The Effect of Using Electronic Learning Contracts on EFL Students' Self-directed Learning Readiness

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Abstract

This study aimed to investigate the effect of using electronic learning contracts on the self-directed learning readiness of EFL students. A one-group pre-posttest design was adopted. Thirty-six 3rd-year EFL students at Faculty of Education, Suez University, were pretested on self-directed learning readiness before the experiment and then posttested after it. The electronic learning contract scenario was introduced to participants during a class orientation session. Then, they self-organized into teams and worked online on a discussion page where each team planned and created an electronic learning contract with the instructor on a project related to the course they were studying. Each team had to include in their contract their learning objectives, evidence that these objectives had been achieved, best resources that would enable them to achieve the stated objectives, means for assessing the completed work as well as a due date for completing their project. The instructor monitored participants' progress in developing their projects as well as their engagement in focused discussions. She was also responding to their questions via email and on the discussion page. Teams published their projects online and each participant self- and peer-evaluated the projects. The instructor assessed projects according to the criteria stated in the contracts. Statistical analysis revealed a significant improvement in self-directed learning readiness between pretest and posttest in favor of the posttest ($t=6.608$, $p<0.05$). It was recommended that electronic learning contracts should be used for developing EFL learners' self-directed learning.

Key words: Electronic Learning Contracts, EFL Students, Self-directed Learning Readiness

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Introduction and Background of the Problem

Since the global society is extremely diverse and ever changing (Ariizumi, 2003) and since there is a continuing pressure to remain competitive, human beings need to constantly acquire new knowledge and skills (Bates, 2005). One way to achieve this is through approaches that emphasize self-directed learning (Silva, 2009). This is because the skills associated with the concept of self-directed learning enable individuals armed with these skills to successfully meet the demands of constantly changing professions (Healey, 2008).

Being an essential skill required in the 21st century educational world (Saxena, 2013), self-direction in learning has been one of the fastest-growing and most-researched areas of education for the past 40 years (Guglielmino, 2013). Self-directed learning refers to a learning process where the student takes the initiative in identifying learning needs, preparing goals, determining resources and evaluating learning outcomes (Ellinger, 2004). Self-directed learning views learning as an individual quest for meaning and relevance and is thus a potent tool to learn at one's own pace and on one's own time (Silva, 2009). On the cognitive side, self-directed learning allows individuals to focus effort on useful information they do not yet possess, can expose information that is inaccessible via passive observation and may enhance the encoding and retention of materials (Gureckis & Markant, 2012). Therefore, the goals of self-directed learning are to enhance learners' ability to be proactive in their learning and to foster transformational learning (Merriam, Caffarella & Baumgartner, 2007).

Self-directed learning is human beings' most natural way to learn (Guglielmino, 2008). It allows learners to be more effective learners and social beings (Abdullah, 2001). To become self-directed learners, students must learn to assess the demands of the task, evaluate their own knowledge and skills, plan their approach, monitor their progress, adjust their strategies as needed and monitor and adjust their approaches to learning (Ambrose, Bridges, DiPietro, Lovett & Norman, 2010). In a self-directed learning environment, students gain knowledge as it becomes relevant to a solution for a problem at hand (Flores, 2014). Instead of being spoon-fed, self-directed learners actively engage in their learning processes and demonstrate a high degree of desire and control over the pursuit of their learning goals (Chyung, 2007). Rather than being limited by the flow of information from passive experience, self-directed learners are free to choose which information they want to learn (Gureckis & Markant, 2012). According to Ontario Association of Adult and Continuing Education (2013), being a self-directed learner means that a person is able to: (1) understand what he/she needs in

order to learn, (2) go about obtaining what he/she needs and (3) do what it takes to learn new things in any environment.

The role of teachers in self-directed learning shifts from recitation to provocation, from telling to asking and from instruction to guidance, teaching students to think and find out for themselves (Gibbons, 2002). In this respect, Merriam et al. (2007) state that:

> a part of the job of educators is to help learners … to be able to plan, carry out, and evaluate their own learning and to become critically aware of what has been taken for granted about one's own learning…. Such self-knowledge is a prerequisite for autonomy in self-directed learning. (p107)

Despite the importance of self-directed learning, and although it became a commonplace to find self-directed lifelong learning within the mission statements of most higher education institutions (Payne, Rundquist, Harper & Gahimer, 2013), the opportunity to choose learning activities and practice self-directedness in learning is rarely given to students in formal higher education settings (Francom, 2011; Hiemstra, 2013). Being a lecturer of TEFL, the researcher noted that most higher education instructors still rely on teacher-directed approaches and neglect self-directed learning. Moreover, she administered a self-directed learning readiness scale to a sample of EFL students at Faculty of Education, Suez University, and found that most students suffer problems with self-directed learning readiness.

The widespread use of the Web and other Internet technologies in higher education has exploded in the last two decades (Chen, Lambert & Guidry, 2010). This provided teachers with a wide range of new and exciting teaching experiences that are not possible in traditional classrooms (Nam & Smith- Jackson, 2007) and compelled them to confront existing assumptions of teaching and learning (Garrison & Kanuka, 2004). Many different configurations and instructional tools are available for Web-based learning instructors (Cook, Garside, Levinson, Dupras & Montori, 2010). One of these tools is the electronic learning contract (Fedeli, Giampaolo & Boucouvalas, 2013; Jefsioutine & Jerrard, 2004; Litchfield, 2014; Motschnig-Pitrik, Derntl & Mangler, 2003).

