

QATAR UNIVERSITY

COLLEGE OF EDUCATION

SELF-REGULATED LEARNING STRATEGIES AND COLLABORATION

PREFERENCES WHEN WORKING IN PROJECT TEAMS:

A CASE STUDY OF QATARI COLLEGE STUDENTS

BY

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ABSTRACT

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Title: Self-Regulated Learning Strategies and Collaboration Preferences when Working in Project Teams: A Case Study of Qatari College Students

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This study has investigated the nature of the strategies used and explored views on collaboration among Qatari tertiary students during their initial experiences in a project-based learning (PBL) environment. Theoretically, this study was embedded in a constructivist approach to learning and involves self-regulated and collaborative learning theories. Empirically, 21 students in their first term of a foundation program at the Community College of Qatar were interviewed about project teams' personal learning experience. Qualitative approach using interviews, identified patterns in the reported strategies students use in project teams and their perceptions of collaboration. Findings problematized the assumption that students coming from an educational background where lectures and individual work have been prioritized may not be able to naturally know how to collaborate in a team in PBL context. Findings have implications in education to promote project-based learning design for tertiary students in Arabic educational contexts.

DEDICATION

This thesis is dedicated to beloved people who have meant and continue to mean so much to me. To my father, who taught me the value of hard work. To my mother, who taught me how to appreciate struggles I face while taking it easy. To my five siblings and to my soulmate “Ahmad Shibli”, who always encourage me and make me smile!

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Chapter 1: Introduction

1.1 Background and problem formulation

Higher education institutions are facing changing global and national demands regarding the competencies students need to acquire during their studies and are facing many demands from industry professionals and societies that see problem solving, communication, and collaboration, among others, as important skills graduates should acquire. As Scott (2015) stated, is it internationally agreed that pedagogical strategies must consider the characteristics of nowadays' students, by addressing 21st century skills (The partnership for 21st century learning, 2007). Accordingly, research into student learning has expanded in recent decades (Pintrich P. , 2000; Bell, 2010; Biggs & Tang, 2011; Popov, et al., 2012; Zhao & Chan, 2014; Zhao & Zheng, 2014; Scott, 2015; Almajed, Skinner, Peterson, & Winning, 2016; Le, Janssen, & Wubbels, 2017; Wong & Leung, 2018).

Among all of the essential skills, collaboration is debatably the competence that learners need to adapt in higher education setting (The partnership for 21st century learning, 2007). In a higher education context, previous studies have documented that students encounter several problems during collaboration (Almajed, Skinner, Peterson, & Winning, 2016; Le, Janssen, & Wubbels, 2018). Furthermore, research studies have underscored that communication problems can cause problems for collaborative learning and prevent students from engaging or contributing to group work (Popov, et al., 2012; Almajed, Skinner, Peterson, & Winning, 2016). Biggs and Tang (2011) stated that students' skills in general, and collaboration in particular, are developed better when students adapt better learning strategies.

The Arab world is experiencing a multidimensional revolution that needs to be closely assessed. Last to participate in this academic boom have been the GCC

countries (Romani, 2009). In a society such as Qatar, the country is expected to transform to a knowledge-based economy and society following the national vision 2030 (Qatar General Secretariat for Development Planning, 2011). This demands changes in education as emphasized by the national vision, to align the educational curriculum with transition requirements (Qatar General Secretariat for Development Planning, 2011, p.124). Consequently, initiatives have been made to reform higher education in order to provide Qatari students with the required skills that will give students the skills to respond to this urgent call for change (Moini, et al., 2009). Students must particularly acquire 21st century students' skills (Educational Supervision Office - English Department, 2017).

Thus, it is believed that implementing various student-centered learning methods may help. Project-based learning (PBL), a methodology that has been documented as a manner to maximize students' active role in learning (Tinmaz, 2006; Bell, 2010; Scardamalia & Bereiter, 2011; Zhao & Zheng, 2014; Bansode, 2015; Almajed, Skinner, Peterson, & Winning, 2016), is receiving an increase of interest. International studies suggest that students engage in their learning when they create and complete projects, and they learn life skills such as problem solving, time management, responsibility, and collaboration (Wurdinger & Qureshi, 2014). Review of the literature in the higher education (HE) provides evidence that PBL is notably widespread across various discipline in different national contexts, including Engineering, Business Studies, Education and Information Technology (Harmer & Stokes, 2014). To cope with the new educational paradigm, one may propose that Qatari students should have an opportunity to develop the suggested 21st century learning and Qatar national education standards (Fadlelmula & Koç, 2016; Du, et al., 2016; Sabah & Du, 2018) via a PBL method.

It is argued that research on self-regulated learning strategies (Postholm, 2011; Mahmoodi, Kalantari, & Ghaslani, 2014; Şahin-Kızıl & Savran, 2016) and collaboration in learning (Chan & Chan, 2011; Zhao & Chan, 2014; Scott, 2015; Le, Janssen, & Wubbels, 2017) are encouraged in higher education. research studies have found that self-regulated learner are active participants in learning, and some researchers have conducted studies to understand self-regulation particularly in collaborative contexts (Law, Ge, & Eseryel, 2016). Besides, PBL is a research area in higher education in which it is established as a collaborative instructional model (Chan & Chan, 2011; Zhao & Zheng, 2014; Du, et al., 2016). Although the effectiveness of PBL has been reported in international literature (Thomas, 2000; Tinmaz, 2006; Bell, 2010; Scardamalia & Bereiter, 2011; Zhao & Zheng, 2014), there appears to be a shortage of studies on student project learning experience. Thus, as learning strategies are seen as influential factors on the current and future quality of a students' education (Biggs, 1987), and collaboration in education is emphasized and may be affected by the learning strategies students use (Biggs & Tang, 2011), especially in collective learning experience such as PBL, it is important to investigate students' initial experiences, learning strategies, and perceptions of project work.

While an excessive body of literature has documented the effect of PBL on students' learning in many countries and educational backgrounds, there is limited knowledge about how PBL's effect in Qatar. A recent study reported that medical students developed problem solving and communication skills in a PBL environment in Qatar (Du, et al. 2016). Another study reported how engineering students in Qatar developed deep learning and positive views on collaboration through PBL (Du, et al. 2019). Nevertheless, further studies are needed to gain insights in to how students learn in a PBL environment in Qatar. At Qatar University, PBL has become increasingly

popular based on its emphasis on collaboration and knowledge creation (Du, et al., 2016; Sabah & Du, 2018). However, there is little research reported on PBL practices in Qatar (Sabah & Du, 2018) and only little studies have reported experiences of Qatari students' project learning (Du, et al., 2016). Therefore, there is a demand for scholarship to explore what learning strategies that Qatari students use in project work, and how they perceive collaboration in college classes. Therefore, this study has aimed to investigate college students' learning strategies in project work and their collaboration preferences at a Qatari college. This study can contribute to the literature and fill the gap in knowledge about college students' self-regulated learning strategies in project work and their collaboration preferences. To this end, this study was carried out in a foundation program in order to investigate learning strategies in project work and collaboration preferences.

1.2 Research aims and questions

Knowing that students perform a desired skill (i.e., collaborate better) when they use independent learning strategies (Chan & Chan, 2011; Ibrahim et al., 2015), this study has aimed to investigate the strategies developed by Qatari tertiary students in Qatar, particularly in a PBL environment when working on project work. This study also explores how students perceive their initial experiences of collaboration on a team project. The following research questions have been addressed:

1. What are Qatari students' learning strategies in project work?
2. What are Qatari students' views about collaboration?

1.3 Significance of the study

This study intends to add to the PBL literature regarding how students develop self-regulated learning strategies and view collaboration on team projects or on project

work in a Qatari context. Results of the study could have implications for further PBL implementation practice in Qatar and in Middle Eastern contexts. This research is an exploratory study aiming to understand Qatari-tertiary students' initial experiences in the development of self-regulated learning strategies and assesses their views on collaboration. Nevertheless, this study does not intend to evaluate the effectiveness of implementing PBL or assess student learning outcome in PBL.

1.4 Organization of the thesis

This thesis is divided into five chapters. Following this introductory chapter, Chapter II presents the theories and the literature review about self-regulated learning strategies. First it provides definitions and common practices and then describes Pintrich' s SRL model of self-regulated learning. The chapter also presents collaboration theories in higher education, particularly project-based learning.

Chapter III presents the research methodology used in this study, starting with a description of the research context, the participants, and the data collection methods used, the research steps followed, and data analysis processes. The chapter ends with describing the ethical considerations in this study.

Chapter IV presents the results and findings of this study. The chapter begins by revising the originals research questions and lists all finding about SRL and collaboration preferences. The last chapter discusses findings of this study. This part concludes by providing some limitations of this study and gives several recommendations for future studies. References are listed at the end followed by Appendices that include the interview questions, institutional approval, ethical approval as well as informed consent statement.

Chapter 2: Theories and literature review

This chapter will present a study of the related literature on self-regulated learning and collaborative learning. It will also describe the theories behind these two aspects, including supportive studies that explored both aspects empirically.

1.2 Self-regulated learning

Learning is a predominantly cognitive function in human beings that initiates the development of new skills, values, understanding, and preferences (Cegielski, Hazen, & Rainer, 2011). As learning has been to subject to research by psychologists for over a century (Biggs & Tang, 2011), the literature has documented numerous specific concerns in relation to student learning, including how students approach learning and how they construct knowledge (Pintrich 2000; Zimmerman 1990). These concerns have directed educational researchers to identify key processes that students use to self-regulate their learning (Zimmerman, 1990; Pintrich, 2000; Biggs, Kember, & Leung, 2001; Cegielski, Hazen, & Rainer, 2011). Historically, the focus was on investigating how to drive individuals to pursue their own learning in their own ways. For example, Benjamin Franklin documented in detail how he taught himself how to write by setting learning goals and recording his daily progress. Franklin believed that this procedure furthermore served to improve his memory and the arrangement of his thoughts (Zimmerman, 1990).

According to Biggs, Kember, and Leung (2001), the conceptual framework of student approaches to learning (SAL) takes its point of departure from the “approaches to learning” concept. This framework is based on motive-intentions – i.e. why students learn – and strategies, meaning how they learn (Biggs & Tang, 2011).

Hereby, SAL draws mainly on the two theories of phenomenography and constructivism, which both show that SAL is an integral component of the educational system as a whole. This emphasizes the factors that have an influence before students enter the system and thus affect their motivation and learning outcomes; these include personal abilities and skills, prior knowledge, and their preferred learning strategy (Biggs & Tang, 2011).

In addition, Pintrich (2004) demonstrated that there are two distinct models that can be used to investigate students' motivation and their learning process when attending university, namely SAL and the information processing (IP) approach. These models show how students can become motivated and develop new learning approaches by employing different strategies. In addition, he indicated that current approaches to university learning have been based primarily on the IP model; however, he also showed that IP would be more accurately described as self-regulated learning (SRL). Contrary to this, other empirical studies have highlighted that SRL embodies greater control and the increased use of strategy, particularly with regard to taking a deeper and more inclusive view of student learning that encompasses such elements as cognitive and information processing as well as motivational, affective, and social contextual factors (Vermunt, 1996; Pintrich, 2004; Zhao & Zheng, 2014).

2.1.1 Definition of self-regulated learning

Pintrich (2000) argued that there are four assumptions shared by the majority of SRL models. The first common assumption is the "active-constructive assumption" (p. 452), which follows a general cognitive perspective (Zimmerman, 1990). Moreover, learners are expected to utilize the information available around them in the environment and in their own minds to construct goals, meanings, and strategies (Zimmerman, 1990; Pintrich, 2004).

The second assumption is “the potential for controlling” (Pintrich, 2000, p. 542). Learners in SRL model are assumed to be able to monitor, control, and regulate aspects related to their cognition, motivation, and behavior potentially. Pintrich clarified that this assumption does not confirm individuals’ ability to monitor or control their cognition, or behavior at all times or in all contexts. However, individual constraints, whether biological, developmental or contextual, can impede efforts at regulation.

The third assumption is “the goal, criterion, or standard assumption” (Pintrich, 2000, p. 542). SRL models assume that learners set criteria for comparison in order to assess their progress toward learning goals. Individuals are assumed to set their own learning goals, monitor progress to achieve those goals, and then regulate cognition, motivation, and behavior to maintain these goals’ accomplishment.

