COVID-19 mandated self-directed distance learning: Experiences of Saudi female postgraduate students

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Abstract

Since the emergence of the 2020 coronavirus (COVID-19) pandemic, Saudi Arabia (SA) has preserved the safety of its citizens by mandating crisis distance education (CDE). Appreciating that most learners struggle with such an abrupt shift in delivery mode, especially one that depends on self-directed learning (SDL), this exploratory, qualitative study solicited data in May 2020 from a convenience sample of 20 Saudi female postgraduate students enrolled at a public university in the Eastern Province of SA. Findings affirmed that SDL via CDE contributed to their educational growth, and they will continue to engage with SDL after the health crisis ends. In short, their SDL CDE experience changed the way they will approach their education in the future. Their high level of SDL allowed them to assume responsibility for their learning. They especially gained an appreciation for the role of reflection, self-monitoring, and self-evaluation. SDL both instilled and promoted self-confidence, self-reliance, commitment, and perseverance. Implications for future research were tendered and universities are encouraged to intentionally build learning environments that support learner-centered and self-directed learning to move the country through and beyond the COVID 19 pandemic.

Keywords

Introduction

Since the advent of the 2020 coronavirus COVID-19 pandemic, Saudi Arabia (SA), like most other nations, has taken on one of the most important measures to preserve the safety of its citizens – it has mandated distance education. Whether completely online or a combination of distance (virtual) and physical classrooms (blended learning), distance education depends on students' self-directed learning (SDL) (Vaughan et al., 2013) more so than teacher-directed learning (TDL). SDL involves individual learners taking the initiative in the learning process rather than depending on the instructor to tell them what to do all the time (TDL) (Knowles, 1975).

But Yasmin et al. (2019) cautioned that once students become familiar with and dependent on TDL (as is the case in Saudi Arabia), they "are not psychologically prepared to suddenly adopt and adapt to SDL" (p. 35). Yet they are being expected to do just that during this pandemic. Granted, students can self-direct their learning in the regular classroom and when studying via distance with this study concerned with the latter especially as it relates to Saudi's stay home safe initiative, which is dependent on distance education. Unfortunately, self-learning is "not an integral part of Arab education" (AL Lily et al., 2020, p. 11).

Distance learning depends on technology. Over the last two decades, findings pertaining to the impact of technology on students' academic achievement range from positive and negative to zero effects and relationships. A selective literature review illustrates the positive impact. In summary, in addition to improved academic performance, distance education promotes enhanced engagement with the entire curriculum, long-term knowledge retention, and educational efficiency (i.e., improved student growth and development) (Cheng et al., 2005; Fonseca et al., 2014; Gulek & Demirtas, 2005).

Some streams of educational research link information and communication technology (ICT) with SDL especially in higher education. For clarification, ICT pertains to technology used to handle information and aid in communication via the integration of communication networks and computer networks (Kondra, 2020). Distance education depends on ICT for its survival and evolution (Scager et al., 2020; Sodhi-Berry & Iredell, 2010; Warburton & Volet, 2013), which means SDL combined with distance education is inherently tied to ICT, including access to and inclination and ability to use it while learning. The usage of ICT in higher education cannot help but influence students' decisions on SDL, because ICT can either enhance or confound learning, especially self-directed and self-regulated learning.

Self-directed learners navigate their subjects and curricula with extensive support from university faculty. SDL is an important approach for higher education and is integral to professional programs such as education (Raidal & Volet, 2009; Sze-Yeng & Hussain, 2010). But the COVID-19 pandemic profoundly influenced the world's academic environments including those in higher education. Physical buildings were closed, and university students were mandated to switch from traditional education (which normally eschews distance education) to crisis distance education (CDE) whether they were ready or not. For clarification, compared to conventional distance education, CDE is characterized by its (a) suddenness rife with unpreparedness and nominal policy direction; (b) unforeseen ubiquitousness; (c) and strict, unforgiving imposition (AL Lily et al., 2020).

The abruptness of this transition from a familiar to foreign mode of learning compels research to gauge its reception and impact (Yasmin et al., 2019) regardless of the education setting but especially in Saudi's context that aligns so closely with TDL. Also, there is widespread speculation that blended distance education will be the way of the future to stave off and/or accommodate

subsequent waves of the virus. Given the abrupt shift from TDL to SDL in Saudi Arabian higher education, the basic epistemological foundations of education must be carefully reconsidered by scholars, practitioners, and policymakers (Yasmin et al., 2019). This imperative underpinned this exploratory study.

Before the pandemic, "many [higher education] institutions had plans to make greater use of technology in teaching, but the outbreak of COVID-19 has meant that changes intended to occur over months or years had to be implemented in a few days" (Daniel, 2020, p. 2). Saudi Arabia had moved beyond planning in that the Saudi government had been funding universities to install Blackboard for the previous seven years. However, Blackboard often remained idol and gravely underutilized. Saudi university communities suddenly realized that they were not fully prepared to offer distance learning despite having technology in place. In most instances, imposition instead of gradual introduction hampered teaching and learning (Al Lily et al., 2020).