Problem and Purpose of the Study

The problem of this study was that there were some weaknesses in EFL students' self-directed learning readiness. In order to find a solution for this problem, the present study attempted to use electronic learning contracts.

Hypothesis of the Study

There would be a statistically significant difference ($\alpha \leq 0.05$) in third-year EFL majors' self-directed learning readiness between the pretest and the posttest in favor of the posttest.

Significance of the Study

1. Introducing a relatively new pedagogical concept (i.e., electronic learning contracts)
2. Directing educators' attention to the necessity of enhancing self-directed learning readiness
3. Helping EFL students use the Internet and social media in learning

Operational Definitions of Terms

The terms below, wherever seen in this study, have the following operational definitions:

1. Electronic Learning Contract

An electronic learning contract is a negotiated written agreement between a team of EFL learners and their instructor used to assist the production of a learning project that meets both the learning and the teaching agendas. It specifies learners' objectives, resources, final products and specific criteria for assessment as well as a due date for completing the projects. Work is carried out online on a discussion page where team members interact, negotiate, create their contracts, get the instructor's approval to the contracts, submit their projects, self-assess them and receive feedback from the instructor as well as from other colleagues.

2. Self-directed Learning Readiness

Self-directed learning readiness is the degree the learner possesses the attitudes, abilities and personality characteristic necessary for: (1) openness to

learning opportunities, (2) self-concept as an effective learner, (3) initiative and independence in learning, (4) informed acceptance of responsibility for one's own learning, (5) a love to learn, (6) creativity, (7) future orientation and (8) the ability to use basic study skills and problem-solving skills.

Delimitations of the Study

The generalization of the results of the present study is delimited to the following:

1. Participants were 36 third-year EFL majors at Faculty of Education, Suez University
2. The study lasted throughout the first term of the academic year 2014-2015.
3. Measuring self-directed learning readiness was limited to eight dimensions: (1) openness to learning opportunities, (2) self-concept as an effective learner, (3) initiative and independence in learning, (4) informed acceptance of responsibility for one's own learning, (5) a love to learn, (6) creativity, (7) future orientation and (8) the ability to use basic study skills and problem-solving skills.

Review of Related Literature

A contract is an agreement between parties. Contracts can be formal (e.g., mortgage documents) or informal (e.g., promises) (Chyung, 2007). In educational settings, the course syllabus is a contract between the instructor and students (Murphy, Mahoney & Harvell, 2000). The idea of contract learning hinges on learners planning their own learning based on their learning needs, prior experiences, interests, goals and self-competence (Ruey, 2010). Contract learning is a method that uses a contract to facilitate learning (Chyung, 2007). That is to say, a learning contract is a tool for implementing the contract learning (Aly, 2006).

The use of the learning contract is derived largely from the ideas of educators such as Malcolm Knowles. He realized that each learner had different learning needs and that contracts allowed learners to develop personalized learning plans (Blondy, 2007). A learning contract is the end result of an ongoing process of negotiation between a teacher and a student with the purpose of developing a learning program that meets both the learning and the teaching agendas (Brecko, 2004; Brewer, Williams & Sher, 2007).

A new peak of interest in learning contracts has begun to appear with the advent of widespread online learning and hybrid instruction (Codde, 2006; Ware, 2011a). Electronic learning contracts are an example of how technology can add value not only to intellectual knowledge transfer but equally to soft skills and a wider scope of perception through the multiple roles and multiple perspectives received on one's work product (Motschnig-Pitrik et al., 2003). The Illinois Online Network (2010) and Carvalho (2015) include learning contracts among strategies which can be adapted from use in the traditional classroom to that of the online setting.

Electronic learning contracts need to be grounded in real-world application contexts. Although e-learning environments traditionally do not provide an integrated tool-set supporting the use of electronic learning contracts, some tools facilitating the development and maintenance of these contracts exist (Stary & Weichhart, 2012). These tools include weblogs, wikis (Klobučar, 2008) and discussion forums (Fedeli et al., 2013). They make the management of contracts and resulting documented work more efficient, as they allow distributing, sharing and managing different versions of electronic documents (Stary & Weichhart). According to Oliver and Herrington (2001), many online courses now provide students with forms of learning contract. They mentioned the following as formalized descriptions of the nature of the learning environment required for using electronic learning contracts:

- technology requirements (e. g., hardware needs, connectivity needs, software requirements)
- nature of the learning design (e. g., problem-based learning involving exploration and group work)
- course resourcing (e. g., what resources will be provided and on what basis, textbooks to be purchased, amount of printing required)
- roles and responsibilities of the learners (e. g., mandated use of bulletin boards, schedules for communication session, required contributions)
- forms of learner support to be provided (e. g., availability of tutor, levels of assistance for technical support)
- anticipated workloads (e. g., likely number of hours required to complete course elements)

Definition of electronic learning contracts

There is no one specific definition for leaning contracts; rather, many definitions apply to different contexts (Mohammed, 2010). Examples of these definitions include that of Gartin, Murdick, Imbeau and Perner (2002) who define a learning contract as a written agreement made between the student and the teacher that includes the specified task, the requirements for successful completion and any rules for conduct students must follow when working on their contracts. Similarly, Goodman and Beenen (2008) define a learning contract as a shared agreement among the major parties in a college or university setting regarding their roles and responsibilities with respect to learning. For Brecko (2004), the learning contract is a document used to assist planning of a learning project as well as a written agreement negotiated between a learner and a teacher. On the other hand, Mohammed (2010), defines it as a plan for a learning process, rather than a learning content or outcome that is directed toward individual learners with a focus on their own learning needs.