Lastly, Pintrich assumed that “self-regulatory activities are mediators between personal and contextual characteristics and actual achievement or performance” (p. 453). He explained that, according to this assumption, the reason of learner’s arbitrates the relations between self, context, and achievement is self-regulation of cognition, motivation, and behavior. Pintrich (2000) argued that achievement and learning can be influenced by many factors beyond individuals’ personal characteristics or cultural.

Similarly, Zimmerman (1986 in 1990) stated that SRL has been commonly understood to refer to the active, motivational, metacognitive, and behavioral participation by each individual in their own process of learning. He further elaborated that this metacognitive action is characterized by organizing thoughts, planning, setting goals, self-monitoring, and self-evaluation throughout the learning process. These processes also empower students to be knowledgeable, self-aware, and critical in their

learning approach. Meanwhile, students who are self-regulated are able to optimize their learning by choosing, shaping, and creating suitable environments, and they can also proactively seek information and advice as well as select their areas of interest.

Moreover, in order to define SRL, a simple observation of students who regulate their learning might help to establish the common characteristics of self-regulated learners. Such students possess self-awareness and are thus cognizant of when they know a fact. Self-regulated students are proactive who are able to seek information and take steps to master skills. In contrast to passive learners, those learners find a way to succeed when they come across obstacles as inconvenient study conditions, difficult teachers or textbooks. Self-regulated learners consider learning acquisition as a process under- control, where they are responsible for goal achievement (Zimmerman, 1990; Pintrich, 2004).

Research on SRL reveals some common features of most definitions of SRL, while referring to Zimmerman's (1990) list of features. First, is the regular use of cognitive, motivational and behavioral strategies. Zimmerman (1990) recommended to distinguish between self-regulation strategies and the self-regulation process. Clarifying that, self-regulated strategies refer more to actions, while processes are directed to information or skill acquisition. Moreover, Zimmerman (1990) stated that self-regulated learners can be distinguished from their classmates by their awareness of the relations between regulation process, learning outcomes, and the use of strategies to achieve academic goals.

The second feature is the cyclic process of monitoring the effectiveness of their learning methods or strategies, which is called the "self-oriented feedback loop". This loop requires learners to react to feedback in different ways, such as self-perception or

behavior adjustment to cope with the required change (Zimmerman,1990; Pintrich, 2004).

A third feature of self-regulated learning is the justification of how and why students choose particular strategy. Self-regulated learning involves temporally delimited strategies; therefore, students' efforts to initiate and regulate these proactively require preparation time, attention, and effort. Zimmerman argued that students are motivated to self-regulate when the outcome of their efforts is attractive.

In conclusion, SRL is the active and constructive process in which learners set goals for their own learning, monitor and control personal cognition, motivation and behavior, directed by goals sat and the contextual feathers (Pintrich, 2000).

2.1.2 Pintrich's SRL model

SRL has become one of the most important areas of research within educational psychology (Panadero, 2017). The literature has documented strategies for regulating and adapting learner motivation, metacognition, and behavior toward academic goals (Zimmerman, 1990; Pintrich, 2004). Furthermore, a number of SRL models have considered cognitive, motivational, and metacognitive strategies as they key strategies in SRL (Zimmerman, 1990). Zimmerman (1990) created a list of examples for self-regulated learning strategies that are used by learners which are available in research studies. Those strategies include goal setting and planning, keeping record, seeking information, self-monitoring, and seeking social assistance from peers, teacher or another adult.

However, the present study considers Pintrich' s SRL model. As reviewed by Schunk (2005), this model has contributed significantly toward clarifying the conceptual framework of SRL and the relationship between SRL and motivation

(Panadero, 2017). The framework of this model has four phases that are shared by many models of self-regulation (Pintrich P. , 2000). Moreover, this model is “suggested as a heuristic” (Pintrich P, 2000, p. 453) to organize thinking and research on SRL. There is one version of this model, and it is the original presented in the handbook of SRL by Boekaerts, Pintrich, and Zeidner (2000).

Pintrich’s SRL model will support an illustration of how self-regulated learning functions in the classroom (Pintrich P. , 2004). This section will display the different phases according to the assumptions highlighted in section (2.1.1). The identified strategies are categorized under four phrases of students’ approaches to become engaged in learning context which are: “(a) forethought, planning and activation; (b) monitoring; (c) control; and (d) reaction and reflection” (Pintrich, 2004). The phases of this model, however, are not structured hierarchically or linearly (Pintrich P, 2000). The framework also shows how students perform those phases cognitively, motivationally or affectively, behaviorally, and contextually. A description of phases in each area is given in the following.

2.1.2.1 Forethought, planning and activation

Learners can be engaged in this phase cognitively by practicing activities that include setting specific targets or cognitive goals for learning, activating prior and metacognitive knowledge about the material to be studied, and planning as well as the activation of perceptions and knowledge of the task, context, and the self in relation to the task (Pintrich P. , 2004).

For the regulation of motivation, learners include efforts to regulate various beliefs in this phase, such as creating purposes for doing a task; judgments of the capability to perform a task; insights of task difficulty; relevance of the task; and

personal interest. Moreover, the regulation of behavior in this phase involves planning for the time and effort required to perform tasks. Similarly, planning for self-observation supports learners' proactive behavior and helps them to prepare for the next phases. With regard to context, students may use forethought and plan their learning with respect to perceptions of task and context. For example, students may plan to do a certain task by making it relevant to their personal experience (life or career).

2.1.2.2 Monitoring

Implementing plans requires regular monitoring for tasks with respect to the goals set, whereby the key for monitoring is "learner's awareness". As Pintrich (2000) stated, an important aspect of regulating cognition is cognition monitoring. In order to be able to implement adaptive changes in learning, students have to monitor their progress toward their goals as well as their comprehension. As mentioned earlier in the first phase, learners' forethought involves efforts in time planning versus efforts required to perform a task. However, in this phase, learners are required to be aware of the need for monitoring effort, time use, help as well as the self-observation of behavior. Hence, it is noticed that both phases are overlapped and work in parallel. Concerning context, learners might self-regulate according to the awareness of the nature of task with respect to the surrounding environment.

2.1.2.3 Controlling

In general, controlling is connected to activities that provide information about the discrepancy between the goal and the current progress toward that goal. Therefore, cognitive control includes activities that individuals occupy to change cognition in response to discrepancy. According to Pintrich (2000), selection of strategy is the core of controlling and regulation of cognition such as reasoning and problem solving. Many studies on self-regulated learning have outlined learning strategies that learners use to

understand course material in order to control their learning process. As an example, Pintrich (2000) offered that “there strategies include the use of imagery to help encode information on a memory task as well as imagery to help one visualize correct implementation of a strategy” (p. 460). Pintrich (2000) also provided another example of using mnemonics to control cognition: “paraphrasing, summarizing, outlining, networking, constructing tree diagrams, and notetaking”. (p. 460).

Similar to behavior monitoring, learners’ behavioral control involves putting in the time and effort required to perform a task. For example, making study schedules or allocating time for different activities are classic aspects of study skills courses (Pintrich P. , 2004). Help-seeking is another behavioral regulatory strategy that can be useful for learning control. Previous literature has documented that good students and good self-regulators know when, why, and from whom to seek help. Nevertheless, the self-observation of behavior is also an example of controlling, whereby learners observe their self-control behavior in response to goals or tasks (Pintrich P. , 2004).

2.1.2.4 Reflection

Finally, students’ reflections and their cognitive judgments about how they did in their performance can be part of their attempts to regulate their learning. Moreover, completing tasks might also carry emotional reactions on the outcome and reflections on the reasons for the outcome, for example, happiness at success or sadness at failure, which create attributions for the outcome (Weiner, 1986 in Pintrich, 2004). When students reflect on their performance, the quality of the attributions and the experienced emotions are significant for the regulation process (Pintrich P. , 2004). Furthermore, as help-seeking involves contextual control, it also reflects the essentiality of considering the social nature of learning (Zimmerman, 1990; Pintrich, 2004).

2.1.3 Self-regulated learning in practice

Research studies on SRL have documented university students' use of learning strategies and motivation. SRL practices in classrooms offer opportunities to conduct research on various strategies planning and time management and strategies for reading or writing (Paris & Paris, 2001). In spite of the differences in research contexts and instructional practice, the studies discussed below support a cross-cultural comparison of learning perceptions and the use of learning strategies in various disciplines, including language learning, mathematics, and business.

For example, Howard, McGee, Shia, and Hong (2000) examined metacognitive active participation in the process of mathematical problem solving. Their study found that there were five particular metacognitive and self-regulatory strategies relevant to problem solving, namely "(1) students' awareness of their own learning and memory processes as well as their learning strengths and weaknesses; (2) students' awareness of their learning goals and alternative choices; (3) students' awareness of strategies for understanding the problem before proceeding; (4) students' ability to break the problem down in to sub tasks and monitor the completion of each subtask; and (5) students' ability to check their work throughout the entire problem solving process" (Fadlelmula, 2010, p. 368). The study concluded that the constructs measured were independent; therefore, students in this study showed preferences of behavior, depending on learners' unique combination. Furthermore, Howard, McGee, Shia, and Hong (2000) suggested that if those preferences can be further understood, defined or described, to train students for regulatory behaviors.

Moreover, Postholm (2011) conducted a study that focused on how teachers implement learning strategies in their teaching compared to students' experience of those strategies. The findings indicated that students believe that encouraging SRL

strategies in class and goal-directed teaching are useful for learning. The study also showed that learners' adaption of those strategies is required to develop SRL strategy use by students. Postholm (2011) shows that this conclusion is also supported by the students' sounds.

Furthermore, in a different context, Mahmoodi, Kalantari, and Ghaslani (2014) conducted a study to find the most frequently used self-regulatory strategies employed by Iranian EFL learners in English learning. Researchers selected 130 EFL learners studying at two language institutes and administered a questionnaire that included 46 items assessing self-regulated learning and motivation. Their analysis determined the five most frequently used self-regulatory strategies of Iranian EFL learners; these were cognitive strategies, namely making associations between the new and previous English studies and developing ways to make English learning more enjoyable; behavioral strategy, namely postponing the study of non-understood parts; and metacognitive strategies, namely regularly testing English knowledge and keeping records of English mastered or needing to be mastered (p. 1066).

Meanwhile, Zhao and Zheng (2014) explored SRL strategies used by Chinese business students in a project-based learning (PBL) setting. Their qualitative study found that students' strategies are categorized into five phases: target goal setting, planning, activating prior knowledge, monitoring and controlling the learning process, and reflecting. These categories were consistent with Pintrich (2004) SRL model. Although SRL is recognized as an individual activity, Zhao and Zheng (2014) found that a constructive group reflection was a part of the reported strategies. The study suggested to highlight shifting from individual reflection to group reflection in the collective learning settings. Moreover, the study suggested a need for social metacognitive components when researching SRL in a collaborative learning context.

Another example from different context, is the study by Şahin-Kızı1 and Savran (2016) who examined English as a foreign language (EFL) learners' use of ICT tools to self-regulate their language learning. The study focused on learners specifically outside the formal instructional context. 777 university students attending an English language preparatory program participated in this study. The data were collected using questionnaires and analysis showed that EFL learners were engaged actively in the use of ICT tools to self-regulate their language learning.

To conclude, SRL models originate their constructs from the analysis and the applications of psychological learning models. This section has presented a working definition of SRL, focusing on Pintrich's SRL model and describing the conceptual framework of this model. As recommended by Zimmerman, (1990) and Pintrich (2004), each phase needs to be emphasized so that learners can begin to understand the importance of SRL as well as how to plan their academic activities and reflect on them after they are completed. The section also displayed findings from previous research studies which investigated SRL in classes. The studies mentioned here might support the findings of this study, as it aims to investigate the preferred learning strategies used by tertiary students in Qatar, more specifically during project work in relation to Research Question 1: "What are Qatari students' learning strategies in project work?"

2.2 Collaborative learning

The notion of collaboration has shifted from individual learning to collective and social learning (Chan & Chan, 2011; Zhao & Zheng, 2014). Historically, collaboration in learning or collaborative learning has been conceptualized from several theoretical perspectives, such as shared cognition, distributed cognition and social constructivism, to form the concept of knowledge building in the educational setting (Scardamalia & Bereiter, 2011). However, one of the challenges related to defining

collaborative learning is that it has been described in many ways, using different terminologies and theoretical perspectives (Almajed, Skinner, Peterson, & Winning, 2016).

2.2.1 Definition of collaborative learning

As a broader and more simple definition, Dillenbourg (1999) stated that “collaborative learning (CL) is a situation in which two or more people learn or attempt to learn something together” (p.1). This definition further documents elements that define the space that encountered under collaboration or collaborative learning, which can be summarized as (1) number of participants, (2) purpose of learning, and (3) action toward that purpose taken by participants.