Literature Review

To better grasp the learning challenges that university students can face with a mandated shift to SDL, the literature review profiles the nuances of SDL relative to TDL. After reviewing recent, relevant literature (Al-Sultan, 2019; Du Toit-Brits, 2019; Nour Al-Den, 2017), the author formulated the following definition of SDL for this study. It is the process carried out through the learner's initiative to learn in which the learner (a) possesses self-control to regulate their learning participation, (b) manages their learning activities and interactions with both material and human components of instruction, (c) formatively assesses their academic achievement and (d) corrects their achievement path to reach intended educational goals (including instructor and self-set goals).

Historically, the introduction on SDL can be traced back to Houle (1961) who focused on the role played by a learner's intrinsic motivation to direct their own learning, which involves managing it purposefully to achieve educational objectives (Al-Rafii, 2016). Theoretically, SDL is based on social cognitive-learning theories the most prominent of which is Bandura's (2012) approach. He theorized that learners' perceptions of controlling, organizing, and directing their own behaviors in general are the main drivers in how they behave in their educational activities.

Bandura (2012) proposed that the learner's self-control serves as the regulator on these perceptions with self-control playing a key role in managing their perceptions of learning and directing any resultant behavior. Ramli et al. (2018) affirmed the importance of the learner's motivation in engaging with SDL. They reported that 52% of variation in learners' SDL was explained by their intrinsic motivation for learning. Fifty percent variation is very high with the ideal being >60% of the variance explained by one variable (Hair et al., 2018).

Key SDL Dimensions

SDL comprises four dimensions: social, technological, methodical, and personal (Abu Awad et al., 2010; Ahmed & Ramadan, 2017; Akgunduz & Akinoglu, 2016; Alsancak & Ozdemir, 2018; Bartholomew et al., 2017). In brief, the social dimension pertains to the students' ability to communicate and work with peers while assuming responsibility for self-learning. Students must be good at communicating, making decisions, being responsible, prioritizing, negotiating, and exercising their emotional intelligence skills. In addition to supporting the social dimension through more efficient (and maybe effective) communication, the technological dimension supports SDL through the individualization of learning activities according to rates of learning speed in knowledge acquisition and learning styles.

SDL also has a methodical dimension, which refers to the methods (tasks and strategies) learners follow to self-direct their learning: learn by doing, cooperating, demonstrating and discovering along with metacognition strategies (i.e., awareness of one's own thought processes especially through reflection). Finally, self-directed learning has a personal dimension; that is, it is informed by each learner's personality and traits: perseverance, flexibility, analytical abilities, and self-motivation (compared to external motivation), and they actually gain pleasure from this mode of learning. Together, these and other traits affect the self-directed learner's involvement and perseverance in carrying out their educational tasks with minimal TDL (Abu Awad et al., 2010; Ahmed & Ramadan, 2017; Akgunduz & Akinoglu, 2016; Alsancak & Ozdemir, 2018; Bartholomew et al., 2017).

Because SDL tends to be learner centered rather than teacher centered and driven, students must cultivate and hone a range of skills that help them direct their own learning instead of expecting a teacher to tell them what to do. They must be self-confident and have a positive self-concept, be self-aware, cognizant of their value schema, able to objectively self-evaluate and strategically change directions, and able to self-direct both alone and in peer groups (Alfaifi, 2016; Giveh, 2018; Kayacan & Sonmez, 2019; Sahloul, 2015; Shahrory, 2013).

Studies that examined the extent to which undergraduate learners have mastered SDL Skills. As a caveat, the author judged that any information in the literature about Saudi undergraduate SDL also pertains to Saudi graduate schools, which tend to follow the teacher-directed approach (Hamdan, 2020). Various scholars have agreed that students' possession of SDL skills tended to range between moderate and high especially for exhibiting self-confidence and a high self-concept, being self-motivated, able to self-evaluate and applying SDL learning strategies alone and in groups (Salleh et al., 2019; Shahrory, 2013; Turan & Koç, 2018).

Of all of these SDL skills, self-awareness often scored lowest, intimating that learners did not excel at knowing and acting on their strengths and weaknesses nor on shifting gears to align educational goals with known intellectual assets (Salleh et al., 2019; Shahrory, 2013; Turan & Koç, 2018). Conversely, Bhandari et al. (2020) very recently reported that most (85%) medical students believed they were aware of their strengths and weaknesses and capable of self-monitoring their learning. Other studies have shown that undergraduate learners have an adequate level of SDL skills, but it is not advanced (Abu Awad & Al-Salti, 2010; Al-Rafii, 2016; Douglass & Morris, 2018; Haidari et al., 2019).

In short, SDL does work. It has been shown to positively affect university students' learning in writing and language (Al-Sulaiti, 2017; Haidari et al., 2019; Xuan et al., 2018), computer skills (Mahmoud et al., 2015), chemistry (Nofa et al., 2011) and mathematics (Kleden, 2015; Sumantri & Satriani, 2016). In addition to academic improvement, SDL has been shown to impact both personal skills (e.g., developing continuous learning skills in life activities) (Salleh et al. 2019) and cognitive skills (e.g., critical thinking abilities) (Turan & Koç, 2018). But SDL cannot be taken for granted. Universities must scaffold and support it.