An electronic learning contract is a continuously renegotiable working agreement between students and teachers which focuses on group decision making processes through electronic meetings in relation to the students' learning outcomes (Kwok & Ma, 1997, p. 167). Electronic learning contracts can be in the form of living documents that are subject to ongoing negotiation, development and evolution (Hase, 2009).

Theoretical foundations of electronic learning contracts

Electronic learning contracts rely on some theoretical foundations which include the following:

1. Web-based learning

Web based learning, often called online learning or e-learning (McKimm, Jollie & Cantillon, 2003), encompasses all educational interventions that make use of the internet (Cook, 2007). It offers remote access from everywhere and at any time (Anido, Llamas & Fernandez, 2001). Web based learning goes beyond providing laptops or web front ends to students and coaches. It affects the selection of learning tasks and information sources, the interaction and the presentation formats (Stary & Weichhart, 2012). Moreover, it has put additional expectations on learners to take more initiative in their own learning (Saxena, 2013). One of the tools of web-based learning is electronic learning contracts (Fedeli et al., 2013).

2. Constructivism

Constructivism is based on the premise that learners can create their own understanding of the world by reflecting on current and past experiences (Driscoll & Carliner, 2005). Compared to the traditional classroom setting that is largely teacher-centered, constructivist learning environments have many salient characteristics such as learner centered, engaging, active, authentic, social and reflective (Sherman & Kurshan, 2005). According to constructivist learning theories, teachers are facilitators of learning processes. They monitor the progress of learners and provide impulses to the learning process, rather than giving pre-packaged solutions (Stary & Weichhart, 2012). Even though learning contracts emerged in the 1970s, they are seen as more relevant today with the current increase in interest in constructivist learning theory (Ware, 2011b) as they allow students to structure their own learning and to be active participants (Codde, 2006). The active learning aspect of the learning contract is founded in constructivism which asserts that learning is a continual, active process of constructing new knowledge or meaning through past and current experiences (Kearsley, cited in LeJeune & Richardson, 2001).

3. Independent study theory

One of the theoretical and philosophical foundations of electronic learning contracts is to be found in the theory and practice of independent study which originates from John Dewey's philosophy (Knowles, cited in Fedeli, Felisatti & Giampaolo, 2012). Charles Wedemeyer rooted his Theory of Independent Study in the ideal of learner freedom. Wedemeyer characterized independent study as one in which the learner takes responsibility for the pace of his/her own progress, with freedom to start and stop at any time (Simonson, Smaldino, Albright & Zvacek, 2012). The basic premise that characterizes the theory and practice of independent study is that the major goal of education is to transform normal learners into independent students. Here, independence is seen as a skill to be developed through (1) motivation, (2) curiosity, (3) self-sufficiency, (4) self-direction, (5) the ability to think creatively and critically and (6) awareness of resources and the ability to use them (Fedeli et al., 2012).

4. Project-based learning

Project-based learning is a teaching approach that engages students in sustained and collaborative real-world investigations (Coffey, 2008). Learning contracts are well suited to project-based learning (Derntl & Motschnig-Pitrik,

2005) and provide a framework to support project development activities (Brewer et al., 2007) in that the learners themselves determine the path of the project (Murphy et al., 2000). According to Motschnig-Pitrik, Derntl, Figl and Kabicher (2008), learning contracts show some similarity with project-based learning scenarios in that they are embedded in an iterative procedure including: (1) learning contract proposals by students/teams and approval by the facilitator, (2) elaboration of deliverables defined in the contracts and (3) evaluation of contributions.

5. Person-centered e-learning

Electronic learning contracts is derived from Person-Centered e-learning (Motschnig-Pitrik et al., 2003) which has deep roots in Carl Rogers' Person-Centered Approach (Rogers, 1983) which views learning as a shared responsibility where human beings (teacher and student) meet to inspire each other (Motschnig-Pitrik & Santos, 2006). The heart of the person-centered approach to teaching and learning is that the content to be learned and the sequence in which it is to be learned both arise out of interaction. This is an interaction of the interests, needs and curiosity of the student with the knowledge, resources and facilitative attitudes of the teacher (Rogers, Lyon & Tausch, 2014).

Components of electronic learning contracts

Many researchers identified components of learning contracts. For example, Knowles (cited in Bastable, Gramet, Jacobs & Sopczyk, 2011) points out that a complete learning contract includes the following four major components:

1. Content—specifying the precise behavioral objectives to be achieved
2. Performance expectations—specifying the conditions under which learning activities will be facilitated
3. Evaluation—specifying the criteria used to evaluate achievement of objectives
4. Timeframe—specifying the length of time needed for successful completion of the objectives

For Fletcher (2000), the learning contract should include details of the learning program, agreed learning goals and homework and attendance requirements. In the same context, Brecko (2004) assumes that learning contracts have at least four elements: (1) learning objectives, (2) learning resources, (3) the final product and (4) assessment criteria. For Goodman and Beenen (2008), there are three basic elements in the learning contract. First, there is a set of learning outcomes which represent what the student should learn. Then, there are learning

environments which specify how learning will take place to achieve the outcomes. And last, there is an institutional learning system that is responsible for designing; implementing; evaluating and redesigning the outcomes, environments and their intersections.