According to another working definition by Barkley, Cross, and Major (2005), collaborative learning in practice is “working in pairs or small groups to achieve a shared learning goal” (p. 4), that is, “it is learning through group work rather than learning by working alone.” (p.4). Research on cognition confirms the effectiveness of peer interaction and encourages college teachers to experiment with collaborative learning in their classes (Barkley, Cross, & Major, 2005). Therefore, the literature agrees that collaboration is a coordinated and goal-oriented activity that requires active participation, meaning negotiation, dealing with social conflict, and co-construction of understanding to build knowledge in class (Chan & Chan, 2011; Zhao & Zheng, 2014).

The literature regards collaboration as a 21st century skill and has debated whether collaboration is a competence skill that learners need to adopt (The partnership for 21st century learning, 2007). A global movement calls for a new model of learning for the 21st century raised in the past two decades (Scott, 2015). Therefore, a significant body of literature has focused mainly on three topics, namely (1) the new learning model motivations, (2) the specific competencies required to function effectively in the

21st century, and (3) the pedagogy required to stimulate skill capabilities. Scott, (2015) also recommended the development of student skills should not be delayed until higher-level of education. Instead, it is essential to support students by encouraging their student skills from the earliest stage of the formal education.

There are other terms that reflect this type of activity, such as peer assisted learning, team learning, cooperative learning or group learning, (Barkley, Cross, & Major, 2005). In this study, the term collaborative learning refers to learning activities that were designed for small interactive groups (3-4 students).

2.2.2 Students' perception of collaborative learning

Collaborative learning is based on different social constructivism assumptions (Barkley, Cross, & Major, 2005) which believe that learning occurs when students work with faculty to create knowledge (Mathews, 1996, p.101 in Barkley, Cross, & Major, 2005). One inquiry into student collaborative learning in higher education has been exploring students' perceptions of and approaches to collaboration, whereby empirical evidence has suggested possible associations between the two (Chan & Chan, 2011; Zhao & Zheng, 2014; Almajed, Skinner, Peterson, & Winning, 2016). Findings from the studies presented in the following are aligned with previous studies in the Western context.

In their research, Almajed, Skinner, Peterson, and Winning (2016) found four perspectives held by students toward learning in groups. These ranged from positive outcomes of experiencing knowledge to conflicts in group learning to the negative feeling toward the effect of learning in groups. The study explained students' perspectives toward key factors to facilitate positive learning experiences in a CL context, which include recognizing different aspects of a CL group (i.e. having diverse backgrounds but similar dispositions to learning in groups; encouraging balanced

participation and interactions, especially questioning, explaining; addressing knowledge conflicts; and helping students to identify and understand their learning processes). Moreover, the researchers advised that by assisting students in understanding the role of these factors, a positive impact could improve their CL experiences and outcomes. Further exploration of the findings across a range of collaborative contexts was recommended by this study.

Hence, as part of a shift away from individual learning, collaborative learning is considered as collective and social learning at educational settings. Although there exists more research on learning in small groups, most of those studies and investigations were conducted at the K-12 level, while collaborative learning research in higher education has been a latecomer to the scene (Barkley, Cross, & Major, 2005). This study aims to explore the views of collaboration among tertiary students in Qatar, as outlined in Research Question 2: “What are Qatari students’ views on collaboration?”

2.3 Project-based learning

Constructivism is one of the theories describing the learning process in 21st century learning (Scardamalia & Bereiter, 2011). This theory has gained attention for several reasons, mostly as it is learner-centered approach and considers learners’ active participation (Tinmaz, 2006); this means that, in such a setting, instead of focusing on the instructor’s role, attention is shifted to the student’s role in learning activities (Astawa, Artini, & Nitiasih, 2017). A review of the published literature on project-based learning (PBL) reveals that it encompasses multiple learning concepts, namely active learning, collaborative learning, problem-based learning, and learning autonomy (Chan & Chan, 2011; Zhao & Zheng, 2014; Mali, 2017). Furthermore, PBL is a self-directed form of learning in which students work collaboratively in small groups to seek

answers and to conduct a comprehensive investigation into a problem. While the role of the instructor is limited in such learning settings, learners are encouraged to be engaged in the collaborative learning situation, where learners create their own concepts and beliefs based on their prior knowledge. Meanwhile, instructors provide opportunities and facilitate collaborative works and tasks which enhance learners' skills as problem-solving and decision making.

The potential strategy to maximize the role of students in learning should consider constructivism principles. Therefore, PBL is one of the most commonly used strategies (Tinmaz, 2006; Bell, 2010; Scardamalia & Bereiter, 2011; Zhao & Zheng, 2014; Bansode, 2015; Almajed, Skinner, Peterson, & Winning, 2016). Historically, John Dewey advocated the idea of "learning by doing" that can be considered as the core of PBL (Du & Han, 2016). The main learning principles in PBL include three approaches: cognitive learning, collaborative learning, and content (Kolmos, Du, Dahma, & Qvist, 2008). The cognitive learning approach means that learning is organized around problems that place learning in context and ensure that learning is based on the learner's experience (Thomas, 2000; Kolmos, Du, Dahma, & Qvist, 2008). The collaborative learning approach is team-based learning that considers learning process as a social act. Hence, learning occurs through dialogue, communication and knowledge sharing (Thomas, 2000; Kolmos, Du, Dahma, & Qvist, 2008; Scardamalia & Bereiter, 2011). Nevertheless, the content approach concerns interdisciplinary learning, which may span across subject-related boundaries (Kolmos, Du, Dahma, & Qvist, 2008). For example, in the present study, projects are expected to integrate skills and grammar taught in listening, speaking, reading, and writing classes (English Language Center, 2017). Moreover, students implement their prior knowledge and

experience as well as utilize their personal skills as communication and collaboration in their course projects.

2.3.1 Project-based learning definition

PBL is simply defined as a learning strategy which is organized around projects (Thomas, 2000). Legutke and Thomas (1991) also define project work as a learner and task-centered mode of teaching and a form of learning that results from a joint process of discussion between all participants. Another definition by Bell (2010) is that PBL is a student-driven, teacher-facilitated approach to learning where learners pursue knowledge by asking questions that stimulate their natural curiosity. The origin of a project is an inquiry, whereby students develop a question and search for a solution under the teacher's supervision. As a form of learner-centered teaching, PBL allows students to be involved in an active learning experience for the purpose of solving problems in groups and encourages them to be autonomous learners who can take responsibility for their own learning (Kolmos, Du, Dahma, & Qvist, 2008; Mali, 2017). PBL, therefore, advocate principles of learner-centered teaching, learning autonomy, and learning through tasks (Mali, 2017).

Thomas (2000), adopted five criteria to distinguish PBL examples from other types of project. These criteria are "centrality, driving question, constructive investigations, autonomy, and realism" (p.3). Projects should be central to the curriculum (Du & Han, 2016).

Also, projects in which students learn things that are outside the curriculum are "enrichment" projects (Thomas, 2000). For example, in the present study, projects are used for enrichment, whereby students compile content learned in different English skills sessions (listening, speaking, reading and writing) with other personal skills (e.g. knowledge of technology or surveying tools) and personal experience (career or life

experience). PBL projects concentrate on problems that "drive" students to struggle with the central concepts of a discipline (Thomas, 2000; Du & Han, 2016).

Moreover, PBL should involve learners in constructive investigations (Du & Han, 2016). To consider a project as PBL project, the central activities must involve the construction of knowledge for the learner, such as new understandings or new skills (Scardamalia & Bereiter, 2011). This criterion clarifies that straightforward projects cannot be perceived as PBL projects. For example, in this study, some projects appeared to be straightforward and did not challenge students or construct new knowledge or skills; therefore, such projects/groups were excluded from the study.

Furthermore, projects should be student-driven significantly. As a feature of a constructivist/student-centered learning setting, PBL is not teacher-led scripted (Thomas, 2000). PBL projects further integrate more student autonomy, choice of work time, and responsibility compared to traditional projects. In this study, the participating groups indicated some evidence showing the freedom that each group had to accomplish a goal by the end of the term. Groups initiated their own ways to achieve the goal in terms of steps to be followed, materials used (models, videos, in-class experience), and time and location of work (in college, break time, outside college, e.g. at a café, after school time or over the weekend).

Lastly, PBL projects should be realistic (Du & Han, 2016). According to Thomas (2000), project need to have characteristics to provide the feeling of authenticity to students such as relevance of the topic, student role, context, products that are produced, and the criteria by which the performances are judged. Hence, PBL projects should incorporate real-life issues that focus is on authentic problems, questions and potential solutions to be implemented (Thomas, 2000).

2.3.2 PBL implementation

In a PBL classroom, students work on authentic tasks such as finding solutions for problems or real-world issues. Their work involves planning, reflecting, and evaluating their learning (Astawa, Artini, & Nitiasih, 2017). PBL also elevates the students' willingness to learn and also engages them in learning through activities in which they work collaboratively by their own, over a period of time around complex tasks (Thomas, 2000; Tinmaz, 2006; Bell, 2010; Scardamalia & Bereiter, 2011; Zhao & Zheng, 2014).

A successful implementation of PBL in the classroom can increase students' motivation by fully involving them and engaging them in the classroom activities (Tinmaz, 2006; Bell, 2010; Astawa, Artini, & Nitiasih, 2017). According to Bansode (2015), implementing PBL improves students' learning and innovation skills, whereby students learn more deeply because they apply knowledge to real world problems, thus increasing student participation, engagement and coordination, improving the academic performances of students, and connecting students with real world situations.

Therefore, PBL implementation has a set of steps through which students are trained to become active involved in collaborative learning to work on team project. As summarized in Astawa, Artini, and Nitiasih's (2017) study, learners and teacher decide and agree about the project topic and the method to be used to solve the problem. Then, students collect related information to design the project based on the objectives and the project plan. Third, students analyze and organize data to complete the tasks. In the fourth step, the students compile the essential information about the project to design the presentation. Next, students present their project by using their communicative skills. Finally, they evaluate their learning.

Moreover, according to Kolmos, Du, Dahma, and Qvist (2008), teaching and learning in such a setting demands changes in the mode of teaching in higher education, namely from knowledge transfer to facilitation. Two challenges seem to limit implementation of PBL: (1) for instructors it is being a facilitator who is aware of the method of teaching in a PBL context as well as the purpose and how this change in teaching is perceived by students; (2) for students it is preparing to take on the challenge of taking control of their own learning (Kolmos, Du, Dahma, & Qvist, 2008).

Recent research has focused on challenges that students undertake in PBL environment. Those challenges are summarized from Harmer's (2014) literature review on PBL, where she stated that collaborative work is the most significant challenge faced by learners in PBL. Adapting to an unfamiliar student-centered approach is the second significant challenge identified in the literature. This point considers responsibility for learning and work management shifts from teacher to learner. Less frequently reported in the literature are: (1) students' concerns regarding evaluation; (2) the focus on one course with lecturers evaluating different groups, whereby each used their own criteria, (3) considering questions about transparency and equity.

2.4 SRL and collaboration in a PBL environment in Qatar

Over the past few decades, a global movement has called for emerging new models of learning 21st century skills, as critical thinking, communication and collaboration (Sabah & Du, 2018). Internationally, numerous studies have highlighted the ways in which students develop their beliefs and needs and have an impact on their academic success in higher education (Khalifa, Nasser, Ikhlef, Walker, & Amali, 2016). As a result, university teaching and learning has transformed from being lecture-based or teacher-centered to focusing on engaging student learning (Romani, 2009; Sabah & Du, 2018). Although a few studies have been conducted in the Middle East, Institutional

Research Associations in the Middle East and North Africa have prompted researchers in this area to understand students' experiences in higher education (Khalifa, Nasser, Ikhlef, Walker, & Amali, 2016). Although the Arab world is experiencing a multidimensional revolution in higher education (Khalifa, Nasser, Ikhlef, Walker, & Amali, 2016), the last to participate in this academic boom have been the GCC countries (Romani, 2009).

