept predicts greater involvement in academic pursuits and concentrated efforts to succeed (Biney, 2015). As is also noted by Prince and Nurius (2014) and Fryer (2015), students' high academic self-concept will help them develop academic and personal aspirations for the future. Such students will be more able to access guidance and support when necessary. This is an essential element of the self-directed learning which is required for engagement in sustainable lifelong learning.

The analysis of the data according to gender showed that the correlation between the male data sets was at a statistically significant level for *only* Academic Confidence with Motivation, and for Academic Confidence with Perseverance. In comparison, more of the associations between the variables were at a statistically significant level for the female students. Collectively these data indicate that the female students were more likely to develop meaningful associations between academic effort and lifelong learning skills than the male students. Again, this result could be attributed to the female engineering students' comparatively stronger eagerness for acquiring attributes and skills essential for success in a male-dominated field of work (Deveci, 2014). The evidence that females are fully capable of becoming successful engineers (Interesting Engineering, 2016) may further motivate these students to try harder academically.

In the case of COMM101, weak, positive correlations were identified between the two sub-domains of Academic Self-concept and the four sub-domains of LLTS. The correlation was at a statistically significant level for Academic Confidence with Motivation, Perseverance, and Confidence. No statistically significant level of association was identified between Academic Confidence and Self-regulation. Nonetheless, all the relationships between Academic Effort and the four LLTS sub-

domains were at a statistically significant level including Self-regulation. This suggests that there is a notable reciprocal relationship between students' lifelong learning propensities and their academic self-concept. However, it appears that students' use of self-regulation skills could be affected by their academic effort more than by their academic confidence. It is also possible that their eagerness in their studies will support the development of self-regulation skills. Compared with COMM101 data, COMM151 data revealed a lack of statistically significant association between the variables. Considering these students' comparatively longer stay at university, this is a surprising result. These students had been expected to have developed their academic self-concept upon successful completion of the first level course, and that the association between the variables would be stronger at statistically significant levels. Although these students' lifelong learning scores were higher than those of COMM101, their mean scores for academic confidence and academic effort were the same. This may indicate that students' engagement in their university studies, for even as short as one academic term, increases their aptitude for lifelong learning *despite* a lack of significant enhancement to their academic self-concept.

Conclusions and recommendations

In order for individuals to have a fulfilling life, it is important for them to be open to new learning experiences with the ability to draw meaning from them. This requires that they continuously seek new knowledge, incorporate it into their already existing body of knowledge, and use it to adjust their meaning schemes and perspectives as required. This entails the ability of pursuing and persisting in learning, as well as organizing learning (European Commission, 2007). Learning in this manner requires self-directedness involving initiative taking, diagnosing one's own learning needs, formulating relevant goals, identifying required sources, using appropriate learning strategies, and evaluating the whole learning process (Knowles, 1975). This is not to suggest that individuals should not benefit from others' expertise and experience of learning endeavors. These can in fact serve as learning resources. Such an approach to learning is compatible with lifelong learning, in that self-directed learners are more able to commit themselves anew to learning (Muongmee, 2007).

One's academic self-concept naturally plays a significant role in one's aptitude for self-directedness and, therefore, lifelong learning. Not only does high academic self-concept allow individuals to immerse themselves in a variety of learning experiences (Henderson, Hansen & Shure, 2017; Green et al., 2012), but it also has a positive effect on their communication with others (Sampthirao, 2016). Both of these factors positively affect individuals' involvement in learning throughout their lives. However, efforts to cultivate lifelong learners need to be concentrated and supported at organizational levels. To this end, universities can assume significant responsibilities, which necessitate laying the basis for lifelong learning among the learners by training them in lifelong learning competencies. This is easier said than done in the case of students newly admitted to universities who often lack a solid foundation compatible with self-directed learning. However, the results of this study showed that the students' academic self-concept and lifelong learning tendency were above the average. This is a promising result indicating these students' relatively strong aptitude for success in their academic studies and engagement in learning beyond the classroom. Furthermore, the positive association, albeit weak, between the concepts indicates that enhancement of one will positively affect the other. The association between the two concepts can be strengthened with the concentrated efforts of everyone involved, including individual students, instructors, university management, and other learning organizations in the wider community. Mindful of this, many universities offer their new students workshops and seminars through which they strive to "disseminate information and to create [the] purposeful experiences and activities to develop skills" (Deveci & Ayish, 2017, p. 5) essential for academic and social success in a challenging, new university environment. However, students' academic self-concept, positively associated with their lifelong learning skills should not be taken for granted. It is essential that students' perception

of their academic skills be identified and purposeful instructional interventions be developed to raise students' awareness of these skills. For this purpose, a simple use of self-reporting survey per se will not be sufficient. Instructors may also observe students' capabilities when they are asked to perform tasks requiring the use of these skills, and hold one-on-one discussions with students concerning their strengths and potential areas for improvement.