Steps of electronic learning contracts

According to Brecko (2004), there is no one model of a learning contract suitable for all purposes. For her, how the learning contract will look like has to be decided upon in eight steps: (1) establishing a relevant learning need, (2) refining the learning need into specific objectives, (3) identifying useful resources and strategies for learning, (4) determining what is to be produced, (5) determining the criteria for assessment, (6) reviewing the learning contract, (7) carrying out the contract and (8) self-assessing and submitting the completed work. In the same context, Bastable et al. (2011) mention 11 steps that could apply to establishing and carrying out a learning contract for any type of learner. These steps are: (1) determining specific learning objectives, (2) reviewing the contracting process, (3) identifying the learning resources, (4) assessing the learner's competency level and learning needs, (5) defining roles of the learner and the educator, (6) planning the learning experiences, (7) negotiating the time frame, (8) implementing the learning experiences, (9) renegotiating the type and level of complexity of behavioral objectives and the target dates set forth for accomplishing these objectives, (10) evaluating the learner's progress and the actual learning experience and (11) documenting evidence of achievement of learning objectives.

According to the University of Colorado Denver (2007), learning contracts can be created in a few simple steps. These steps are: (1) determining learning objectives based on student learning needs; (2) choosing learning resources and activities; (3) selecting learning products that will demonstrate learning; (4) setting completion dates; (5) determining assessment strategies and (6) reviewing, revising and implementing the contract. In this respect, Bilash (2009) points out that having established the goals of the learning contract, the following steps can take place:

1. Before beginning the contract, the teacher determines student's knowledge level so that the student can move ahead from that point.
2. During the contract, the teacher monitors the student, discusses his/her progress or problems, checks the student's work jointly and makes shared evaluations.
3. When the contract is completed, the teacher gives a mark for completion of task as well as gives feedback on work habits and general behavior.

Some educators suggest some steps for electronic learning contracts. For example, Jefsioutine and Jerrard (2004) designed an electronic learning contract process which included the seven steps of: (1) establishing the aims and objectives of learning contracts generally, (2) clarifying the aims and objectives of the electronic version, (3) mapping out the form and structure of the existing contract, (4) analyzing the process of completing a contract from the point of view of each party involved, (5) using scenarios to explore potential use of the electronic version, (6) drawing up a design specifications and (7) prototyping and testing. In the same context, Seaman (2014) mentions some steps for developing a learning contract in an online course. He advises teachers to: (1) work with the learner to identify his/her learning needs, (2) translate the learning needs into learning objectives, (3) work with the learner to specify learning resources and strategies, (4) specify evidence of accomplishment, (5) specify how the evidence will be evaluated, (6) check with colleagues and other experts to make sure the contract is a good one, (7) carry out the contract and (8) ask the learner to evaluate his/her learning experience.

Advantages of electronic learning contracts

Learning contracts are relatively easy documents to compile and provide prescriptive snapshots for learners to assist them in planning their studies and establishing expectations that are in accord with the institution and the tutor (Oliver & Herrington, 2001). According to Brecko (2004), learning contracts make the learning individuals the owners of the learning process; increase their motivation, independence and willingness to take responsibility for the results of learning and make the entire learning process much more systematic and efficient. Boyer (2003) adds that when learners set up their own learning objectives and outcomes through the contract process, they will better understand their learning style and will have better access to the desired course content.

Learning contracts both accommodate and encourage the learner in a flexible, systematic fashion through personal goal achievement reconciled with the expectations of the educational institution (Berger, Caffarella, & O'Donnell, 2004). They can provide an opportunity to include student choices in the selection of the tasks that the learner is to complete (Gartin et al., 2002). Moreover, learning contracts provide an effective and stimulating mode of study and a return to one-to-one experience, with an emphasis on independent learning (Jerrard & Jefsioutine, 2006). They also provide security and allow students to take on responsibility in an open-ended learning space. Thus, learning becomes a transitional experience between complete freedom to learn whatever is of current interest to the learner and

complete respect of the course and curriculum requirements (Motschnig-Pitrik, Derntl & Mangler, 2003).

Learning contracts, a powerful tool in conventional classrooms, can be equally effective in the online environment (Pitt & Clark, 1997). Electronic learning contracts are amenable to any new technology which will appear because contracts are open ended and flexible (Ware, 2011a). Electronic learning contracts appear to be feasible even in courses with a larger number of students (Motschnig-Pitrik et al., 2003). The integration of the contract's structure within the e-learning platform allows making use of existing functionality (Stary & Weichhart, 2012). For example, access from home, work and university locations appears to be a distinct advantage of electronic learning contracts (Jefsioutine & Jerrard, 2004).

An electronic learning contract can be a powerful means of giving learners more control over their own learning experience and motivating them to learn more effectively (Seaman, 2014). The inclusion of electronic contracts has created personal learning domains which facilitate the development of individual learning strategies (Jefsioutine & Jerrard, 2004). Electronic learning contracts hold the promise of moving the responsibility for quality work from the teacher as task master to the student as arbiter of his/her own best work (Ware, 2011a). Therefore, even though the development of the electronic contract is negotiated within a range of compliances, the contract remains to be owned by the student (Jefsioutine & Jerrard, 2004).