The state of Qatar has the vision of transforming itself into a knowledge-producing economy (Qatar General Secretariat for Development Planning, 2011). Moreover, Qatar has a vision that emphasizes on the importance of filling the current skills gap (Ministry of Planning and Development, 2016) by developing the required skills in the 21st century such as communications, leadership, teamwork and problem-solving (QU, 2012). To fill this gap, it is recommended to bridge it by making the education system relevant to the skills required through academic institutes (Ministry of Planning and Development, 2016). However, research into practices of university instructional in Qatar remains limited (Sabah & Du, 2018), with little information available on current instructional practices (Du, et al., 2016; Sabah & Du, 2018). Furthermore, few studies have addressed Qatari students' educational experiences and views (Khalifa, Nasser, Ikhlef, Walker, & Amali, 2016). In the Qatari context, few studies have investigated student perceptions of various learning aspects (i.e. student-centered learning, SRL, collaborative learning).

For example, Ikhlef and Knight (2013) examined teachers and students perceptions of student-centered (SC) teaching and learning in addition to students' achievement in math and science classrooms at Qatari schools. Data were collected from 17 schools that had implemented the standards of curriculum given by the government for 3 years at least. Findings indicated the percentage of standards met by

schools with low SC classroom behavior was low as well. However, schools that made further attempt in meeting standards exhibited higher levels of SC behaviors.

In another example, Saed and Du (2018) investigated faculty's understanding and perceptions of SCL in Qatar University. Their study aimed to understand current instructional practices and how instructors observe SCL and what strategies were implemented. Findings of this study showed that instructors have comprehensive definitions of SCL, that ranged from lectures to student interactions via problem-based team work. However, a gap was found between the instructors' perceptions and their actual practices. Although student activities were perceived as effective teaching strategies, the observed interactions were in the form of SC or student-teacher. However, student-student interactions were limited. A similar gap might be applicable regarding how students perceive collaboration, that is, students might have positive views toward collaboration, however, the actual identified practices might not evidence those views.

In summary, Qatari students' learning strategy use and their perceptions of collaboration remains under-investigated. Few previous studies that aimed to explore Qatari tertiary students' preferred learning strategy particularly in project work and their views on collaboration. Moreover, to date, few studies on Qatari tertiary students' learning and social learning experiences have characterized students' perceptions of collaborative learning (Faris, 2009; Khalifa, Nasser, Ikhlef, Walker, & Amali, 2016; Du, et al., 2016). This investigation into Qatari students' learning strategies at team projects will provide useful insights for both theoretical and educational implications. Moreover, knowing that students perform the desired skills (i.e. collaborate better) when they use strategies to learn independently (Biggs & Tang, 2011; Chan & Chan, 2011; Zhao & Zheng, 2014; Ibrahim et al., 2015), this study might inform academic

institutes in Qatar about how they can support students with the required teaching/learning activities to enhance learners' learning strategies along with other students skills. Additionally, it is personally conceived that this study might influence curriculum development, design and evaluation in Qatar (i.e. Ministry of Education and Higher Education). The context in this study did not apply PBL during the time of it was conducted. However, addressing PBL in parallel with investigating self-regulated strategies and perception of collaboration might form the foundation for planning a PBL curriculum while considering the current capabilities of Qatari learners.

Chapter 3: Research Methodology

3.1 Research context

The Ministry of Education and Higher Education in Qatar established the Community College of Qatar (CCQ) to provide a diverse range of educational opportunities for Qatari citizens. To meet the country's workforce and labor needs, CCQ offers academic programs that assist students with transferring to other academic programs and other career-oriented programs at other universities. This study was conducted at a CCQ foundation program that is run by the English Language Center (ELC). The program is designed to prepare students for college courses. The program follows an integrated approach in teaching the four basic English skills which are: reading writing, listening and speaking. The program is taught by 40 English instructors from over 14 countries, and each term it receives over 600 Qatari students of both genders. Students can request admission and be accepted to CCQ at any stage of their life after high school. That is, unlike admission to universities, admission to CCQ does not require applicants to be recent high school graduates. Therefore, a wide age range is noticed in CCQ classes (mean = 30), with different employment status (newly employed to experienced workers). Moreover, the program offers four levels of intensive English language preparatory instruction each academic term. Each level consists of 20 hours of classroom instruction and 4 hours of project work at the Student Learning Center (SLC) which serves as a learning environment to learn, use and practice English through projects or skills-focused activities led by students. There are five terms per academic year, and each term lasts for 8 weeks. Furthermore, students have two instructors each term to study reading and writing sessions and other speaking and listening sessions daily. Students can also study in either the morning or evening.

Students' overall performance in this foundation course is measured according to two written exams (midterm and final test) and course work (assignments, quizzes, and project work), with the respective weightings 60% and 40%. To this end, various assessed tasks are utilized, including speaking portfolios, collaborative writing, and oral group presentations as well as individual quizzes and tests.

3.2 Participants

Participants in this study were 21 of 241 Qatari tertiary students who attended level 2 English course in fall 2018. Table (1) shows the classes and students visited at the introductory stage.

Table 1: Level 2 classes in fall 2018

Gender	Morning Sections (#S)	Evening Sections (#S)	# of students	Total
Female	5 (106)	3 (63)	169	241
Male	2 (30)	2 (42)	72	

Following the general gender proportion of female students to male students (Zhao & Zheng, 2014), 15 female and 6 male students were selected out of the 30 students who volunteered and submitted their signed informed consent forms. Table (2) shows the demographic data of the participants, where participants' employment status and material status were also indicated.

The mean age of all participants is around 30, ranging from 18 to 44. This demonstrates that different generations attend this college. Ten participants were

married, 5 participants were not married while 6 participants did not provide information about their marital status. Nevertheless, 13 participants were employed and 8 were unemployed.

Table 2: Respondent demographic data

Category	Number of participants
Female participants	15
Male participants	6
Mean age	30
Female groups	4
Male groups	2
Employed participants	13
Unemployed participants	8

Moreover, 17 participants had been former level 1 students in the previous term, while 4 participants were admitted immediately to level 2 based on college admission placement test. It is important to mention that participants represented 2 male groups and 4 female groups from different classes.

To consider diversity issues in this study, the sample was selected considering the general gender proportion (Zhao & Zheng, 2014) of female to male students (15 females and 6 males). Also, students were selected from one level only (level 2). The selection was made for this level as it had the highest number compared to the other higher levels in fall 2018 (level 3 = 35; level 4 = 56). Moreover, as a part of the diversity considerations, participants' backgrounds were considered in terms of marital and

employment status.

3.3 Data generation methods

3.3.1 Method

A qualitative research design was employed in this study to approach the inquiry, namely to explore students' learning strategies and their views about collaboration. This research design was adapted due to the space it gives the researcher to investigate and establish the meaning of a phenomenon from the participants' view (Creswell, 2014). Both aspects of this study are assumed to be phenomena that need to be explored. Phenomenological research is one type of qualitative approach to the inquiry (Creswell, 2007). This type of approaches "describes the meaning for several individuals of their lived experience of a concept or a phenomenon" (Creswell, 2007, p.57). In particular, this approach describes what all participants have in common as they experience a certain phenomenon to include a "universal essence" (Creswell, 2007, p.58). Therefore, the purpose of phenomenology is to "describe and understand the essence of the lived experience of individuals who lived a particular phenomenon" (Lichtman, 2010, p.75). As recommended by Creswell (2007), qualitative researchers identify a phenomenon of interest, then collect data from persons who have experienced the phenomenon to develop a composite description of the essence of the experience for all of the participants. More specifically, this description consists of "what" participants experienced and "how they experienced the phenomenon (Creswell, 2007). Furthermore, a qualitative researcher can use a variety of techniques to collect information based on the research purpose (Cohen, Manion, & Morrison, 2007; Creswell, 2014). Therefore, this study used "interviews", which involved a researcher presence and facilitated interaction with the participants at the point of data collection (Creswell, 2014). According to Kvale (1996), an interview is "a conversation, whose

purpose is to gather descriptions of the [life-world] of the interviewee” (Kvale, 1996, p.174, cited in Alshenqeeti, 2014) concerning the meaning interpretations of the described phenomena (Alshenqeeti, 2014). Qualitative research interviews support understanding a phenomenon from the participants’ point of view to uncover the meaning of their experiences (Kvale, 1996). Hence, to investigate participants’ learning strategies and views about collaboration, the interviews were conducted to triangulate the quantitative data and to explore both aspects from the students’ perspective and according to their experience.

3.3.2 Qualitative data generation “interviews”

Interviews were conducted to explore the strategies used by tertiary students and their conception about collaboration in their own terms in 20-minute interviews led by the researcher. The interview is an effective tool for exploring knowledge and experiences and examining the informant’s thoughts in terms of what, how and why they think in a certain way (Kvale, 1996; Lichtman, 2010; Punch & Oancea, 2014). Moreover, interviews allow participants to convey a situation from their own perspective and in their own words (Kvale, 1996). Although research interviews are based on conversations of everyday life (Kvale, 1996), the interview conversations are structured based on purposes that are defined and controlled by the researcher (Kvale, 1996; Lichtman, 2010). Likewise, the individual in-depth interview is a type of qualitative data generator, and it is considered as a conversation between the interviewer and the participants (Lichtman, 2010). Focusing on educational settings, using this tool allows the “participant to share what they know and have learned and can add a dimension to understand the situation that questionnaire data or highly structured interview does not reveal” (Lichtman, 2010, p.143). Although interviews often focus on a smaller number of participants than quantitative data generation tools,

the data tend to be more detailed and richer (Cohen, Manion, & Morrison, 2007).

The interview questions in this study were adapted from a study by Zhao and Zheng (2014), who explored learning strategies and the conception of collaboration in another context. Questions were “grand tour questions” (Lichtman, 2010, p.146), which are general and provide space for the participant to talk (Lichtman, 2010). The interview questions and protocol are available in (Appendix 1). Participants were asked questions on (a) the learning strategy used, and (b) their perception of collaboration. The learning strategy questions focused on cognitive, metacognitive, and social strategies in learning. However, during the interviews, context-bound questions with some “prompts” were also designed to elaborate on individual responses. For example, to tap into their conception of collaboration, students were asked to describe their experience in team projects.

3.3.3 Procedure

To reach students to volunteer for this study, an email was sent to instructors who teach the second English foundation level in the first term of the academic year, to notify them about the study and to request timing for the class visit. Class visits were arranged by the researcher to invite students to participate in the study. A five-minute introduction about the purpose of the study and how participants could contribute effectively was given by the researcher. As this study was conducted by an administrator working in the same department, most of the students knew the researcher. After giving a short bio as a student researcher, informed consent forms were given to all the students. However, forms were only collected from those who showed interest in participation. The instructors also helped to remind students who were absent on the day of the visit to check their email and visit the researcher to fill in the informed consent form to join the study. Additionally, the instructors nominated a

list of names based on active participation in class and/or academic standing. Those students were contacted individually, and a number of them replied back with acceptance.

Interviews took place at the late stage of their project and before they would be busy with final exams. Individual interviews were used to offer a degree of focused attention on the main topics and issues related to the study. The interviews in this study were in-depth to allow participants to express themselves and to avoid restrictive answers. Moreover, the interviews were conducted with each student separately in a suitable and quiet location at the college. For example, female students' interviews were conducted in one of the free classrooms at the female campus, while male students' interviews were held in a room at the male campus library. Also, the researcher asked each member for their permission to use a voice recorder during the interviews. This step helped the research to focus on the conversation and to follow the responses for further elaboration. The interview consisted of two parts; the first one was about the respondent's personal information, whereas the second one was the list of questions about the preferred learning strategies, more specifically in project work and views on collaboration.

Each interview lasted 20-40 minutes with semi-structured questions. For example, they were asked to describe their planning to do the project. Students' strategies for project work learning in college classes were investigated, considering the role of the preferred learning strategy as an effective factor. Furthermore, students' views on collaboration were explored to examine the different perceptions about how students perceive collaborative work.

3.4 Qualitative data analysis

The recorded interviews were directly transcribed and translated in Microsoft Word

documents for each participant. Literal translation was intended to be used on occasion to avoid losing the exact meanings of some words used by respondents. This study employed an ongoing process of analysis. The process of analysis started with organizing the responses (Lichtman, 2010) on a spreadsheet using Microsoft Excel. The ongoing analysis helped the researcher to develop the initial and conceptual codes of the participants' answers. Initial interpretations were subjected to change when implementing a second coding after all the interviews were done.