Promoting SDL at University
Indeed, scholars have affirmed the key role instructors can play when planning, designing and implementing curricula to ensure SDL. Studies have reported a direct correlation between students' mastery of SDL skills and important cognitive variables instilled by instructors' pedagogical and instructional choices: emotional intelligence and academic achievement, metacognitive skills, cognitive skills, and self-efficacy for learning (Koç, 2019; Ors & Titrek, 2018; Saeid & Eslaminejad, 2017; Shahrory, 2006). Gencel and Saracaloglu (2018) confirmed the effectiveness of systematic curricular organization including planning the curriculum using the cumulative spiral method. The

same holds for using constructive learning models (al-Sultan, 2019). Three-dimensional-based applications and the flipped classroom model positively affected learners' development of SDL skills (Ahmed & Ramadan, 2010; Ceylaner, 2018) as did using interactive, activities-based learning in practical laboratory training (Sonmez & Kayacan (2019).

A critical analysis and synthesis of related literature inspired the author to recommend qualitative changes in how higher education graduate school curricula are organized to better ensure SDL and to do so along four fronts: educational content and learning objectives, pedagogy and teaching strategies, learning resources, and evaluation and assessment (see Buitrago, 2017; Ceylaner & Karakus, 2018; Chou, 2013; Gencel & Saracaloglu, 2018; Mahmoud et al., 2015; Nofal et al., 2011; Uz & Uzan, 2018).

Educational content and objectives:
- Organize curricular content around activities and projects instead of subject matter, disciplines or separate courses thereby widening the scope for linking them and limiting the chances of placing restrictions on learners due to TDL.
- Build curricular content based on open educational activities that closely relate to real-life applications, and provide opportunities to appreciate the relevance and value of what is being learned; this approach helps maintain a continuous desire to learn, because it taps into internal self-motivation.
- Give learners opportunities to participate in selecting courses or topics they are interested in or appreciate while being respectful of any important academic considerations (perhaps other course prerequisites, graduation requirements or professional certification dictates).
- Give the appropriate amount of attention to educational goals as they relate to learners' self-awareness and their personal and life skills balanced with the current heavy focus on academic knowledge and skills in their abstract.

Pedagogy and teaching strategies:
- Give the appropriate amount of attention when teaching to learning strategies that center on the learner and enable him or her to acquire knowledge on their own and take responsibility of that knowledge.
- For teaching to better ensure that resultant learning is compatible with SDL skills, engage learners in planning.
- Professional development (PD) to augment faculty members' capabilities to facilitate SDL. Train them to use teaching strategies that are compatible with SDL: constructivist learning models, discovery strategies, cooperative learning strategies, modelling teaching strategies, and participatory learning strategies.

Learning resources:
- Maximize SDL-friendly technologies: Learning Management Systems, Learning Mobile, and Multimedia. Similarly, employ social media platforms in educational activities especially with the Flipped Classroom Model.
- Promote blended learning distance education activities to enhance SDL, which has been proven more effective than full e-learning. Blended learning affords learners a balance between their independence and direct interactive activities between them and faculty members.

Evaluation and assessment:
- Augment cognitive and competency (skills) assessment with alternative, authentic approaches. Promote non-exam evaluation activities that do not rely on classic written tests.

Examples of such rich and flexible techniques include projects, research, field experiments, observation cards and portfolios. Then provide learners with an integrated view of their entire academic performance evaluation.

- Promote self-evaluation activities along with instructors' formative and summative assessments: reflection activities, student-led conferences, rubrics (containing levels of performance), graphic organizers (make thinking visible), time management, set and monitor learning targets.

Modeling the Transition to SDL

Despite universities' support of SDL, the biggest challenge facing the enhancement of SDL skills is the transformation process that starts moving past dependency to self-directed learning. Again, a synthesis of related literature prompted the author to create a model for how this transition might unfold while withholding assumptions of causality at the present time (see Figure 1). The arrows in Figure 1 simply indicate an association between learning and teaching style, because transitioning (moving, shifting and evolving) is required before transformation (changed to an altered new state) (see Ahmed & Muhammad, 2014; Al-Sulaiti, 2017; Chou, 2012; Nofal et al., 2011; Ohashi, 2018; Shahrory, 2006; Sert & Bognuegri, 2017).