Challenges of electronic learning contracts

According to Chan and Chien (2000), learning contracts might impose some difficulties such as the need for time-consuming individual supervision and students' lack of knowledge in using learning contracts. Moreover, Spidell and Thelin (2006) found anxiety and resistance among some students when she introduced learning contracts. Therefore, Boyer, Maher and Kirkman (2006) recommend that before using learning contracts, an adjustment period is needed for the learner to feel comfortable in taking responsibility for self-planned learning. Brecko (2004) adds that in the beginning of using learning contracts, educators may come across the lack of familiarity with this approach and the time needed for the learning contract. She cites learners reporting some disadvantages of learning contracts which include: difficulties in understanding the concept at the beginning, limited access to adviser and the need for high self discipline for completing the learning contract. Therefore, Brecko does not suggest using learning contracts for learners more comfortable with traditional educational methods and those who are

too immature to take full responsibility and advantage of the freedom offered by using learning contracts.

More obstacles exist for teachers developing electronic learning contracts. One of these difficulties is the issue of deadlines (Ware, 2011a). Another difficulty is that the development of electronic learning contracts requires experience (Hackl, cited in Stary & Weichhart, 2012). Moreover, formulating an electronic learning contract with each student could be a lot of work, but if the learning contract helps to reach the learner where he/she is and motivates him/her to learn more effectively, it will be well worth the effort (Seaman, 2014).

Electronic learning contracts and self-directed learning

The existing literature suggests that learning contracts can be a means to get students on a path towards self-direction (Frank & Scharff, 2013) as well as to increase the quality of self-directed learning (Brockett & Hiemstra, 1991). Learning contracts are one method to help learners develop self-directedness and control of their own learning experience (Mohammed, 2010) as they facilitate self-directed behaviors through structuring an agreed learning process (Chyung, 2007). Learning contracts provide a scaffolded experience toward self-directed learning and promote learner self-direction while the learner attains specified learning objectives (LeJeune & Richardson, 2001). Moreover, they can be a low cost, low effort tool to encourage self direction (Frank & Scharff, 2013). They are practical devices helping one to bridge the gap between curricular requirements and self-initiated and self-directed learning (Motschnig-Pitrik et al., 2003) as well as meet the desires of mature learners to be self-directed (Boyer, Maher & Kirkman, 2006).

Some studies tackled the issue of the effect of traditional learning contracts on self-directed learning. For example, Caffarella (1986) found that the use of learning contracts had some impact on developing competencies for self-directed learning. Moreover, in a study conducted by O'Halloran and Delaney (2011), a sample of counselor education students indicated that learning contracts provided them with opportunities for self-directed learning and fostered greater accountability, responsibility and commitment.

Although some educators (e. g., Ware, 2011a) hold the belief that electronic learning contracts have the potential for developing self-direction, a few studies investigated the effect of electronic learning contracts on self-directed learning. For example, Chyung (2007) found that students felt more self-directed and motivated during electronic contract learning and what they really liked was being able to

select assignments that were relevant to their interests and needs. Therefore, he concluded that electronic contract learning can be an effective instructional strategy for helping learners become self-directed and motivated.

Method

Design

A one-group pre-posttest design was adopted. Students were pretested on self-directed learning readiness before the experiment and then posttested after it. Differences between the two administrations were evaluated.

Participants

Participants were 36 third-year EFL majors at Faculty of Education, Suez University. All participants spent at least 10 years learning EFL. They all ranged between 18-20 years of age.

Instrument

As confirmed by Creswell (2011), using an established instrument allows a researcher to strengthen his/her research by incorporating the instrument's reliability and validity factors into the proposed study as well as eliminate the need to develop, test and validate one's own instrument. Therefore, the researcher decided to use an already-established instrument to measure self-directed learning. Guglielmino's (1977) Self-Directed Learning Readiness Scale (SDLRS) is the most widely used assessment in the field of self-directed learning (Merriam et al., 2007), used in more than 250 studies of self-directed learning (Mohammadi & Mohammadi, 2012). Although there has been some criticism of the SDLRS, the vast majority of studies have supported the reliability and validity of the instrument (Fisher, King & Tague, 2001). As cited by Shokar, Shokar, Romero and Bulik (2002), a meta-analysis done by McCune, Guglelmino and Gracia of 10 years of research using SDLRS on various learner populations found it to be a quite valid and reliable instrument. As the SDLRS is the most widely used instrument for measuring self-directed learning, the researcher decided to use it in the present study as a pretest and posttest.

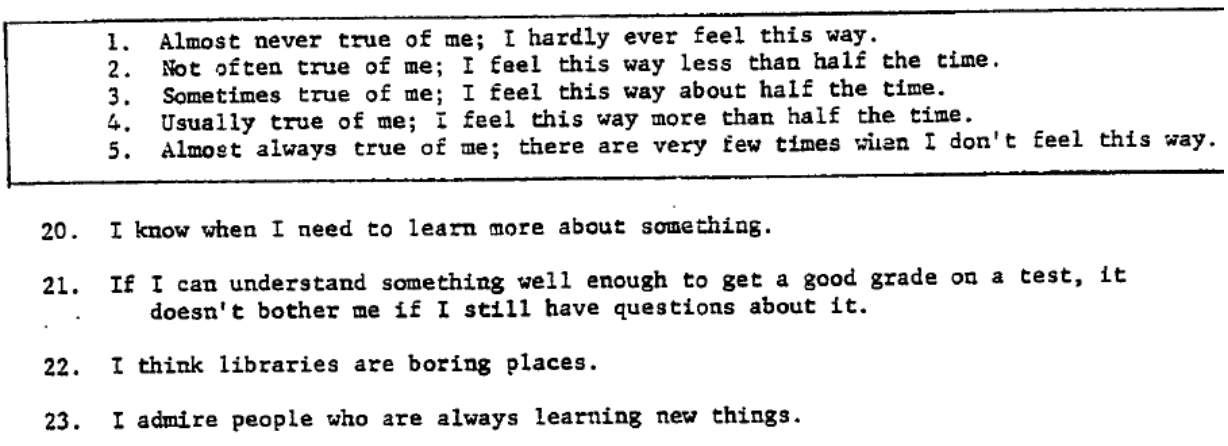
The SDLRS is a self-report instrument that uses a 5-point Likert scale scoring for each item. It was developed by Dr. Lucy Guglielmino to measure the complex of attitudes, abilities and characteristics that comprise readiness to engage in self-directed learning. When administered, this instrument is identified as the