The informant responses to the same question were grouped together to understand participants' definitions of the situation, noting patterns and categories/themes (Cohen, Manion, & Morrison, 2007). To discern patterns, and as suggested by Lichtman (2010), initial coding was obtained from the responses to the same idea/question or group of questions about similar points. Therefore, the translated transcriptions were read, and relevant/repeated words and phrases from each response were highlighted. Second, an initial list of categories for the central ideas was created (i.e., planning strategies, controlling strategies, etc.) (Lichtman, 2010). Thus, quotes for the related categories were also highlighted. Moreover, the process included multiple reads to ensure that categories are consistent with supporting evidence. The final step was to move from categories to concepts (theme) (Lichtman, 2010, p.198). Similarly, the responses to questions on the perception of collaboration were processed in the same manner. To assess the reliability of the coding, the supervisor of the study was a supportive coding rater. Through discussions, both researcher and supervisor put together the list of initial codes until agreement was reached. The study could have been strengthened by using the Pearson correlation test to calculate the inter-reliability between raters so as to ensure the reliability of the coding.

Table 3: Exemplar note to illustrate the qualitative analysis (coding and categorizing)

Category	Exemplar note
Goal setting	“The main target was to get a high mark on this project.” (FS13)
Planning	“Time was a constraint. So, we agreed to meet outside college any time over the weekend in order to work on the project. We met in a café and did most of the parts together.” (MS05)
Activating prior knowledge	“...we learned in level 1 how to make surveys and get opinions and present survey results using SurveyMonkey. I enjoyed using this tool for our group presentation in level 2...I showed my group how to use SurveyMonkey.” (FS13)
Monitoring and controlling	“...as our project progress, the leader kept on checking the submitted parts and giving feedback about the work for modification or just appraisal.” (FS9)
Ongoing feedback	“...We sat together to combine the information that we collected. We gave feedback about each other’s parts. For group work, giving feedback improves the work before submission” (FS21)

The informants were assigned numbers from 1 to 21. Thirteen responses were entered against each participant on the same sheet. Female students had an “FS#” code, while male students had an “MS#” code, and both were followed by a number according to his/her interview order (i.e., MS05, FS10). As the study is exploratory, the findings served to determine the common themes to answer the research questions. Further

studies might provide a focus on the interpretation of the explored phenomena.

3.5 Ethical consideration

Ethics approval (QU-IRB 951-E/18) for the study was obtained from Qatar University's Institutional Review Board (QU-IRB) after the approval of the Office of Institutional Effectiveness (OIE) at the Community College of Qatar (the study context). Participation in this study was completely voluntary. Furthermore, informed consent was shared with all participants before interviewing. Participants were also informed that the interviews would be recorded for research purposes. Participants were informed that they could stop responding at any stage of the data collection without being penalized.

Chapter 4: Results and Findings

4.1 Revisit research questions

This study aimed to investigate the preferred learning strategies used by tertiary students in Qatar, specifically while working on projects. It also explored their current views of collaboration. For this purpose, the following research questions were formed:

1. What are Qatari students' learning strategies in project work?
2. What are Qatari students' views on collaboration?

4.2 Findings

This chapter presents the findings of the study, whereby each aspect is explored through the interviewees' responses to the interview questions. Findings on the students' learning strategies used specifically during project work will first be presented. The subsequent section will present the findings on students' perception of collaboration while working together on projects.

4.2.1 Students' learning strategies

The first objective of this study is to probe into college students' (tertiary level) use of various learning strategies, particularly during team project work. The literature has documented that students' learning strategies can be stimulated by motivational/goal-oriented, cognitive, and metacognitive strategies that drive students to generate thoughts, regulate actions, and acquire knowledge and skills to meet academic goals (Zimmerman 1990). The analysis of the qualitative data categorized strategies found into the following: (1) forethought, planning and activation; (2) monitoring and controlling learning/project work; and (3) giving feedback. Table (3) shows the numbers of participants who reported evidence for each category, respectively. Although the students represented different groups, they reported

strategies according to their individual strategy use; therefore, their responses may reflect more students.

Table 4: Number of students reported each strategy

Strategies used	Number of participants reported the strategy
Forethought, planning and activation	12 (S1, S2, S3, S6, S10, S11, S12, S13, S15, S17, S20, S21)
Monitoring and controlling learning process	12 (S1, S3, S5, S6, S9, S10, S11, S12, S13, S14, S15, S20)
Giving Feedback	14 (S1, S2, S3, S5, S6, S9, S11, S12, S13, S14, S15, S19, S20, S21)

4.2.1.1 Forethought, planning and activation

4.2.1.1.1 Goal setting

Findings demonstrated that most students use goal setting as a learning strategy, via either personal goals or goals for their team projects. For example, one student spoke about her personal goal for taking English foundation courses, although she had the chance to be placed at a higher level based on her scores in the placement test:

I meant to test into level 1, so I could get as much out of the English foundation courses. I know that I can speak English well. However, starting from level 1 helped me to recall the language after years of finishing high school and to familiarize myself with college life...(FS20)

In another example, a student had a personal goal for one of the presentations:

...my personal goal was to speak and present without reading from a paper. (MS02).

Moreover, this student had a goal for one of his writing assignments:

My goal was to provide valuable information supported by research and published reports... For example, Qatar is improving in the education sector. For our writing, we chose to search evidence about that topic, in order to make our writing valuable and can be used by our teacher in other classes as a sample. (MS03)

Those are considered examples of the regulation of motivation in setting goals, meaning the learner included attempts to regulate various motivational beliefs, such as creating a purpose for doing a certain task. Moreover, almost all students who set goals eventually concluded with having a good grade, which is also viewed as the regulation of motivation in goal setting:

...To get a good grade. (MS4)

To do a good job and get a good mark. (MS6)

The main target was to get a high mark on this project. (FS13)

...and sure, to have a good product and a good grade. (FS20)

Groups also set goals for their projects. The following example, however, is viewed as cognitive regulation in goal setting. One student expressed the common goal they had in her group:

Our goal was to come up with the best presentation idea. No one thought about doing a play to describe different attitudes of people. (FS12)

Similarly, one group set the goal of presenting in a different way by using another application to create their presentation:

We wanted to do something new and to present in a different way. So, we used

another application than Microsoft PowerPoint to create our presentation. Also, we included music and videos and we were the only group that did that. (FS15)

Several students did not focus on setting goals, either personally or within their team projects. For example, one student did not have a specific goal for the given tasks:

It was my first time to do this. I did not have any specific goal except for doing what I was asked. (FS21)

Another student did not have a goal for the project because she did not enjoy working with the group:

... just to finish working as soon as possible as we didn't enjoy each other much. (FS17)

4.2.1.1.2 Planning

Similarly, to goal setting, students used planning as a strategy before doing a task, particularly when working on a project. As the regulation of behavior in planning involves planning for the time and effort required to perform tasks (Pintrich R. P., 2004), the following quotes demonstrate group planning to utilize the time available to do their project. For example, one male group decided to meet over weekends at a café to work on tasks related to the project. They decided this as all of them attended classes in the morning and were committed to working in the evening.

Time was a constraint. So, we agreed to meet outside college any time over the weekend in order to work on the project. We met in a café and did most of the parts together. (MS05)

As an example of planning efforts, one member of the same male group suggested using a movie they had watched before to prepare a short presentation for an assignment. As they did not have much time, this idea encouraged them to prepare for the presentation at shorter time.

...Yes, although the teacher asked that we see a movie together, I suggested writing about a movie that we watched before. We picked the movie we already watched a couple of weeks ago to save time. (MS06)

Another female group decided to utilize hours of independent learning when their instructors took them to the student learning center (SLC):

Since we know that we cannot meet outside college and it is not easy to follow-up at home by WhatsApp, we worked during the SLC time at college. (FS20)

Moreover, this group decided to work at break time and follow up at home using a social media application (WhatsApp):

We worked during breaks and after college time via WhatsApp. (FS12)

Members also described the process they planned to follow to achieve a project goal. For example, one student described her group plan:

We had to choose a topic about health. We agreed to talk about detoxing and how it can help us to live a healthy life. It was a lot of work. Our plan was to present two things: surveying results of people's opinion about detoxing, and then making an experiment and taking photos of the result to show the benefits of detox-drinks vs. un-healthy drinks like soda. We wrote a paragraph about the topic and the information we gathered from the internet and our experiences. We also brought ingredients to make detox juice in the class and invited everyone to drink it. The survey was sent to our classmates via WhatsApp, and we asked them to share it with their sisters. (FS13)

However, fewer students demonstrated random behavior while doing their team project. During the interview, it wasn't clear whether those students avoided planning as part of their work strategy or whether this was just a reaction to a current situation. For example, one student did not make a plan as she did not enjoy working with her group:

I didn't have a plan!!! I just wanted to finish working as soon as possible as I didn't enjoy it much. (FS17)

In another example, a student did not take the time to make a plan as he found it challenging to work in a group. He did the project work by himself. He further suggested that the course instructor needed to interfere during group creation. He noticed that good students selected each other and formed a group:

...there was not point of planning! I felt members weren't that willing to contribute to work. I wished that the teacher made the groups. I feel I am an average student. One of my classmates is quite weak academically, and he only felt comfortable working with me. So, I didn't feel we could benefit each other as much as working with excellent students! (MS07)

Among those students, however, 11 were committed to working before or after class. Moreover, 7 out of those 11 students were married and had family commitments as well. Due to the limited time available, those students were aware of the importance of planning to allocate effort to the available time. Examples given varied from working during the break time to working outside of college and on weekends.

4.2.1.1.3 Prior knowledge activation

Most group members preferred to activate their prior knowledge in terms of content studied and tools used in previous learning experiences. According to Pintrich (2004), using strategies for prior knowledge activation motivates learners' regulation. In this study, the students found it more convenient to recall topics studied in high school or the previous level (i.e. grammar rules) as well as to refer to their personal experience in life as business, career or family to perform better in their current classes. Moreover, the students favored reusing tools or techniques they had experienced before in similar settings, such as movie making, music composing, surveying tools or

Microsoft Office applications. For example, participants sensed the similarity between recent topics taught in the current course and topics taught at high school. In addition, 20 students related topics studied at the current level with topics from the previous English foundation level:

I recall some topics studied in level 1; it makes understanding the lesson easier.
(FS09)

Another student said:

Most of the topics in level 2 were done in high-school, and I practiced answering such questions or wrote in the required style as descriptive or opinion essays. So, now I can refer to that and do the new assignments as requested. (FS16)

With regard to the activation by referring to personal experience. The following student justified her group's choice, whereby they had the option to choose a topic for their project.

...we had the option to present the detailed process of any business of our choice. We preferred to choose Selling (Abayys) as the members had experience with this business and participated in exhibitions for selling its products. It was easier to describe and provide clear photos. I also always prefer to refer to my experiences as I feel more confident that way. (FS11)

With regard to the regulation of context in planning, the quote mentioned earlier shows that students often plan to do a certain task by making it relevant to their personal experience (Zimmerman, 1990; Pintrich R. P., 2004). Similarly, one student felt confident to teach her group how to use a tool that was introduced to her in a previous learning experience (level 1):

...we learned in level 1 how to make surveys and get opinions and present survey results using SurveyMonkey. I enjoyed using this tool for our group

presentation in level 2...I showed my group how to use SurveyMonkey. (FS13)

Moreover, the findings show that few participants expressed their feelings when they knew about a particular topic, meaning that it gave them a positive feeling toward learning and drove them to participate in class. Actions conducted by those participants varied between paying more attention to a familiar topic, feeling excited about the topic, and recalling where they had seen that information before. For example, one student expressed the feelings she experiences when she knows the lesson they are studying in class:

I feel excited when I know the information... (FS09)

Another student elaborated more on similar feeling by saying:

I feel glad, ... I don't feel like a stranger in another world. It is unlike when someone talks to you about something you don't know even though I like learning about new topics. (FS14)

In summary, various examples of strategies for forethought and setting goals were found in this study. Students were aware of the importance of creating purpose to perform a certain task. Personal goals as overcoming personal habits (i.e. feeling too shy to work with others or presenting while reading from paper); and getting good grades were viewed as strategies to regulate cognition and motivation. Moreover, cognitive regulation represents how students think about the goal. The examples given here show that students put cognitive effort into setting a unique goal for the project/assignment (i.e., presentation in a play format, conducting a live experiment in class, or writing an essay supported by the latest literature). Making tasks relevant to prior personal experience (learning or career) was a strategy for regulation that participants reported using to motivate themselves toward goal attainment. Nevertheless, a few students did not sense the importance of setting goals; however,

they did show the intention to get a good grade or do what they were asked to do. Participants also reported strategy use in the planning phase to regulate behavior, which included planning to put in the effort and time required. As found in this study, those students who were committed to working before or after class time and/or were married and committed to family were aware of the importance of planning to put in work given the available time they had. However, as with setting goals, a few students behaved randomly when doing the project, i.e. proceeded without a plan – as their purpose was to finish working as soon as possible.

