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Online Accelerated Learning Experiences and Self-Regulated Learning Skills Among Undergraduate Students

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ABSTRACT

Many institutions have adopted an online accelerated learning model in which intensive online instructions are offered during the course of a normal semester to help students complete classes. Current research has focused on comparing different instructional lengths. Mixed findings have been reported. Accelerated instructions are not necessarily superior or inferior to traditional 16-week instructions. Research should focus on what is crucial and how to prepare students to succeed in accelerated online courses. This study examines whether self-regulated learning (SRL) skills may serve as predictors of positive accelerated learning experiences. It concludes that five SRL skills can predict success in online accelerated learning experiences and suggested educators should identify and prepare students with relevant SRL skills prior to attempting accelerated instructions to warrant a positive learning experience.

KEYWORDS

Course Scheduling, Instruction Lengths, Online Learning, Quantitative Study, Self-Regulated Learning

INTRODUCTION

Educational institutions are offering more accelerated online instructions to meet the needs of adult learners, improve retention rates, and secure institutional revenues. Shaw et al. (2013) reported that more than half (59.6%) of online course lengths were less than 15 weeks. Educational institutions have adopted accelerated learning models primarily to accommodate the heavy work schedules of adult learners and their parental responsibilities (Rutschow & Crary-Ross, 2014). Moreover, accelerated learning can stabilize institutional finances and improve student retention rate (Sheldon & Durdella, 2010). The rationale to integrate accelerated classes into regular spring or fall curricula include: allowing students to enroll in more credit hours for financial aid purposes, accommodating non-traditional student schedules, and permitting students to promptly make up the classes they had previously failed or withdrawn from (Gross et al., 2010). In general, students have considered online accelerated courses learning as a supplementary substitute for face-to-face instructions (McKee et

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al. 2012). As suggested by Ramaley (2013), optimal instruction lengths are vital for the future of online higher education.

Accelerated instructions are typically less than 16 weeks and enables students to finish two separate courses in the time of one regular course. It is referred to interchangeably as: minimester, intensive, compressed, compacted, or shorter-term courses. To accommodate the interest of adult learners in shorter-term instruction, many schools with accelerated instructions have begun offering online accelerated degree programs, certificates, professional development courses, or cohorts.

The students enrolled in online accelerated instructions prefer shorter and more intensive courses (Ho & Polonsky, 2012). In previous research, short-term courses were found to result in better performance, achievement, and engagement in some studies (Scott & Conrad, 1992; DiGregorio, 1997-1998), but show no difference from regular courses (Shaw et. al., 2013; Heathcock, 2015), or be inferior to regular courses in other study (Ferguson & DeFlice, 2010). Some concerns about accelerated courses were also voiced from learners (Ross-Gordon, 2011) and instructors (Krug et al., 2016). These concerns included being less effective for upper level courses, higher mental stress and physical pressure in teaching them, sacrifice of rigor for convenience, and lessened breadth and depth. In addition, learners were found to develop anxiety and stress during online accelerated instructions (Hewitt, 2017) which might impair their cognitive learning (de Jong, 2010). In one study (Stephens, 2012), higher drop-out rates probably resulted from higher enrollment in compressed courses.

Existing research (Kuiper et al., 2015) has focused on learning outcomes, satisfaction, and experiences in the comparison between accelerated instruction lengths and traditional lengths. But the findings were mixed and inconclusive (Martin, & Culver, 2007), particularly in learning outcomes and experiences (Johnson & Rose, 2015). Given the high demand of accelerated instructions due to the ease for them to fit into the working adults' schedule, researchers have begun focusing on what and how to prepare students with competent self-regulated skills so that they can succeed in abbreviated courses (Hesterman, 2015; Oxford University, 2016; Shaw & Molnar, 2011).

Research Question

It is unclear what self-regulated learning (SRL) skills will be predictive of online accelerated learning experiences. Examination of the relationships between various SRL skills and online accelerated learning experiences will assist educators in the design, preparation, and the administration of more effective online accelerated instructions so that student can have more positive learning experiences.