Learning Preference Assessment to avoid response bias (Guglielmino, 2010). SDLRS items feature 5 response choices: (1) almost never true of me, (2) not often true of me, (3) sometimes true of me, (4) usually true of me, and (5) almost always true of me. Scores on the SDLRS could range from 41 (the minimal score) to 205 (the maximal score). The main focus of items are on 8 factors: (1) openness to learning opportunities, (2) self-concept as an effective learner, (3) initiative and independence in learning, (4) informed acceptance of responsibility for one's own learning, (5) a love to learn, (6) creativity, (7) future orientation and (8) the ability to use basic study skills and problem-solving skills. See the Figure below for sample items from the SDLRS.

For face validity, the SDLRS was reviewed by some specialists working in the field of TEFL and educational psychology who decided it was suitable for Egyptian EFL students. To insure reliability for the SDLRS, a group of EFL students at Faculty of Education, Suez University, performed the SDLRS twice with a two-week interval. The two administrations were correlated using Pearson's Coefficient of correlation. The correlation coefficient was 0.809 (significant at the 0.01 level).

Variables

The study included an independent variable (electronic learning contracts) and a dependent variable (self-directed learning readiness).


1. Almost never true of me; I hardly ever feel this way.
2. Not often true of me; I feel this way less than half the time.
3. Sometimes true of me; I feel this way about half the time.
4. Usually true of me; I feel this way more than half the time.
5. Almost always true of me; there are very few times when I don't feel this way.

20. I know when I need to learn more about something.

21. If I can understand something well enough to get a good grade on a test, it doesn't bother me if I still have questions about it.

22. I think libraries are boring places.

23. I admire people who are always learning new things.

Figure. Sample items from the SDLRS (Guglielmino, 1977, p. 116)

Procedures

The experimental procedures of the present study were executed in the Faculty of Education, Suez University during the first term of the 2014/2015 academic year. These procedures were carried out in three consecutive stages: 1) pretesting, 2) implementing the electronic learning contract and 3) posttesting. As for pretesting and posttesting, the SDLRS was administered to all participants before and after implementing electronic learning contracts, respectively. As for implementing electronic learning contracts, it lasted for 10 weeks and went through eight steps, adapted from the models offered by Motschnig-Pitrik et al. (2008) and Brecko (2004). These steps are described below:

1. Introducing the electronic learning contract scenario

As suggested by Boyer (2003), it is more appropriate to introduce electronic learning contracts face-to-face rather than online. Therefore, during a class orientation session that lasted 40 minutes, the researcher introduced the idea of the electronic learning contract and told participants that they would create group contracts. The meeting continued with the explanation of some examples and finished with necessary answers to students' questions. The researcher informed participants that a group discussion page was created to be a platform for discussing and implementing learning contracts (See Appendix B for Screenshots from the Electronic Learning Contracts discussion page). The group was closed (i.e., content could only be seen by group members) in order that participants would be free to express their opinions and share their thoughts without being embarrassed.

On this discussion page, the researcher provided visual and textual resources that allowed participants to understand and use the electronic learning contract. On this page, the concept of the electronic learning contract was explained, questions of students were answered and links to articles as well as videos about electronic learning contracts were posted. Moreover, an electronic learning contract development guide was created by the researcher and posted to the group page (Appendix A). This guide introduced an explanation of the concept of electronic learning contracts and their purposes and characteristics. The guide also included links to good resources that participants could read to get more information about electronic learning contracts. Moreover, the guide introduced a step-by-step process to successfully starting and completing an electronic learning contract.

2. Building student teams

Students self-organized into four teams, each including 8-10 participants. Each team negotiated and decided member responsibilities. They were informed that work would be done online and that in addition to the main discussion page used for general discussion related to the contract development process, each team would be free to create and manage their own discussion page in order to coordinate and discuss their own electronic learning contract progress. Team members decided when they would be available for meeting virtually and how often they would communicate. They also decided on the methods of communication that would be vital to the success of the team. They were directed by the researcher to make contingency plans for emergencies and decided whether or not to select an editor or leader.

3. Developing the electronic learning contract

This development process included planning as well as writing the electronic learning contract. Planning the contract went through the following steps:

A. Members of each team had to collaboratively select a topic from the course *Teaching the School Curriculum.* They identified their learning goals through brainstorming responses to questions such as: What do we most want to explore, understand or learn about this topic?
B. These learning goals were reviewed by the researcher to ensure compliance with curricular requirements as well as course context and topics.
C. Each team wrote a list of their learning objectives. Participants were asked to make sure that objectives were SMART: (S = Specific, M = Measurable, A = Achievable, R = Realistic and T = Time Framed).
D. Team members agreed upon what was going to be produced as evidence that the specific objectives had been achieved. Examples of evidence of learning that might be considered were offered by the researcher (in the Electronic Learning Contract Development Guide). Products would be presented in any digital format (e.g., an article written on a word processor, a PowerPoint presentation, a video clip, etc.) so that participants would be able to publish them online.
E. They also identified the best resources available to enable them to achieve the stated objectives.
F. The team and the instructor agreed upon means for assessing the completed work as well as a due date for completing it.