4.2.1.2 Monitoring and controlling the learning process

A gender difference was found in the reporting of strategies used for monitoring and controlling the learning process. Compared to male groups, all female groups demonstrated strategies used to monitor and control their project work, such as frequently checking whether work was aligned with project requirements and making the necessary adjustments before the final submission. Female groups were, furthermore, keen to keep their progress on track through better management of unpredictability. However, male groups tended to prefer working with less or no checkpoints before the final submission. For example, one student described how the group leader took on the responsibility of keeping them on track:

...We gathered the information about a business. The leader delegated the parts and reviewed the written drafts everything was collected. As the project progressed, we kept on checking the submitted parts with the help of a group leader. (FS09)

Another group confirmed that a similar idea was applied during one of the assignments:

...We gathered all the information. I took the lead to write and prepare the first draft. The group provided several reviews of the draft to make needed

modifications/ corrections for grammar and vocabulary before submission.
(FS14).

As outlined in the literature review, selection of a learning strategy is one of the central aspects of self-regulation (Pintrich, 2004). For example, seeking help can be seen as an example of a behavioral regulatory strategy that helps students to control their learning. To illustrate this, a female student explained how she sought help and how she selected whom to ask for help.

...I have a friend who works as an English teacher. I asked her about the things I didn't understand. I also asked another friend who is from the Philippines. She works in a company and speaks English very well. She is helping me with my English studies when I need help. (FS01)

Students also sought help from their classmates who have a better academic standing than them:

I also don't hesitate to ask my classmates who do better academically than me.
(MS03)

...I ask for help from my classmates. When I consult a classmate, she should be a better than me in English, so I can trust her. (FS09)

In general, when I don't understand something in class I ask for clarification from the teacher first. If I still don't get it, I ask my classmates. (FS11)

There is collaboration between students in my class. We discuss answers together and ask each other for help when we need it. (FS19)

Moreover, students sought help themselves, such as by searching the internet for answers:

...I also use the internet when I fail to understand the teacher and the text book.
(FS10)

I search the internet a lot...I go to websites and see videos about grammar rules. That's how I understand things. Honestly, I didn't rely on the textbook, I didn't even buy it. (FS11)

A number of participants demonstrated further actions that confirm monitoring and controlling, such as participating more in class and asking questions, solving exercises before being asked to do so, and participating to answer given questions in class and taking organized notes. For example, one student illustrated that she tends to participate more in class when she knows the topic, saying:

... I participate more in class... (FS09)

Some also start to solve book exercises and use that to minimize interruption that they might create by participating frequently:

I solve exercises without being asked and before having our teacher done with explaining. I use this method to minimize interruption that I usually make when I know the topic. I tend to participate more when I know about it. It seemed to be bothering others and this method worked well (FS20).

Moreover, taking clear notes was also an action done by few students, such as mentioned in the following:

...when I take-notes I can really feel that I know the topic. When I cannot write a note or summarize it, I know then I still don't understand it. (MS07)

Another student said:

I know that I know it well when I can take organized notes and when I participate and solve exercise by myself. (FS11)

Although some male students confirmed similar examples, two male students tended to follow more passive behavior compared to female students. To illustrate, the following student explained that he doesn't feel the need to react when he is familiar with the

given knowledge. He explained his behavior by saying:

Honestly, when I feel that I know the topic about to be explained, I open the book and start to solve the exercise until the teacher finishes. Then when they start solving questions I check the answers with my teacher and with my classmates. I don't feel that I need to show the teacher that I understand by participating. However, I may answer a question when I feel there is a need.

(MS06)

Another student pointed out that:

When I know it, I don't pay attention to teacher's explanation. (MS5)

Moreover, it was noticed that female students tended to approach others and offer help to other classmates, in contrast to male students. For example, one student clarified:

When I'm able to explain the idea to my classmates in a simple way, this means I know it. (FS12)

Another student confirmed that being able to simplify an idea is a sign of knowing, as is being able to translate it into Arabic:

For me I know that I know something in general, and in English classes specifically, when I feel I can help others and explain for my classmates or give simple examples. (FS17)

Another student elaborated:

When I know it, I can explain what I need to in Arabic to others. (FS18)

As Pintrich (2004) stated, the key of monitoring is learner awareness. That is, to regulate cognition, it is important to monitor that cognition. Female groups seemed to be aware of the importance of this step with respect to personal and project/assignment goals or objectives. Also, it was noticeable that the monitoring and controlling phase showed more behavioral regulation strategies compared to the previous phases.

4.2.1.3 Giving feedback

Students referred to the term “feedback” to respond to questions about “reflection”. The findings show that only one male student seemed to be aware that reflection is an action for future improvement taken after submitting the project.

Reflection is important to improve our work in the future. (MS05)

However, the findings report that 14 out of the 21 students gave and received feedback from their group members as well as their course instructor. Furthermore, verbal feedback was the only type mentioned by participants. For example, one student considers giving feedback as a measure for improvement:

...whether the group members did something good or not, we make sure to give comments in a positive way that include comments for improvement. (FS15)

Another group considered feedback as a continuous effort throughout the project process:

...We sit together to combined information that we collected. We gave feedback about each other’s parts. For group work, giving feedback improves the work before submission. (FS21)

Another male group confirmed a similar idea:

Since we worked together we felt giving feedback on each other’s parts was part of the process and to improve our work and modify the final submission. (MS5)

Giving feedback was a strategy used by students to improve their work. Students also emphasized that feedback needed to be given in a “nice way” for it to be acceptable. Moreover, students seemed to feel more comfortable and relaxed when giving or receiving comments from their peers rather than from their course instructor.

4.2.2 Students' views on collaboration

The second objective of this study is to investigate students’ views on collaboration.

One of the interview questions focused on whether participants preferred to learn individually or collaboratively with others. The findings showed that 13 out of the 21 students preferred learning with others (Table 5). Those students perceived collaborative learning experience as an opportunity to share and exchange knowledge. Moreover, they view collaborative learning as a good chance to correct mistakes, especially during a discussion. For example, the following student believed that when he learns with others, he can realize the mistakes he has made:

Learning with others is better for me. It helps me to realize my mistakes. Discussions help a lot with this. When I learn by myself, I may not realize that I have problem in my understanding. (MS03)

Table 5: Students’ perceptions toward collaboration

Preference	Number of participants reported each preference
Learning collaboratively with others	13 S2, S3, S4, S5, S6, S8, S9, S10, S11, S15, S17, S18, S20
Learning individually	8 S1, S7, S12 S13, S14, S16, S19, S21

Another student holds the view that learning with others can correct or improve the ideas he has. He gave an example of taking notes after listening to a dialog, as requested by the instructor. Group discussions helped him enrich related vocabulary and correct mistakes:

Learning with others is better. Even when I have the ability to do the thing by

myself, I may correct an answer I thought was correct or enrich an idea I had. For example, when the instructor asked us to take notes on a listening exercise, then when I discussed my notes with others, I sometimes noticed that my partner used more professional or relevant words compared to the ones I used. (MS06)

A similar idea was put forward by a female student, who believed that an idea can be enriched by a group exchanging information about it:

I prefer to work with others. I feel it offers an opportunity to exchange ideas, and we share and help each other with different ideas in different ways. I may say an idea and my friend says a similar idea with an adjustment, which makes the idea even better. (FS10)

This student suggested that there must be certain conditions in place when working with others. One student believed that members' willingness to collaborate in learning was important and that it motivated her to participate in collective learning.

Learning in a group is better, but it should be a collaborative group—a group that is willing to work together-. Otherwise, I prefer to work by myself. (FS09)

However, 8 out of the 21 students preferred to learn individually. Those students perceived collaborative learning as distracting their attention or for work flow. These students agreed that learning alone helps them stay motivated to learn.

Individual learning is better for me as I prefer to learn by myself to maintain motivation toward learning. (MS7)

Another student confirmed:

I prefer to learn alone so I can focus. Working with others is good, but, it doesn't help me to finish fast or at my normal pace. For example, I need to wait for pieces from other members to get a complete picture... (FS13)

Moreover, this student feels that she benefits more when she learns alone:

I prefer to learn alone. I feel I can benefit more and focus. With others, I cannot maintain focus and it distracts me. (FS16)

Another student favored learning alone as she believes that working with others limited her ability to monitor her progress:

Honestly, I prefer to learn by myself, so I know what I can do by myself exactly.

When I work with others I cannot evaluate my progress. When I work by myself, I can keep track of my improvement... (FS19)

Lastly, another student preferred learning individually as she found it difficult to work with those whom she doesn't know:

I prefer learning individually... I find it difficult to work with those who I don't know! But in case I was forced, I can manage. (FS21)

4.2.3 Relating self-regulated strategy use and collaboration preferences

This study focused on SRL particularly during project work. An interesting finding was the association between self-regulated strategies use by students while working collaboratively and their personal view about collaboration. To explore this association, Table (5) focuses on those who reported their preference to work individually against strategies reported by Qatari tertiary students in this study.

Table 6: Relating individual learning preference and personal view on collaboration

Student	S1	S7	S12	S13	S14	S16	S19	S21
FPA		X			X	X	X	
MC		X				X	X	X
FB		X				X		

In order to create this table, reported strategies were written using their initials: (forethought, planning and activation = FPA; Monitoring and controlling = MC; Feedback = FB). Each mark (X) represent the strategy that they did not report as others. For example, student #7 (male) did not report participating in planning, controlling or giving/receiving feedback. Likewise, student# 16 (female). Those students did not have a good group work experience that limited their willingness to participate in related tasks. However, the same students reported self-regulated strategy by taking organized notes, especially when they understand the topic. Other students participated in some strategies (as 14, 19 and 21) or all reported self-regulated strategies (as 1, 12 and 13). Those students might be able to cope with the situation even when they do not feel good about it.

Chapter 5: Discussion, Conclusion and Recommendations

This chapter discusses this study's results in relation to the research questions and against the background of previous research studies. The chapter concludes with a summary of the study, the limitations and challenges of this study, and future perspectives. This study has probed college students' learning strategies while engaging in project work in order to explore their views on collaborative work. The section concludes by assessing possible connection between the learning strategies reported by students and their views on collaboration.

5.1 Discussion

5.1.1 Students' learning strategies in project work

The learning strategies in project work reported by Qatari tertiary students were identified from the qualitative data to answer the first research question: What are Qatari students' learning strategies in project work? Findings confirmed that Qatari tertiary students used learning strategies and self-regulated their learning when they worked together (i.e., on projects). The strategies they used were categorized in three different ways: (1) forethought, planning and prior knowledge activation; (2) monitoring; and (3) controlling. The results were consistent with three of the four "phases" of the SRL model proposed by Pintrich (2004) and coincides with the phases identified in previous studies (Zhao & Zheng, 2014).

Among the three identified strategies in the current study, goal setting was mostly reported by the participants as a strategy to regulate cognition and motivation. According to Pintrich (2004), cognition regulation represents how students think about the goal. Examples in this study showed how some students put cognitive effort into setting a unique goal for a project or assignment, such as using a different way to present (i.e., role play or doing a live-experiment in class). Furthermore, Wigfield, Klauda, and

Cambria's 2011 highlighted the importance of setting goals as a reference point that helped learners make decisions about the regulation of activities.

In this study, however, students who did not feel it was necessary to set goals did not report having high motivation to learn. In these cases, they mainly did what they were asked to do by teachers and hoped for a good grade. These students have experienced traditional teaching style, one that is teacher-centered rather than student-centered. Considering the age range of the participants, those between 27-44 years old attended pre-reform schools during the previous educational system in Qatar. Particularly, the K-12 educational system in Qatar "was rigid and unchallenging, heavily depending on memorization" (Fadlelmula & Koç, 2016, p.1), furthermore; the system provided little opportunity for even student-teacher interaction (Fadlelmula & Koç, 2016). Mahmoodi, Kalantari, and Ghaslani (2014), who concluded their study with raising the point that some other factors such as the educational system, materials, and teachers might affect learners' educational goals, supported this point.

Although participants reported planning as a strategy, including planning the necessary effort to complete the assignment and the time required to do so, this step seemed to be challenging for the students in the current study. One of the reasons could be because young students in Qatar marry at an early age and close-family relations take a lot of time. In other cases, students may have to work, making it difficult to plan team meetings for their project work. In addition, in their schooling experience, Qatari students are used to having their schedules arranged by teachers and parents. This cultural background can help to explain some of the challenges Qatari students face when getting used to PBL. Students were aware of the importance planning to allocate time for working on projects within the available time, and examples varied from working over break time to working outside college and over the weekends. Previous

studies have shown that self-regulating learners engage in time management activities that include making decisions about effort allocation of their work (Pintrich, 2004).