Therefore, current study purported to examine the following research question:

How will each of the six self-regulated learning skills (i.e., goal setting, environment structuring, task strategies, time management, help seeking, & self-evaluation) predict the positive perceptions of various aspects in online accelerated learning experiences (i.e., attitude, scheduling, instructional designs, content, and satisfaction), respectively, among undergraduate students?

ONLINE ACCELERATED LEARNING

The research of online accelerated courses has had mixed findings in learning experiences when compared to 16-week instructions (Cangelosi & Whitt, 2005; Johnson, 2009; Rafferty & Lindell, 2011). The results range from significant differences to no significant differences between courses with different instructional lengths. The aspects of learning experiences examined in the literature include five areas: attitudes, scheduling, instructional design, content, and satisfaction. In spite of the conflicting findings, the importance of the positive learning experiences in online accelerated learning is commonly recognized. Furthermore, quality of instructions is also essential to the quality of learning experiences.

Attitude

While comparing the attitudes toward courses of different instructional lengths, there was a difference between traditional and short-term instructions (Homeyer & Brown, 2002). Students in accelerated instructions were more motivated (Booth et al., 2014), more confident in learning (Lee, 2010), more likely to sustain their learning goals (Vreven & McFadden, 2007), able to make up for the formerly failed classes (Gross & DeCiccio, 2010), having a more adaptable study plan (Collins, 2013), with higher course completions (Collins, 2013), and degree completions (Bowen, Chingos, & McPherson, 2009). In addition, Loya and Cuevas (2010) suggested that hybrid minimester instructions improved students' attitudes toward course content. Students in accelerated courses also spent more time in study (Stephens, 2012). Online accelerated instructions seemed to give students higher level of accomplishment and enjoyment in learning (Ferguson and DeFelice, 2010). However, undergraduate students showed resistance to adjust their study routine to fit the pace of accelerated learning (Selhorst, 2017).

Scheduling

In spite of the flexibility and convenience in accelerated learning, it poses new challenges to learners and institutions on course scheduling, course sequencing, and the numbers of courses taken in each time period. Research has exhibited that course scheduling and sequencing are related to satisfaction (Carrington, 2010), positive learning performance, and learning focus (Lee & Horsfall, 2010). As suggested by Lee (2010), course scheduling will have a bearing on learning outcomes and experiences. Therefore, different models on course scheduling and sequencing should be empirically evaluated.

Unfortunately, learners may not have the liberty to choose between course schedules and sequencings, and course lengths. Taking courses of different instructional lengths (extreme short, accelerated, and 16-week) at the same time may result in course schedule comingled effect. The consequences may be beyond what learners' SRL skills can cope with. The non-coterminous course offerings with the courses scheduled consecutively may improve learning experiences (Gamboa, 2013). Moreover, a course sequence should be in place to reduce distractions (Wurtz & Gamboa, 2014). Hansen (2019), Oxford University (2016), and Whillier and Lystad (2013) argued for tighter course sequence and required course blocks to ensure the right course sequence for the students. As advocated by Emslie (2012), institutions should sequence requisite courses consecutively to improve the course completion of the learners. The pairing and sequencing of similar and related compressed courses in the same term promote student progression through efficient and effective course pathways (Edgecombe, 2011). Kretovics, Crowe, and Hyun (2006) suggested limiting the number of compressed courses taken in the same time period. Kuzmar (2013) endorsed the idea of allowing students to take one course at a time in each session so that students could stay focused and deepen their understanding of the contents.

Instructional Designs

Existing literature offers compelling evidence to support that online constructivist pedagogy is be more effective for online accelerated instructions. The integration of effective constructivist instructional strategies enabled students to interact more with classmates, peers, and educators (Nation, 2007), and led to more thorough and meaningful learning (Svirko & Mellanby, 2008). The students reported that they enjoyed peer interaction in the short-term courses more than in the course with traditional lengths (Ferguson & DeFelice, 2010).