Figure 1.
Proposed Relationship between Teaching and Learning Styles Relative to Transitioning to SDL©
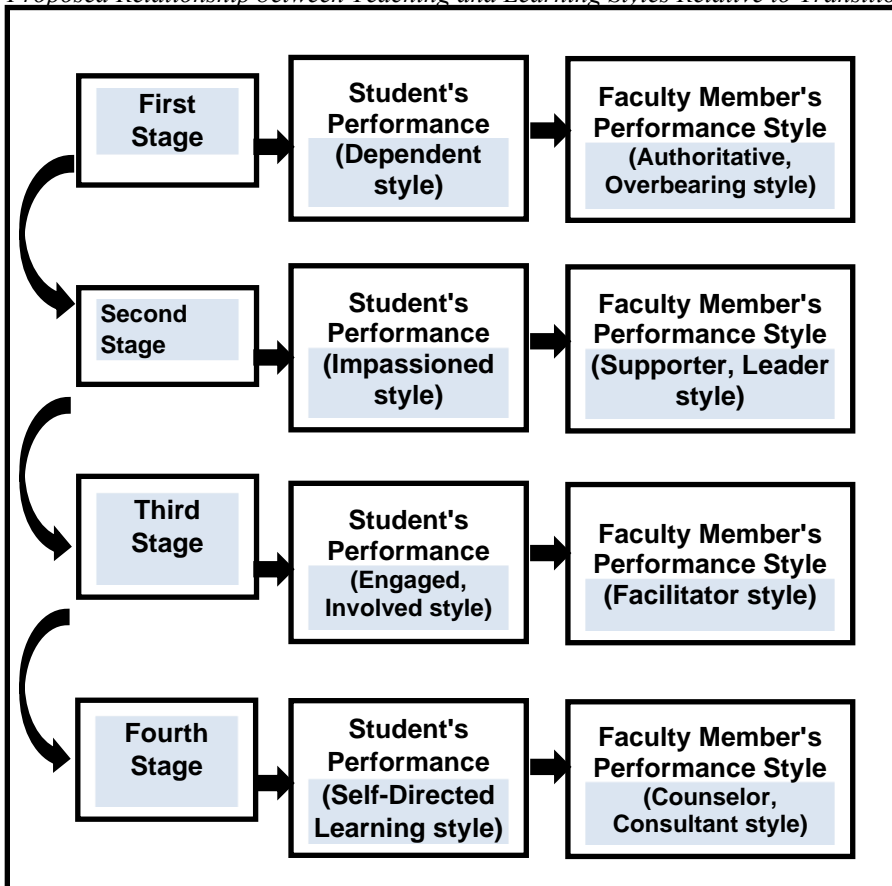
It comprises four stages involving both students and faculty. The teaching style and pedagogy that students encounter might affect their transition to different learning styles and academic performance. When students encounter an authoritative and overbearing teaching style, they might become dependent on faculty and their expertise. When faculty members use a supportive leader style, students can become impassioned learners. When educators use the facilitator style, students may become engaged learners. And, when faculty members employ the counsellor/consultant style, students might be inclined to be self-directed learners. The modelling in Figure 1 reflects the idea that even though students do have a natural learning style, they can transition to new learning styles if pedagogically scaffolded.

First Stage:
1. Student performance style: Students tend to be dependent on faculty members as a source of information. Students expect to receive information with limited chances to use any newly gained knowledge in academic or real-life applications.
2. Faculty member performance style: Faculty members expect students to depend on them and thus exercise an authoritative/overbearing teaching style by controlling all aspects of the learning experience (e.g., topics, learning exercises, resources, and assessment and evaluation).

Second Stage:
1. Student performance style: Students are interested in and impassioned by what they are learning evidenced by an open attitude to active participation in the learning process. They are attentive in class and show great interest in the curricula. They are curious, brave and take risks so they can learn.
2. Faculty member performance style: With a deeper appreciation for the active role that students can assume in the classroom, faculty members adopt a supportive teaching style wherein they ensure students' interaction and participation even in the case of medium degrees of enthusiasm or non-distinct responses. Faculty members still assume a major role in directing students to the required tasks and how they are to be achieved and evaluated. However, they provide significant support to offset students' learning difficulties.

Third Stage:
1. Student performance style: As an engaged learner, students show a clear involvement in their educational tasks, spend more time learning without weariness, show more accurate performance, and exhibit initiative. To manifest their heightened involvement, they may do more than the teacher requires to enrich their own learning.
2. Faculty member performance style: Facilitate means enable. As a facilitator, faculty members decrease their direct intervention in students' work and instead generally explain the tasks, mechanisms, and available resources. A direct intervention only happens when there is an urgent need to amend students' learning paths or effect a clear shift in how to carry out their learning tasks so they can attain educational goals.

Fourth Stage:
1. Student performance style: The self-directed learner exercises a high degree of independence in managing, planning, implementing and self-monitoring their learning. They show a sharpened desire for independence as well as exhibit a level of learning accuracy consistent with their abilities and ambitions. They make sure that the standard to which they are academically performing is compatible with their abilities and augment the latter when deemed prudent.

2. Faculty member performance style: To ensure effective SDL, faculty members would embrace the counselor/consultant style. From a position of enthusiasm for the subject matter, they advise, counsel and mentor students on many aspects of learning, so students can direct themselves with little intervention knowing advice is there if they need it. In effect, the quality control of learning becomes primarily the learners' responsibility not the faculty members' with the latter offering advice and guidance on how to plan, organize, strategize, prioritize, manage, and monitor.