The second level course (COMM151) at the PI attempts to fulfill the afore-mentioned needs for instructional intervention through progress discussion meetings with the whole team. During these meetings, teams brief the instructor on their development with a critical view towards the tasks they have completed and those they are yet to complete. Although these meetings assist students in using their critical thinking skills to develop self-directed learning, more focused feedback can also be provided to student teams together and individual team members separately in term of lifelong learning skills they appear to be using successfully and other lifelong learning skills they may consider implementing. Also, wherever relevant they can be given positive feedback to enhance their academic self-concept. Considering the result of this study relative to the male students' lower score for academic effort in comparison to academic confidence, some feedback to these students could focus on strategies for putting extra effort into their studies. If students are convinced that a minimum effort will be unlikely to bring the best outcome and that they can achieve better with their existing level of academic confidence, they might be encouraged to try harder.

Reflective thinking/writing tasks asking students to report their previous experiences might be beneficial for increasing students' awareness of meta-cognitive skills they possess and need to develop. Similarly, reflective journals can be used to have students confront their beliefs and positions when they are asked to "provide reasons to justify what they think and show awareness of opposing positions while critiquing their own positions" (Deveci & Ayish, 2017, p. 296). Unless students require feedback on their reflective journals, their writing does not have to be seen by the instructor. This will help address the PI's Communication Department course learning outcome related to "students' engagement in independent study and the development of lifelong learning skills," for which one of the performance indicators is "demonstration of reflective and critical thinking skills."

Considering the interplay between high self-concept and engagement in lifelong learning endeavors, universities can also create opportunities for students to carry their learning experiences outside the university. Civic engagement projects taken up by student groups in particular may be an ideal venue for this. In fact, a 2009 study by the Association of American Colleges and Universities (as cited in Connor, 2016) showed that civic engagement projects give students an opportunity to make a difference in others' lives, helping them feel strongly about their presence and involvement in their communities. In another study (Brammer & Morton, 2014), college students reported the benefits of engaging in their communities by developing an understanding of the impact they can have on others, which in turn increased their civic responsibility to their communities. These experiences have also been shown to prepare students to be lifelong learners by developing their critical thinking along with their teamwork, cooperation and leadership skills (Dumas, 2002) through informal (Mündel & Schugurensky, 2008), hands-on (Reed et al., 2015), and participatory learning opportunities (Su & Feng, 2014). Also, lifelong learning institutions that involve civic engagement projects in their curricula reported positive effects on "increased enrolment, enhanced programme visibility, stimulating new educational activities and producing new leaders" (Hennessy, 2010, p. 157).

Support groups would also help develop students' high self-concept. Canfield (1990) states that giving students uninterrupted time to talk to each other (preferably different people every now and then) about their learning desires and experiences would make them feel less alienated, hence causing a healing effect. Under the scope of the Freshman Year Experience (FYE) program, PI students are provided with similar experiences outside of the classroom (Bielenberg et al., 2014). An

example of these is a day camp that involves a variety of team-building activities organized in a fun and engaging atmosphere. In this way, students are put in situations requiring them to tap into their own and other's creative thinking and lifelong learning skills, a result of which is a sense of integration with the larger university community. PI students are also put into cohorts according to their field of study and year at university. This allows them to share similar learning experiences, apprehensions, and joys, while further supporting their adjustment to tertiary education. Collectively, these are believed to enhance students' high self-concept and lifelong learning attributes.

In our previous research (Deveci & Ayish, 2017) prompted by the need to help students become aware of what enriches their lives as freshman students, we used reflective writing to have students think critically on their FYE experience. Results indicated that their engagement in FYE indeed improved academic self-concept by enhancing their self-confidence and the effort they put into academic endeavors. The interpersonal relationships they built played a key role in this. When this current research was conducted, PI's FYE had been drastically reduced, if not eliminated completely. Considering its effects on students' academic self-concept with a potential on self-directedness and lifelong learning tendency, similar initiatives could be reinstated.

These educational interventions, together with many others, may indeed give learners insights into different ways of making learning more meaningful and enjoyable. So long as learners build trust in their ability to learn, they will be likely to take the initiative to engage in learning activities throughout their lives. Only in this way can societies develop intellectually and economically, paving the way for happier citizens.

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Appendix

Sample survey items:

Academic confidence
I can follow the lectures easily
I am able to help my course mates in their school work

Academic effort
I day-dream a lot in lectures.
I often do my course work without thinking.

Lifelong learning:

Statement 5 (Motivation): *Learning new things all the time is a passion for me.*

Statement 12 (Perseverance): *Even if what I am trying to learn is difficult and confusing, I do my best to learn it.*

Statement 18 (Self-regulation): *I find it stressful to evaluate my own learning and this makes learning new things difficult for me.*

Statement 23 (Curiosity): *I do not spend time learning about something just because I am curious about it.*

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