Regardless of the types of pedagogies in online accelerated learning, researchers concurred that effective integration of instructional designs was indispensable for high-quality teaching and learning in accelerated instructions (Ferguson & DeFelice, 2010). In addition, effective course instructions and content possessed the traits of consistent and clear design, organization, and structures with no inauthentic tests and assessments (Trekles, 2013).

Specifically, effective online activities should promote active learning, such as discussions, and experiential learning (Scott, 2003). Trekles (2013) provided an example of effective instructions in which interactive, hands-on, practical, and collaborative activities resulted in deeper learning. Burgess (2018) concluded that collaborative testing with quizzes was conducive to positive learning among undergraduate students in accelerated instructions due to its guided and structured strategy to facilitate students' knowledge acquisitions. Constructivist instructional strategies support social learning, social relationships, and community building. Garrison and Akyol (2009) observed higher social presence in online compressed courses when compared to its counterpart in 16-week courses. As suggested by Sheldon and Durdella (2010), students in short-term courses had better social relationships with their peers. Furthermore, higher group cohesion was identified among learners in shorter-term courses (Akyol, 2011).

Although the literature supported the effectiveness of constructivist pedagogies in accelerated learning, some studies showed different results. For instance, unrealistic and intensive instructional pacing of short-term courses weakened social interactions and course participation (Guan, 2008). Favor (2015) argued that online students preferred individual work over group collaboration due to the negative effect of group work on their learning.

Content

Educators and researchers agreed that all learning contents should be challenging and well supported with help available to students (Hesterman, 2015). Kup (2014) found that learner-content interaction served as a significant predictor for students' satisfaction in compressed courses. Findings in different studies of the impact of short-term courses on learning content were mixed. While flexible learner interaction would promote higher cognitive development on the content and motivate students to learn (McLaughlin et al., 2017), Loya and Cuevas (2010) concluded that hybrid compressed courses improved students' attitudes toward the course content.

Educators and researchers voiced the concerns of the compressed content that might not be comprehensive enough to maintain the quality education. Dean (2006) identified students likely to experience content overload in intensive instructions which might impair their ability to master curricular content (Shaw et. al., 2013). Whillier and Lystad (2013) argued that short-term

courses might not be suitable for subject matters with comprehensive contents. Moreover, intensive delivery modes in short-term courses might not be suitable for skill-based contents (Lee & Horsfall, 2010).

Compressing the same contents of a 16-week course to into a short-term course will not be conducive to effective learning. Sankaran, Sankaran, and Bui (2000) argued that online course contents should be presented in a better-organized, progressive, and succinct format to guide the students. Making instructional readings, lecture notes, or a summary available online will effectively address content concerns (Kops, 2009).

Satisfaction

Student satisfaction is an important indicator of the degree to which they benefit from accelerated courses (Shaw et al., 2013). Akyol et al. (2011) found that students enrolled in short-term course demonstrated higher satisfaction in general. In the research of the relationship between satisfaction and learning performance in compressed courses, the students with higher perceived satisfaction demonstrated better performance (Kuo, 2014). Furthermore, the students in intensive courses showed a higher level of satisfaction with student-student interaction (Ferguson & DeFlicie, 2010) and student-content interaction (Kuo, 2014). Drennan et al. (2005) found that students' internal locus of control had a direct effect on satisfaction.

ONLINE SRL SKILLS

Self-regulated learning (SRL) skills as a key success factor to online and blended learning (Barnard-Brak et al., 2010; Lim & Park, 2015) are pivotal to online accelerated learning given its compact schedule and intensive instructions. As suggested by Hesterman (2015), online accelerated learning requires the mastery of SRL skills on the part of students. “Self-regulation refers to self-generated thoughts, feelings, and behaviors that are oriented to attaining goals” (Zimmerman, 2002, p.65). SRL consists of six specific skills: goal setting, environment structuring, task strategies, time management, help seeking, and self-evaluation.