Research Questions and Objectives

Before mandated distance education due to the 2020 coronavirus pandemic, Saudi postgraduate university students mainly learned through the traditional didactic teaching and learning approach (TDL) in which they passively attended lectures (Hamdan, 2020). However, when universities were shut down and education moved distance, postgraduate students were doing much more on their own. They would not be able to succeed academically unless they came to grips with self-directed learning. Yasmin et al. (2019) holds that when this type of abrupt pedagogical paradigm shift happens, students "are not psychologically prepared to suddenly adopt and adapt to SDL" (p. 35). This lack of preparedness can impact their academic experience and expectations in the short and long term. In concert, research has confirmed that SDL does work especially if it is successfully scaffolded by the university. This possible conundrum prompted two research questions:

1. Has the self-directed learning expectation of mandatory distance education contributed to the educational growth of Saudi female postgraduate students? Objectives: 3,4, and 5.
2. Will they continue to engage with SDL after the crisis ends? Objectives: 6 and 7

To facilitate gathering data to answer the research questions, seven SDL-related questions were posed to study participants. In effect, these are the research objectives or how the research questions were operationalized (McGregor, 2018):

1. What was your level of SDL before the mandated shift to crisis distance education? Provide examples.
2. How did your ability to plan for your studies, set educational goals and design specific strategies to reach them change (if it did) while engaging with SDL? With examples.
3. How did your ability to define specific strategies to reach educational goals change (if it did)? With examples
4. What personal strategies did you develop to engage in SDL?
5. How did your ability to follow and monitor your academic performance in learning (i.e., self-evaluate) and then reflect on your SDL process change (if it did)? With examples
6. Will SDL be your way to learn after the end of the global crisis? Why or why not?
7. What part of SDL will be your future method for better learning? Why? With examples.

Method

This study employed a qualitative exploratory research design. Exploratory approach (tentatively probing or investigating) is useful when little is known about a phenomenon in a given context. The intent is not to offer conclusive and final answers to the research question. Instead, using small samples and structured feedback (in this case the seven SDL-related questions), researchers strive to provide initial, broad understandings of a phenomenon thereby laying the groundwork for future studies that are more conclusive (Dudovskiy, 2016; McGregor, 2018). This exploratory study entailed soliciting reflections from Saudi female postgraduate students related to their experiences with SDL during the mandatory imposition CDE. A broad exploration of a topic generates insights that can be used to gain better knowledge (McGregor, 2018).

Sample Frame and Study Context

Over the span of several years, the author has taught or advised, in her role as professor and Vice Dean female education section, close to 300 Saudi female graduate students located in a public university in the Eastern Province of Saudi Arabia. She advocates for and usually uses a learner-centered teaching style eschewing TDL as much as feasibly possible within cultural constraints. Using convenience sampling, with a purposive bend, the final sample frame comprised 20 female postgraduate students from a course the author had just completed teaching. Participants were aged 25-45 and specialized in Arts, Education, or Basic Sciences. Although convenience sampling (i.e., easy to get) runs the risk of introducing bias, this was mitigated by the author's long-standing familiarity with this population's characteristics. Actually, exploratory research designs often use convenience sampling, because it provides an approximation of the truth relying on other scholars to expand in the future (Walonick, 2013) through more conclusive research (Dudovskiy, 2016).

Data collection

Data were collected in May 2020 at the end of the first mandatory CDE semester. After final grades had been submitted, the author uploaded the seven SDL-related questions to the Blackboard platform for a course she had just completed and invited students to answer and return their responses (in Arabic) also using Blackboard within three days. Participation was voluntary, students provided consent, and anonymity was assured by assigning pseudonyms when reporting the findings. The response rate was 95% (N=20). Before analysis, the author translated the original Arabic data into English.

Data Analysis

The author analyzed the translated data set using the following procedure. The amalgamated responses from the 20 participants to the seven SDL-related questions were first organized by separate question. A general answer to each question was generated and supported both with verbatim quotes and the researcher's interpretation of the data (McGregor, 2018). The two research questions were then answered using this compressed data set wherein data were not lost just truncated and more effectively packaged.

Results

Participants' answers to the seven SDL-related questions (i.e., the research objectives) were used to organize the presentation of findings. McGregor (2018) explained that the use of research objectives focuses the data collection process leading to a deeply focused data set that eschews irrelevant, extraneous data. In this case, the research objectives focused on key aspects of self-directed learning: planning, goal setting and strategizing, self-monitoring and self-evaluation, personal strategies to be able to self-regulate one's learning, and intent to continue as a SLD.

Findings will also demonstrate that the pedagogical relationships profiled in Figure 1 proved useful for interpreting the data. The author had already oriented the study participants to a learner-centered pedagogy in the way she taught her own classes. As proposed relative to Figure 1, the teaching style and pedagogy that students had already encountered affected their transition to different learning styles and their academic performance in the CDE learning environment. They gained an appreciation for the role of reflection, self-monitoring, and self-evaluation. SDL both instilled and promoted self-confidence, self-reliance, commitment, and perseverance. These findings affirmed a shift to Fourth-Stage learning.