To write their contracts, teams were advised to use a template. The Electronic Learning Contract Development Guide included a suggested template. More templates were posted by the researcher on the discussion page (See Appendices B and C).

4. Reviewing and approving the contract

Learning contracts were submitted initially in draft format and posted to the group discussion page. The researcher reviewed the contracts to ensure that each section is clear and complete and reflects the agreed objectives and assessment criteria. Teams modified contracts based upon the researcher's as well as other colleagues' feedback and posted them again to the discussion page. After getting the researcher's approval on the contracts, teams started to work on their projects until they were ready to be submitted for assessment.

5. Inspecting work-in-progress

Once approved and posted on the Web, the contract was intended to be binding, though it could be changed by agreement of all team members (see Appendix C for a sample of students' contracts). The researcher monitored participants' progress in developing their projects as well as their engagement in focused discussions. She was also responding to their questions via email and on the discussion page. The instructor also maintained a positive learning environment that encouraged participants to freely share and reflect their thoughts, including providing timely technical assistance. When difficulties arose that the team could not handle, they could seek help from the researcher.

6. Publishing contract contributions

Once projects were completed, teams published them online on the discussion page (See Appendix D for a sample of students' group projects). One team had a technological problem and could not publish their work online. Therefore, they sent their project to the instructor by email and she posted it on their behalf to the discussion page.

7. Self evaluation and peer evaluation

Each student had to submit a self-evaluation of his/her team's project with a suggestion of grades for each team member. The self-evaluation was sent to the instructor by email and was visible for the instructor only. Each student had also to

peer-evaluate a contribution of a team other than his/her own. This process gave valuable feedback to the group members while allowing the instructor to estimate a group value.

8. Final inspection and grading

Finally, the instructor assessed projects according to the criteria stated in the contracts. The instructor provided feedback on both the content, presentation and overall quality of the work as well as any suggestion for improvement. The instructor used the private team evaluation from each student to help determine point values of individual participation and contribution to the group project.

Statistical Analysis

Paired-samples t-test was used to test the difference between the means of scores of the group on the pretest and the posttest of self-directed learning readiness. This difference was statistically significant ($t=6.608$, $p<0.05$); see the Table below. Appendix E includes participants' raw scores on the pretest and posttest of self-directed learning readiness. Effect size for this difference was found to be 1.05 calculated using Cohen's (1988) formula. According to Feldt (as cited in Hinkle, Wiersma, & Jurs, 1994, p. 316), this is a "large" effect.

Table. Paired-samples t-test of the difference between the means of scores of the participants on the pretest and the posttest of self-directed learning readiness

	Paired Differences			t	df	Probability
Posttest-Pretest	Mean	Std. Deviation	Std. Error Mean			
	34.81	31.60	5.27	6.608	35	Significant

Result and Discussion

The purpose of the present study was to investigate the effect of electronic learning contracts on the self-directed learning readiness of EFL students. It was hypothesized that there would be a statistically significant difference ($\alpha \leq 0.05$) in third-year EFL majors' self-directed learning readiness between the pretest and the posttest in favor of the posttest. In order to test this hypothesis, the means of scores of the participants on the pretest and the posttest of self-directed learning readiness were compared using paired-samples t-test. This comparison revealed a statistically

significant difference in favor of the posttest ($t=6.608$, $p<0.05$). Based on this result, the researcher accepted the hypothesis of the study and concluded that electronic learning contracts had a significant effect on the self-directed learning readiness of EFL students. This might find support in the findings of some studies which found learning contracts (whether traditional or electronic) to be helpful in improving self-directed learning (e.g., Caffarella, 1986; Chyung, 2007; O'Halloran & Delaney, 2011).

Moreover, the result of the present study is supported by prior literature in the field of self-directed learning. That is, there is some evidence that some characteristics of electronic learning contracts may have led to enhancing the self-directed learning of participants of the present study. The first of these characteristics is that the electronic learning contract is a web-based tool. In this respect, some studies found that using information and communication technologies can play important roles in improving self-directed learning (e.g., Dawson, Macfadyen, Evan, Foulsham & Kingstone, 2012; Fahnoe & Mishra, 2013). Another characteristic is that the electronic learning contract is a project-based tool. This might have led to improving self directed learning as found by some studies such as those conducted by Stewart (2007), Bagheri, Ali, Abdullah and Daud (2013), and Özel (2013) which found project-based learning tools to improve self-directed learning.

Another explanation for the result of the present study is that participants were required to self- as well as peer-assess their projects. Participants might have benefited from self-assessment as found by Yu (2013b) and Mahmoodi-Shahrebabaki (2014) who found that self-assessment improved self-directed learning. Moreover, peer-assessment might have improved their self-directed learning as found by Sivan (2000), Ballantyne, Hughes and Mylonas (2002), Papinczak, Young and Groves (2007) and Yu (2013a) who found that peer evaluation can improve self-directed learning.