An interesting finding was that students relied on prior knowledge in terms of material studied, tools used (i.e., technology), and work-related experience while working on project/assignments. Students found it more convenient to recall previously related learning experience as content studied at the previous level (level 1) or at high school. Similarly, Mahmoodi, Kalantari, and Ghaslani (2014) found that one of the five SRL strategies most frequently used included, “Making associations between new English and other English I already know” (1066). Findings of the same study also showed that topic familiarity gives them positive feeling toward learning and drove participation in class. Mahmoodi, Kalantari, and Ghaslani (2014) also found a significant correlation between SRL in general, especially making associations, and motivation. Moreover, students were able to use tools or techniques they had previous experience with such as movie making, music composing, surveying tools, and Microsoft office applications. According to Pintrich (2004) familiarity with the topic, tools needed to complete it or the relevance of the task to personal experience were considered to be strategies to regulate learners’ motivation. This point supports students’ proactive behavior toward tasks related to course material in general or projects specifically.

For the monitoring and controlling phase, as reviewed in the literature, one of the core aspect of controlling cognition is the selection of learning strategy such as seeking help (Pintrich, 2004). Participants in this study discussed ways of seeking help such as from peers, instructors or the internet. Zumbrunn, Tadlock, and Roberts (2011) advised that self-regulated learners frequently sought help and advice from others when necessary as asking peers.

It was found that students in this study referred to the term “feedback” to express “reflection”. Students have little knowledge about reflection and how it takes place after a project or assignment submission. Students did not report such strategies because they referred to the term “feedback” to express “reflection”. By reviewing the related literature, reflection is viewed as requiring cognitive judgment about how students did during their work (assignment or project) after work is done (Leigh & Bailey, 2013). The participants, however; seemed not to be aware of this action, that is, once the project or assignment was submitted there was not space to re-think about it. Leigh and Bailey (2013) argued that although students are encouraged to be engaged in reflective practice, there is a lack of help to develop this skill or provide a personal model of reflective practice. Feedback is an ongoing action that helps learners to improve before the final submission (Nguyen, 2016). An interesting finding from this study was that student favored receiving feedback from their group partners or peers over the teacher. This finding is aligned with EKŞİ’s 2012 study, which explored students’ perceptions toward peer feedback in writing. The majority of the participants valued peer feedback and the groups did not achieve less than the other groups in the study that relied on teacher’s feedback only. However, Nicol and Macfarlane-Dick (2007) argued that good feedback practices can elicit opportunities to practice personal regulating aspects of learning and can lead to reflection on that practice. The research carried out by Nicol and Macfarlane-Dick (2007) found that giving a good feedback facilitates the development of self-assessment or reflection in learning.

Although Zhao and Zheng (2014) found that Chinese students used reflection as a strategy in-team projects, this study did not identify evidence of the fourth phase (reflection). This may be because participants in the current study were new to college and new to the PBL experience. This means relevant educational activities are needed

to facilitate student ability to reflect, not only individually, but also in a team in order to maximize learning opportunities from PBL (Du, Su & Liu, 2013). Further longitudinal research is needed to explore whether the Qatari students would develop the fourth stage of strategy – reflection- in team based learning when they are at a more mature and experienced stage.

5.1.2 Students' views on collaboration

The perception of collaboration reported by Qatari tertiary students was identified from the qualitative data to answer the second research question: What are Qatari students' views about collaboration? Particularly, students were asked how they perceive collaboration, and whether they preferred learning collaboratively or individually. Findings of this study confirmed that more than half of the students preferred learning with others and acknowledged how their collaborative learning experience provided them with various learning opportunities. More specifically, and aligned with findings by Almajed, Skinner, Peterson, and Winning (2016), students perceived that people with different perspectives bring new opinions and inputs to their discussions. This factor was viewed as being important for influencing and enriching their experiences.

Another important finding was members' willingness to collaborate. This is an important factor that motivates participation in collaborative learning. A similar idea was reported by Almajed, Skinner, Peterson, and Winning (2016); they called it "limited participation". Students in the above mentioned study noticed that quiet members had a limited participation in group and that this lack of participation negatively affected their collaborative learning. This was seen as an obstacle to collaboration and called "free-riding" (Le, Janssen, & Wubbels, 2018) referring to when some peers contribute more compared to others, which affects students'

collaborative experiences negatively. Similarly, this was seen as a major challenge in collaborative work (Popov, et al., 2012).

Reasons participants in this study gave for disliking collaborative learning was that learning with others distracted their attention. They also expressed that it took more time, lowered motivation, and limited their ability to monitor their own learning. They also felt that learning together with others was especially difficult when they did not know the people in their group. These reasons were in line with findings reported by previous studies from Al-Kaabi (2016) who found that participants agreed that they preferred working individually and performing tasks by themselves. These participants justified their preference by arguing that learning individually enabled them to save time, effort and learn more. Moreover, Al-Kaabi (2016) reported that the participants “feeling more comfortable” was important in project work and that working with students who they did not know was quite difficult. On the other hand, Le, Janssen, and Wubbels (2018) found that working with classmates who are friends or they have a “friendship” with in collaborative work was preceived as a problem, since it was found to limit the desire toward colloabrative learning. Participants in this study were found to be “less self-disciplined”, which made some members take on less responsibility toward tasks or in group efforts. Examples given by students in this study were classmates arriving late to team meetings or not submitting assignments on time. Students also reported that team members felt relaxaed to discuss off-topic subjects while working together.

5.1.3 Relating self-regulating strategies used in project work and views on collaboration

Previous research studies have provided evidence of a correlation between students’ perception of collaboration and their approaches toward learning such as web-

based learning. In Chan and Chan's (2011) quantitative study, they found that students who used deep approaches to learn were more involved in collaborative web-based learning. Zhao and Zheng's (2014) qualitative study also confirmed a significant correlation between perceptions of collaboration and self-regulated strategies. Since this current study is limited to qualitative data, it is not aimed to investigate correlations, nevertheless findings identified certain connections between self-regulating strategies used, such as setting goals and planning, and students views about collaboration. In contrast to the previously mentioned studies, a few students in this study were less motivated by joining collaborative work and favored learning (i.e., doing projects) by themselves. These students viewed collaborative work as an "obstacle" and "distraction" that limits their motivation and self-regulated strategies use to perform tasks such as planning. This suggests that further studies could focus on the association between learning strategies and collaboration in the Qatari context with multiple sources of data.

5.2 Limitations

Due to the short duration of the academic term in the first year English program (eight weeks), starting project work after the midterms, and the fact that conducting interviews is a time-consuming process (Sabbah, 2017), this study had a limited number of participants. Moreover, quantitative data and observation data may compliment the results of the current study as this study is limited to self-reported qualitative data.

The method in this study could be strengthened by improving coding reliability assessments. The Pearson correlation test can be used to calculate the inter-reliability between raters so as to ensure the reliability of coding. Moreover, as an individual researcher, one may also increase reliability by doing several rounds of coding and

numerating them and then calculating the INTRA-reliability between several rounds. Moreover, the member-check technique can be used for validity findings by sharing those findings with research participants to ensure accuracy.

To conclude, this study has explored self-regulating strategies used by Qatari tertiary students, especially when working on project work, and has assessed and analyzed their views on collaboration. Students reported self-regulating strategies such as goal setting, planning, prior knowledge activation, and seeking help. Moreover, Qatari students were found to value collaboration efforts, even when they prefer to learn individually. Additionally, students can be trained to evolve their feedback perceptions to develop reflection practices. Furthermore, this study might contribute to the literature and fill the gap in knowing about college students' self-regulated learning strategies in project work and their collaboration preferences. This study might advise academic institutes in Qatar, GCC and the Middle East about how they can support students with the required teaching/learning activities to enhance learners' learning strategies along with other students' skills. The context in this study did not apply PBL during the time it was conducted. Addressing PBL while investigating self-regulated strategies in project work and collaboration preferences could form the foundation for planning PBL curriculum and determining the capabilities of learners in an environment.

5.2 Implications and future perspectives

Findings from this study presented challenges for implementing a collaborative learning instructional approach (i.e., project-based learning) for Qatari students. Findings imply that tertiary students used learning strategies such as goal setting, planning and prior knowledge activation, which gave them a sense of control over their learning. Although some students may have preferred learning individually, they were able to actively participate in collaborative learning. Instructors were seen as being

able to provide scaffolding to help students acquire skills and strategies associated with SRL. Students should also be trained to improve their feedback practices to reach reflective levels, especially in project work.

References

- Ministry of Planning and Development . (2016). *National Development Strategy 2016–2030 (VISION 2030)*. Port of Spain: Ministry of Planning and Development .
- Al-kaabi, A. (2016). Effects of Collaborative Learning on the Achievement of Students with Different Learning Styles at Qatar University (QU) (Doctoral dissertation). Retrieved from <https://bura.brunel.ac.uk/bitstream/2438/15137/1/FulltextThesis.pdf>
- Almajed, A., Skinner, V., Peterson, R., & Winning, T. (2016). Collaborative Learning: Students' Perspectives on How Learning Happens. *Interdisciplinary Journal of Problem-Based Learning*.
- Al-Naimi, I. (n.d.). *President's Message*. Retrieved from www.ccq.edu.qa: <http://www.ccq.edu.qa/English/AboutCCQ/Pages/PresidentMessage.aspx>
- Alshenqeeti, H. (2014). Interviewing as a Data Collection Method: A Critical Review. *English Linguistics Research*, 39-45.
- Astawa, N. L., Artini, L. P., & Nitiasih, P. K. (2017). Project-based Learning Activities and EFL Students' Productive Skills in English . *Journal of Language Teaching and Research* , 1147-1155.
- Bansode, M. M. (2015). Use of Project based Learning . *Journal of Engineering Education Transformations*, 2349-2473.
- Barkley, E., Cross, K. P., & Major, H. (2005). *Collaborative Learning Techniques* . San Francisco: Jossey-Bass.
- Bell, S. (2010). Project-based learning for the 21st century: skills for the future. *The Clearing House*, 39–43.

- Biggs, J. (1987). *Learning Process Questionnaire Manual. Student Approaches to Learning and Studying*. Melbourne: Australian Council for Educational Research.
- Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university*. New York: McGraw-Hill.
- Biggs, J., Kember, D., & Leung, D. (2001). The Revised Two Factor Study Process Questionnaire: R-SPQ-2F. *British Journal of Educational Psychology*, 133-149.
- Blaikie, N. (2003). *Analyzing Qualitative Data: from Description to Explanation*. California: SAGE.
- Cegielski, C. G., Hazen, B. T., & Rainer, R. K. (2011). Teach Them How They Learn: Learning Styles and Information Systems Education. *Journal of Information Systems Education*, 135-145.
- Chan, C., & Chan, Y.-Y. (2011). Students' views of collaboration and online participation in Knowledge Forum. *Computers & Education*, 1445-1457.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education*. New York: Routledge.
- Creswell, J. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Among Five Approaches*. California: Sage.
- Creswell, J. (2014). *Research Design: Qualitative, Quantitative and Mixed Method Approaches*. London: SAGE.
- Dillenbourg, P. (1999). What do you mean by collaborative learning? *Collaborative-learning: Cognitive and Computational Approaches*, 1-19.

- Du, Ebead, Sabah, Ma, & Nagi. (2019). Engineering students' approaches to learning and views on collaboration. *Eurasia Journal of Mathematics, Science, and Technology Education*.
- Du, X., & Han, J. (2016). A Literature Review on the Definition and Process of Project-Based Learning and Other Relative Studies. *Creative Education*, 1079-1083.
- Du, X., Massoud, W., Al-Bannad, N., Al-Moslihd, A. M., Abu-Hijlehd, M. F., Hamdy, H., & Cyprian, F. S. (2016). Preparing foundation-year students for medical studies in a problem-based learning environment: Students' perceptions . *Health Professions Education*, 130–137.
- Educational Supervision Office - English Department. (2017). *Project Based Learning-Learning In Action*. Doha: Ministry of Education and Higher Education.
- EKŞİ, G. (2012). Peer Review versus Teacher Feedback in Process Writing: How Effective? *International Journal of Applied Educational Studies*, 33-48.
- English Language Center. (2017, October 13). Retrieved from Community College of Qatar:
<http://www.ccq.edu.qa/English/Academics/Departments/ELC/Pages/default.aspx>
- Fadlelmula, F. (2010). Mathematical Problem Solving and Self-Regulated Learning. *The International Journal of Learning*, 364-372.
- Fadlelmula, F. K., & Koç, M. (2016). *Overall Review of Education system in Qatar*. Deutschland: LAP LAMBERT.
- Faris, A. O. (2009). *The Impact of Homogeneous vs. Heterogeneous Collaborative Learning Groups in Multicultural Classes on the Achievement and Attitudes of Nine Graders towards Learning Science*. Doha.