Research Objective 1: What was your level of SDL before the mandated shift to crisis distance education with examples?

Both Amina and Bushra said that, before COVID, "my level of self-learning was excellent." Amina added "I'm always self-reliant in my learning." Bushra said her level of SDL "has not changed." Elaph explained that she learned how to be a SDL "before the adoption of distance learning after I enrolled in the master's Program." Conversely, Dareen commented that "my level of self-learning was weak…, but after the quarantine, I had to start learning on my own." Some participants acknowledged the growing importance of SDL in educational research, and some simply defined it intimating familiarity. Respectively, Amina said that "self-learning has been and continues to receive a great deal of attention from educational scientists." Bushra explained that "self-learning for me is the existence of self-motivation to improve, develop and change for the better."

Research Objective 2: How did your ability to plan for your studies, set educational goals and design specific strategies to reach them change (if it did) while engaging with SDL with examples?

When asked how SDL had changed their ability to plan their learning process, most participants believed they already had the ability commenting instead on how the need to be a SDL was reinforced. To illustrate, Xzena said that being a SDL had affirmed "the importance of time management, organizing, prioritizing and strategizing." Yara said that "self-education requires a good … educational plan [in order to have] a good education." As outliers, Elaph said that "after the adoption of distance education came reliance on self-education and … me only." Before that, she had depended on TDL. Qaram commented that "my ability to plan for education has changed significantly. [I now know that] distance education requires the creation of the right place and time to study, more organization [and] a plan. …The most important challenges to me were communication, negotiation, time management and facing pressures. … [But foremost, I had to find] the motivation."

Research Objective 3: How did your ability to define specific strategies to reach educational goals change (if it did) with examples?

Gihan commented that she had always been a self-directed learner "without knowing its name. … I use [many] strategies to reach my [educational] goals…: time organization, blogging, planning, organizing, consulting with colleagues and teachers, scientific research, critical, creative and contemplative thinking, and taking responsibility for my learning." On top of these strategies Faten added that "[unachieved] goals must be corrected and followed up [thereby contributing to] a good feeling of achievement." She further elucidated that any goal-related strategies "must be based on the basic priorities and interests of the person as well as her strengths [and] must be realistic." Qaram explained that once distance learning was imposed, she moved from trying to recall her educational goals and strategies from memory to writing them down thereby increasing her "ability to focus on reading and analysis, [and] I became more organized and able to understand things."

Research Objective 4: What personal strategies did you develop to engage in SDL?

Nearly all participants shared examples of personal strategies to enhance their SDL. To exemplify this finding, Tara claimed that even before mandatory distance education, she felt that people "needed to take responsibility for self-learning." In addition to managing effort, information, and resources, "I arranged the [home study] environment and [set aside] time for distance learning and [minimized] distractions." By using these and other strategies, she said "I was able to manage my time and effort to learn remotely." Marwaa clarified that any strategies she developed were not written in stone; they changed if needed to "achieve the desired educational goals [relative to] the self-educational process." In her words: "in fact, you will write a draft of your personal [learning]

strategy … and will continue to review, evaluate, modify and develop it until you reach its optimal final version."

Research Objective 5: How did your ability to follow and monitor your academic performance (i.e., self-evaluate) and then reflect on your SDL process change (if it did) with examples?

Padra said that even before the lockdown, she had appreciated that, with SDL, "the teacher is the facilitator and mentor," and students have to "apply the strategy of self-organized learning." She continued to "rely on myself in the management of my learning." She was so confident in her self-monitoring abilities that she said, "I hope after the Corona pandemic that … education depends on blended education." Also familiar with self-monitoring, Rania added that, "performance meditation … and self-reflection helped me develop a sense of satisfaction and self-confidence. … [Reflection helped me] know my strengths and … weaknesses [enabling me] to address them and improve my [academic] performance." Kalida admitted that "self-learning meditation has become deeper since the time I spend to learn on my own has increased. [It has] helped me evaluate the learning I have [personally] achieved," which was previously overshadowed by group work. "Comparing my previous performance with my current performance, [I now see the value of] relying on meditative thinking in the follow-up to learning."

Research Objective 6: Will SDL be your way to learn after the end of the global crisis? Why or why not?

Virtually all participants answered this question in the affirmative – "Yes" – but there seemed to be some confusion with some participants equating pedagogy with technology. Faten erroneously conflated SDL with Blackboard: "self-learning is a Blackboard platform in universities." She said, "Yes, I hope that self-learning is a way to follow after the end of the global crisis, [because] it increases motivation towards learning." Xzena also equated self-learning with "e-learning opportunities." She answered, "Yes to a large extent, [because] I can complete a master's thesis [by relying] more on self-learning, [which] has been associated with distance learning."

On the other hand, some participants were very clear on the difference. To illustrate, Salwa confirmed that she had already "adopt[ed] the pattern of [self-directed] learning, but after the Corona pandemic, my interest in self-learning increased." She was convinced that "the Kingdom's Vision 2030 [depends on] self-learning [and that] Saudi universities rely on the presence of Blackboard even if they did not do this before the pandemic." Salwa concluded that SDL and "a technological infrastructure [to facilitate it] … is not a luxury but an urgent need."