A further explanation for the result of the present study is that working collaboratively might have improved self-directed learning as found by Ramos-Quintana, Sámano-Galindo and Zárate-Silva (2008) and Miao (2000). This is confirmed by Gwee (2003) who believes that learning in small collaborative groups nurtures and fosters the development of self-directed learning skills and lays the foundation for life-long continuing self-education. A further explanation for the result of the present study is that self-directed learning might have been enhanced due to the scaffolds offered by the researcher to participants (e.g., the orientation session, the discussion page, the electronic learning contract development guide,

the visual and textual resources, the contract templates and the feedback on the contracts as well as on the projects). This explanation finds support in the results of studies such as these conducted by Ley, Kump and Gerdenitsch (2010) and Mok and Lung (2004) which found significant improvements in self-directed learning as a result of the use of scaffolded instruction. This is also supported by LeJeune and Richardson's (2001) assertion that learning contracts provide a scaffolded experience toward self-directed learning.

Despite the success of electronic learning contracts in improving self-directed learning, there were a number of challenges in the present study. These challenges included challenges related to learning contracts, challenges related to participants, and technological and logistical challenges. Concerning the challenges related to learning contracts, some students found difficulty in formulating the different parts of the contract such as objectives, resources and evaluation criteria. It also appeared that some learners had problems conceiving the connection between the objectives, the learning materials and the evidence they were asked to submit. Concerning the challenges related to participants, many students were not ready to take initiative and responsibility for their own learning. The main reason might have been that they were used to lecture/exam types of courses. Moreover, very few students had heard about learning contracts and for some of them it was unclear why it had to be done. Additionally, most students found it very time consuming to find a common understanding among group members, to communicate and to regulate the group' s activities without meeting others face to face. Concerning the technological and logistical challenges, some students had problems while uploading the evidences of their activities. Moreover, some students did not finish projects on time.

Recommendations

In light of the results of the present study, the following recommendations seem pertinent.

1. Electronic learning contracts should be used for developing EFL learners' self-directed learning.
2. More attention should be paid to the development of self-directed learning.
3. EFL learners should be encouraged to use web-based tools in learning.
4. EFL learners should be encouraged to become self-directed learners.

Suggestions for Further Research

The following topics seem worth attempting:

1. investigating ways to alleviate anxiety and resistance to electronic learning contacts
2. investigating using cell phones and mobile learning in electronic learning contracts.
3. investigating the effect of electronic learning contacts on EFL students' language skills
4. investigating students' and teachers' attitudes towards the use of electronic learning contacts
5. comparing the effect of traditional vs. online contracts on EFL learner's motivation and commitment to learning
6. investigating the effect of other web-based tools on self-directed learning

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أثر استخدام عقود التعلم الإلكترونية على الاستعداد للتعلم المنظم ذاتيا لدى طلاب اللغة الإنجليزية كلغة أجنبية

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مستخلص

هدفت الدراسة الحالية إلى دراسة أثر استخدام عقود التعلم الإلكترونية على الاستعداد للتعلم المنظم ذاتيا لدى طلاب اللغة الإنجليزية كلغة أجنبية. تم إستخدام تصميم تجريبي يتضمن مجموعة واحدة من الطلاب عددهم ست وثلاثون طالبا من طلاب الفرقة الثالثة بشعبة اللغة الإنجليزية بكلية التربية - جامعة السويس - ولقد تم اختبار هؤلاء الطلاب فى الاستعداد للتعلم المنظم ذاتيا قبل التجربة وبعدها. تم تقديم عقود التعلم الإلكترونية للطلاب خلال لقاء توجيهى داخل قاعة الدراسة قام الطلاب بعده بتقسيم أنفسهم إلى فرق ثم تابعوا العمل من خلال صفحة للنقاش على الإنترنت حيث قام أعضاء كل فريق بتخطيط وكتابة عقد تعلم إلكترونى بينهم وبين الباحثة بشأن مشروع يرتبط بالمقرر الذى كانوا يدرسونه. وكان مطلوبا من أعضاء كل فريق أن يضمنوا فى العقد أهدافهم التعليمية ودليل يثبت تحقق هذه الأهداف بالإضافة إلى أفضل المصادر التى ستمكنهم من تحقيق هذه الأهداف وكذلك وسائل تقييم العمل النهائى وموعد الانتهاء منه. وفى أثناء ذلك كانت الباحثة تلاحظ تقدم الطلاب فى مشروعاتهم بالإضافة إلى اشتراكهم فى المناقشات. كما كانت تجيب على أسئلتهم عبر البريد الإلكترونى وكذلك من خلال صفحة النقاش على الإنترنت. وبعد انتهاء الطلاب من مشروعاتهم قاموا بنشرها على الإنترنت وقام كل طالب بعمل تقييم ذاتى وكذلك تقييم لأقرانه فى الفريق، كما قامت الباحثة بتقييم المشروعات فى ضوء المعايير المحددة فى العقود. ولقد أظهر التحليل الإحصائى تحسنا دالا فى الاستعداد للتعلم المنظم ذاتيا بين التطبيقين القبلي والبعدي لصالح التطبيق البعدى (ت = ٦,٦٠٨) . وبناء على ذلك اقترحت الباحثة استخدام عقود التعلم الإلكترونية لتنمية الاستعداد للتعلم المنظم ذاتيا لدى طلاب اللغة الإنجليزية كلغة أجنبية.

الكلمات المفتاحية: عقود التعلم الإلكترونية، الاستعداد للتعلم المنظم ذاتيا، طلاب اللغة الإنجليزية كلغة أجنبية

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