- Harmer, N., & Stokes, A. (2014). *The benefits and challenges of project-based learning: A review of the literature*. England: Pedagogic Research Institute and Observatory.
- Howard, B. C., M. S., Shia, R., & Hong, N. S. (2000). Metacognitive Self-Regulation and Problem-Solving: Expanding the Theory Base Through Factor Analysis. *American Educational Research Association*, 1-9.
- Ibrahim, N., Shak, M., Mohd, T., Ismail, N., Perumal, D., Zaidi, A., & Yasin, S. M. (2015). The Importance of Implementing Collaborative Learning in the English as a Second Language (ESL) Classroom in Malaysia. *Procedia Economics and Finance* , 346-353.
- Ikhlef, A., & Knight, S. (2013). Conditions for student-centered teaching and learning in Qatari elementary math and science classrooms: Relationship between classroom processes and achievement of curriculum standard. *Near and Middle Eastern Journal of Research in Education*, 1-20.
- Ivankova, N., Creswell, J., & Stick, S. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field Methods*,, 3–20.
- Jeroen Janssen, H. L., & Wubbels, T. (2018). Collaborative learning practices: teacher and student perceived obstacles to effective student collaboration. *Cambridge Journal of Education*, 103–122 .
- Kember, D., Biggs, J., & Leung, D. (2004). Examining the multidimensionality of approaches to learning through the development of a revised version of the Learning Process Questionnaire. *British Journal of Educational Psychology* , 261–280.
- Khalifa, B., Nasser, R., Ikhlef, A., Walker, J. S., & Amali, S. (2016). A qualitative study of student attitudes, perceptions, beliefs, outlook and context in Qatar:

- Persistence in higher education. *Near and Middle Eastern Journal of Research in Education*, 1-22.
- Kinsella-Meier, M. A., & Gala, N. M. (2016). Collaboration: Definitions and Explorations of an Essential Partnership. *Odyssey: New Directions in Deaf Education*, 4-9.
- Kitzinger, J. (1995). Qualitative Research: Introducing focus groups. *British Medical Journal*, 299-311.
- Kolmos, A., Du, X.-Y., Dahma, M., & Qvist, P. (2008). Staff Development for Change to Problem Based Learning. *International Journal of Engineering Education*, 772-782.
- Kvale, S. (1996). *InterViews: An Introduction to Qualitative Research Interviewing*. California: Sage Publications.
- Law, V., Ge, X., & Eseryel, D. (2016). The Development of a Self-regulation in a Collaborative Context Scale. *Tech Know Learn*, Springer.
- Le, H., Janssen, J., & Wubbels, T. (2017). Collaborative learning practices: teacher and student perceived obstacles to effective student collaboration. *Cambridge Journal of Education*, 1469-3577.
- Leigh, J., & Bailey, R. (2013). Reflection, reflective practice and embodied reflective. *Body, Movement and Dance in Psychotherapy*, 160–171.
- Lichtman, M. (2010). *Qualitative Research in Education: A User's Guide*. California: Saga.
- Macpherson, A. (2015). *Cooperative Learning Group Activities for College*. Surrey, BC Canada: Kwantlen Polytechnic University.

- Mahmoodi, H. M., Kalantari, B., & Ghaslani, R. (2014). Self-Regulated Learning (SRL), Motivation and Language Achievement of Iranian EFL Learners. *Procedia - Social and Behavioral Sciences*, 1062–1068 .
- Mali, Y. (2017). EFL Students' Experiences in Learning Call Through Project Based Instructions. *TEFLIN Journal*, 170-192.
- McCusker, K., & Gunaydin, S. (2015). Research using qualitative, quantitative or mixed methods and choice based on the research. *Perfusion*, 537–542.
- Ministry of Planning and Development. (2016). *National Development Strategy 2016–2030*. Port of Spain: Ministry of Planning and Development.
- Moini, J., Bikson, T., Neu, R., DeSisto, L., AlHamadi, M., & AlThani, S. (2009). *The Reform of Qatar University*. California: Rand Corporation.
- Muijs, D. (2004). *Doing Quantitative Research in Education with SPSS*. London: SAGE Publications Ltd.
- Nguyen, H. (2016). Peer Feedback Practice in EFL Tertiary Writing Classes. *English Language Teaching*, 76-91.
- Nicol, D. J., & Macfarlane-Dick, D. (2007). Formative assessment and self-regulated learning: a model and seven principles of good feedback practice. *Studies in Higher Education*, 199-218.
- Panadero, E. (2017, April 28). A Review of Self-regulated Learning: Six Models and Four Directions for Research. *Frontiers in Psychology* , pp. 1-28. Retrieved from 8:422. doi: 10.3389/fpsyg.2017.00422
- Paris, S. G., & Paris, A. H. (2001). Classroom Applications of Research on Self-Regulated Learning . *Educational Psychologist*, 89–101 .

- Pintrich, P. (2000). The Role of Goal Orientation in Self-Regulated Learning. In M. Boekaerts, P. R. Pintrich, & M. Zeidner, *Handbook of Self-Regulation* (pp. 451-502). California: Academic press.
- Pintrich, P. (2004). A Conceptual Framework for Assessing Motivation and Self-Regulated Learning in College Students. *Educational Psychology Review*, 385-407.
- Pintrich, P. (2004). A Conceptual Framework for Assessing Motivation and Self-Regulated Learning in College Students. *Educational Psychology Review*, 385-407.
- Pintrich, R. P. (2004). A Conceptual Framework for Assessing Motivation and Self-Regulated Learning in College Students. *Educational Psychology Review*, 385-407.
- Popov, V., Brinkman, D., Biemans, H. J., Mulder, M., Kuznetsov, A., & Noroozi, O. (2012). Multicultural student group work in higher education: An explorative case study on challenges as perceived by students. *International Journal of Intercultural Relations*, 302-317.
- Postholm, M. B. (2011). Self-regulated learning in teaching: students' experiences . *Teachers and Teaching: theory and practice* , 365–382.
- Qatar General Secretariat for Development Planning. (2011). *Qatar National Development Strategy 2011-2016 Towards Qatar National Vision 2030* . Doha: Gulf Publishing and Printing Company.
- Romani, V. (2009). The politics of higher education in the Middle East: Problems and prospects. *Middle East Brief*, 1-8.

- Sabah, S., & Du, X. (2018). University faculty's perceptions and practices of student centered learning in Qatar Alignment or gap? . *Journal of Applied Research in Higher Education*, 15-30 .
- Sabbah, S. S. (2017). The Factors that Affect Qatari College Students' Motivation and Attitudes to Learn English. *Mediterranean Journal of Social Sciences* , 259-269.
- Şahin-Kızıl, A., & Savran, Z. (2016). Self-Regulated Learning in The Digital Age: An EFL Perspective. *Novitas-ROYAL (Research on Youth and Language)*, 147-158.
- Scardamalia, M., & Bereiter, C. (2011). A Brief History of Knowledge Building. *Canadian Journal of Learning*, 1-16.
- Schunk, H. D. (2005). Self-Regulated Learning: The Educational Legacy of Paul R. Pintrich. *Educational Psychologist*, 85–94.
- Scott, C. L. (2015). THE FUTURES OF LEARNING 2: WHAT KIND OF LEARNING FOR THE 21st CENTURY? *UNESCO: EDUCATION RESEARCH AND FORESIGHT*, 1-14.
- Shi, H. (2018). English Language Learners' Strategy Use and SelfEfficacy Beliefs in English Language Learning. *Journal of International Students*, 724-741 .
- Stasz, C., Stasz, E. R., Martorel, F., Constant, L., Goldman, C. A., Moini, J. S., . . . Salem, H. (2007). *Postsecondary education in Qatar: employer demand, student choice, and options for policy*. California: RAND Corporation.
- The partnership for 21st century learning. (2007). *Framework for 21st Century Learning*. Washington DC: The partnership for 21st century learning.
- The Partnership for 21st Century Skills. (2008). *21st Century Skills, Education & Competitiveness*. Tucson: The Partnership for 21st Century Skills.

- Thomas, J. W. (2000, March). *A Review of Research on Project-based Learning*. Retrieved from http://www.bobpearlman.org/BestPractices/PBL_Research.pdf
- Tinmaz, Y. (2006). Implementing Project-Based Learning and E-Portfolio Assessment in an Undergraduate Course. *Journal of Research on Technology in Education*, 309-327.
- Vermunt, J. (1996). Metacognitive, cognitive and affective aspects of learning styles and strategies: A phenomenographic analysis. *Higher Education*, 25-50.
- Wurdinger, S., & Qureshi, M. (2015). Enhancing College Students' Life Skills through Project Based Learning. *Innovative High Education* , 279–286 .
- Zhao, K., & Chan, C. (2014). Fostering collective and individual learning through knowledge building. *International Journal of Computer Supported Collaborative Learning*, 63–95.
- Zhao, K., & Zheng, Y. (2014). Chinese Business English Students' Epistemological Beliefs, Self-Regulated Strategies, and Collaboration in Project-Based Learning. *Asia-Pacific Educational Resources*, 273-286.
- Zimmerman, B. J. (1990). Self-Regulated Learning and Academic Achievement: An Overview. *Educational Psychologist*, 3-17.
- Zumbrunn, S., Tadlock, J., & Roberts, E. D. (2011). *Encourage Self Regulated Learning in the Classroom* . Virginia: Metropolitan Educational Research Consortium.

Appendix A: Interview Questions

1- صف تجربة تعليمية ممتعة بالنسبة لك؟ لما كانت ممتعة؟
Can you describe an interesting learning experience to me? Why is it interesting?
2- ما هو مصدر المعلومات الأكثر مصداقية بالنسبة لك؟ عند الرغبة بتعلّم شيء معين، هل تعتمد على الخبراء مثل الأساتذة، المدربين؟ كيف تعرف ما إن كان الشخص خبيراً في مجاله؟
What source of knowledge do you most trust? In learning something you really want to know, can you rely on experts, say teachers, trainers, coaches etc.? How do you know when someone is an expert?
3- كيف تعرف مدى معرفتك بأمر ما؟
How do you know you know something?
4- عند عملك على إحدى مشاريع المقررات، هل لديك هدفك التعليمي خاص؟ اذكره
Do you have your own leaning goals in doing the course project? What is it
5- هل بإمكانك وصف ما ستقوم به في المشروع؟
Can you describe what you are going to do in the project?
6- كيف ستطبق/تنفذ المشروع؟ (صف الطريقة أو الآلية)
How are you approaching the project?
7- ما هي الصعوبات المحتمل مواجهتها أثناء تنفيذ المشروع يمكنك تصور ها الآن؟
What are the potential difficulties in doing the project work you could visualize now?
8- ما الذي ستقوم به عند مواجهتك لهذه الصعوبات فعلياً أثناء تنفيذ المشروع
What would you do if you met those difficulties in implementing your initial plan?
9- ماذا الذي قد يقوم به أفراد مجموعتك في حال فشل تنفيذ خطة المشروع؟
What would your group do if unfortunately, your initial plan turned out to be a flop?
10- هل تحصل عادةً على تأمل بشأن عملك من أعضاء المجموعة؟ هل لدي مجموعتك تأمل بشأن عمل المجموعة؟ كيف يتم ذلك؟ هل تجد هذه التأملات في نهاية العمل مجدبة لماذا؟
Do you usually have individual reflections on what you did? Does your group usually have group reflections? How? Do you find these reflections helpful? In what way?
11- هل بإمكانك وصف عمل جماعي ناجح قمت به سابقاً؟ لما تجده ناجحاً في اعتقادك؟
Can you describe a successful group work you did before? (Why do you think it was successful?)
12- ما هي الصعوبات التي واجهتها أثناء العمل التعاوني الجماعي؟
What difficulties have you met in doing collaborative work?
13- هل تعتقد بأن عملك مع الآخرين يساعدك في عملية التعلم؟ كيف؟ اعط أمثله
Do you thinking working with others can help you learn? How? Give some examples.