Research Objective 7: What part of SDL will be your future method for better learning with examples? Why?

Two examples serve to illustrate the range of ideas participants shared about what they would take forward. Kalida said she would continue to use "strategies [that I learned and honed as a SDL that] changed my thoughts and thinking towards teaching and learning and made me think that my new role as a teacher [is] mentor and facilitator, and the student is the center of the educational process." Her long list of pertinent strategies going forward ranged from "planning, organizing, and managing time and work [to] avoiding distractions, using critical and creative thinking and problem-solving skills [and] working on critical reading, sharing, communicating and learning technology."

Lamia was deeply convinced that "information… is the tool that I will follow up with, [because] it will be a way to self-learning." She intended to strategically use information to "take advantage of my abilities, characteristics … and interests [to determine] what is studied. [This] will help me … take responsibility for my own learning and develop my motivation…, which strengthens and

enhances my … self-reliance and helps me innovate and … continue the educational process in the best way."

Discussion

Two research questions guided this study. Overall findings affirmed that (a) the self-directed learning expectation of mandated crisis distance education contributed to Saudi female postgraduates' educational growth and (b) their SDL experience thus far will change the way they approach their education in the future. In effect, SDL worked despite its abrupt institutional imposition (Al Lily et al., 2020; Al-Sulaiti, 2017; Kleden, 2015; Mahmoud et al., 2015; Sumantri & Satriani, 2016).

First Research Question: Did SDL Contribute to Educational Growth?

Regarding educational growth, instead of just adopting the teacher's program, learners focused on developing their own experiences, abilities, and achievements in the four dimensions of SDL: social, technological, methodical, and personal. Threaded throughout the data set were an array of personal traits identified by participants as necessary for or enhanced with SDL: self-reliance, self-confidence, self-motivation, self-discipline and self-mastery (Ahmed & Ramadan, 2017; Akgunduz & Akinoglu, 2016; Alsancak & Ozdemir, 2018; Bartholomew et al., 2017). Findings suggest that SDL improved the participants' educational efficiency; that is, their educational growth and development as learners (Cheng et al., 2005; Fonseca et al., 2014; Gulek & Demirtas, 2005).

Participants especially reported a deeper appreciation for the role of self-evaluation and self-monitoring (methodical). Previous research has shown that this level of self-awareness tends to be lacking in self-directed learners (Salleh et al., 2019; Turan & Koç, 2018) with recent scholarship challenging this finding (Bhandari et al., 2020). A previous grounding in learner-centered instruction (attested to by the author) seems to have instilled in these particular students a respect for the power of both self-monitoring and adjusting learning goals and plans accordingly. More research with Saudi female postgraduate students is needed to examine the core role of self-monitoring in SDL especially in institutions where TDL prevails.

Previous research has affirmed the absence of self-awareness in SDLs, suggesting that students did not excel at neither knowing about and acting on their strengths and weaknesses nor shifting gears to align educational goals with known intellectual assets (Salleh et al., 2019; Shahrory, 2013; Turan & Koç, 2018). That said, findings herein contradicted these results and align more with Bhandari et al.'s (2020) recent study. Although not calling it self-awareness per se, several study participants herein commented that, to be realistic, goal-attainment strategies must reflect a person's strengths. Another participant said that reflection helped her know her strengths and weaknesses thereby enabling her to address them and improve her academic performance.

On another front, participants reported that a wide array of SDL skills were improved with this experience: planning, goal setting, strategizing, prioritizing, and managing (Ahmed & Ramadan, 2017; Alsancak & Ozdemir, 2018; Bartholomew et al., 2017). They also appreciated the necessity of developing personal strategies so they could effectively be remote self-directed learners, which included learning new technologies and intentionally creating a home study environment free of distractions.

Regarding learning new technologies, distance education depends on students directing their own learning, and SDL is inherently tied to ICT, which can either enhance or confound self-learning (Sert & Boynuegri, 2017). Considering the confusion between SDL and its relationship to

technology (with some participants erroneously conflating pedagogy with technology), future research should examine how Saudi female postgraduate SDLs understand self-learning and the role of technology. Students can use technology but not be directing their own learning. The latter requires assuming responsibility for one's learning with technology serving as a tool (Bartholomew et al., 2017; Bhandari et al., 2020). One participant recognized that Saudi universities are now using Blackboard whether they like it or not; this means students must learn how to use it too but as a tool for SDL not as an end in itself.

Second Research Question: Did SDL Change Your Future Approach to Education?

Findings solidly affirmed that study participants believed their SDL experience thus far would change the way they approach their education in the future. They were convinced that their experience changed the way they think about learning and teaching and engendered a deeper respect for students being the center of the educational process not the teacher. They felt that educators need to be facilitators and consultants who, in effect, teach post graduate students learning management processes: planning, prioritizing, strategizing, goal setting, and self-monitoring, and self-evaluation (Al-Sulaiti, 2017; Ohashi, 2018; Sert & Bognuegri, 2017). Going into the future, these are the skills that participants intended to keep using, because they served them so well during a crisis let alone what might count as normal times. Indeed, one participant said SDL and blended learning is "an urgent need."

Participants agreed that they will continue to be self-directed learners after it is not mandatory to do so. They valued its ability to increase their motivation to learn, and several affirmed renewed commitments to complete their master's degree and embark on doctoral studies. Many commented on how it will inform their own teaching in the public-school system. SDL motivated them to want to learn. This finding is important in light of Ramli et al.'s (2018) finding that more than half of the variation in people's ability to be SDLs was explained by their intrinsic motivation for learning. Learners succeeded at SDL if they appreciated learning for its own sake (intrinsic). Findings herein affirmed that SDL increased participants motivation to learn, which, if substantiated in future studies, will add to the SDL literature.

If a previous orientation to a learner-centered environment and culture did in fact affect the participants in this study now and into the future (they readily embraced abruptly imposed SDL during CED), future research about Saudi female postgraduate programs should target the key role that university instructors and leaders can play to help students identify with SDL. Higher education graduate school curricula can be addressed along four fronts: educational content and learning objectives, pedagogy and teaching strategies, learning resources, and evaluation and assessment (Buitrago, 2017; Ceylaner & Karakus, 2018; Gencel & Saracaloglu, 2018; Mahmoud et al., 2015; Uz & Uzan, 2018). Findings especially support a focus on pedagogy and teaching strategies, and self-monitored self-evaluation.

All said and done, general findings contradicted Yasmin et al.'s (2019) suggestion that university students "are not psychologically prepared to suddenly adopt and adapt to SDL" (p. 35). That is, they do not transition easily to a less TDL environment. Also, AL Lily et al. (2020) confirmed that SDL is not part of Saudi education making this transition very challenging. The departure from anticipated resistance to and struggles with SDL in this study may be explained by the sample frame's previous orientation to learner-centered pedagogies during their graduate studies (attested to by the author), an approach that challenges the entrenched TDL orientation at most Saudi universities (Hamdan, 2020). It is highly recommended that future researchers repeat this study in other Saudi female postgraduate programs where TDL may be more prevalent. The abruptness of this transition to SDL compels research that studies its reception and impact (Yasmin et al., 2019).

On a final note, per the conceptualization profiled in Figure 1, findings indicate that study participants had transitioned to the SDL style rather than remaining TDL dependent. Some said they were already SDLs before COVID 19, and others said they were forced to do so when CDE was imposed. The latter's reticence was to be expected, because it can be hard for those familiar with and dependent on TDL to transition to another learning style (Yasmin et al., 2019). One participant said that after CDE, she had no choice but to write down her learning goals and attendant strategies instead of committing them to memory. Relying on memory alone made it too hard to stay on track when learning by herself.

To advance theory related to this phenomenon, future research with Saudi female postgraduate students should focus on any dynamics implied in the conceptualization profiled in Figure 1 and take steps to validate the thinking behind it. For the time being, the author has withheld assumptions of causality or progression, but these need to be determined if scholars intend to argue that learners can transform by transitioning through various styles of learning and teaching. As noted, the pedagogical relationships profiled in Figure 1 proved useful for interpreting the data with researchers encouraged to employ this conceptualization in future studies.

Limitations
As with any qualitative exploratory study, findings cannot be generalized to the wider population, but they provide broad, initial understandings of a phenomenon and lay the groundwork for more conclusive studies (Dudovskiy, 2016). A gendered comparative study would be beneficial in the gender-segregated Saudi educational context. The sample frame could be expanded to include the entire Kingdom of Saudi Arabia.

Conclusions
This study explored the SDL experiences of 20 female Saudi postgraduate students during the COVID 19 Pandemic. Findings revealed that their experiences did affect how they will view their education in the future with virtually all saying they will use SDL after the crisis is over. Participants displayed a high degree of independence in self-learning. The methods, strategies and approaches they developed for studying and learning enhanced their dedication to self-learning. SDL encouraged them to develop their self-confidence, dedication, perseverance, and it aided in fulfillment and a sense of achievement within their academic lives.

Recommendations for future research were threaded throughout the discussion. Pragmatically and pedagogically (practice wise), with SDL, postgraduate students are given responsibility for their own learning with faculty serving as consultants, facilitators, and mentors. Faculty instructors thus need institutional support, so they can provide a strong foundation from which students can propel themselves forward. Steps must be taken to help Saudi university instructors learn about SDL so they can shift from TDL and facilitate SDL. Their PD initiatives should focus on constructivist learning, discovery strategies, cooperative learning, inquiry-based learning, and participatory learning.

Findings serendipitously suggest that predisposing university students to learner-centered pedagogies prepares them for self-directed learning. Thus, going forward, both the learner-centered educational philosophy and the SDL approach should be intentional within Saudi higher education. From an institutional policy perspective, curricular revision initiatives should be launched so that SDL can be highlighted and fostered. Universities should take steps to build optimized learning environments for Saudi female postgraduate students to ensure the highest quality SDL incentives.

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