Goal setting is an act of selecting personal learning standards for short/long term formal or informal learning goals. In online learning, it represents an ability to search, evaluate, select, and reselect online technologies according to the current goals. Environment structuring requires learners to organize and personalize physical, online, and mobile environments so that their learning efficiency and effectiveness can be maximized by avoiding any distraction and eliminating discomfort. Effective digital learning task strategies consist of utilizing digital tools to annotate and take notes, preparing questions for instructional communications, management and customizing online learning tools for collaboration and building learning networks and community. Time management includes the skills of allocating, scheduling, and distributing different blocks of time to engage in just-in-case, just-in-time, bite size, or substantial amount of learning. Help seeking is to integrate and personalize different digital devices and technologies and seek for support from classmates or more knowable individuals. Self-evaluation skill engages learners in a constant reflection on learning experiences, network interaction, and technology incorporation to make any necessary adjustments for their learning goals.

The lack of SRL skills will result in negative learning experiences, performance, and achievements. In undergraduate courses, Montgomery (2019) found all six SRL skills to be related to student academic achievements. Kim (2019) observed that students with more SRL skills tended to regularly study more often, seek help, and have positive learning experiences. Contrarily, if students with insufficient skills in goal setting, planning, and self-evaluation were more likely to have negative learning experiences (Alharbi et al., 2011). As suggested by Ngugi (2018), SRL is a strong catalyst to initiate higher innovative learning behavior. Moreover, Deekens (2018) observed that frequently self-monitoring and self-motivated students with integrated learning strategies tended to have better academic performance and achievements. In fact, the relationship between SRL and instruction is bi-directional. Albelbisi (2019) discovered that students’ SRL skills could be improved by the service quality of the short-term MOOC courses.

The vital role SRL in online learning cannot be overlooked. Coaching and preparing online accelerated learning students on competent SRL skills prior to online accelerated instructions is essential. Bambacas et al. (2013) asserted that students in accelerated courses would benefit from instructional interventions for SRL skills.

Research supported the effectiveness of learner-centered and learner-driven instructional designs in fostering SRL skills during the instructions. Matsuyama (2019) suggested that integrating learner-centered instruction would engage undergraduate students in self-reflection to obtain diversified learning strategies. Montgomery (2019) promoted flipped learning to advance students’ SRL skills by coaching them in instructional activities. Furthermore, integrating students’ learning journal to provide personalized support was proved effective (Stoten, 2019). Collaborating with students also facilitated their mastery of time management (Kops, 2010).

METHOD

Participants

Forty-five undergraduate students ($N = 45$) in 8-week accelerated online courses in education majors responded to an online survey while they were taking various online educational courses in a

Southwestern U.S. four-year public university. More than half of them were male ($n = 26, 57.78\%$). The majority of them were Caucasian ($n = 33, 73.33\%$), and aged from 36 to 45 years old ($n = 32, 71.11\%$). More details are listed in Table 1.

Table 1. Demographic Information of Participants (N = 45)

Variable	Frequency	Percent
Gender		
Female	19	42.22
Male	26	57.78
Ethnicity		
Caucasian	33	73.33
African American	4	8.89
Latino	8	17.78
Age		
18-25	9	20.00
26-35	4	8.89
36-45	13	28.89
45+	19	42.22

Measurement of Research Variables

To measure various research variables in the current study, the Online Accelerated Learning Survey was revised from the Online Self-Regulated Learning Questionnaire (OLSQ) (Barnard-Brak et al., 2010).

Predictor Variables

The predictor variables were six types of self-regulated learning skills in online courses: (1) Goal setting, (2) environment structuring, (3) task strategies, (4) time management, (5) help seeking, and (6) self-evaluation. The total scores of various numbers of items on a 7-point Likert scale (i.e., 1 as strongly disagree & 7 as strongly agree) served as the indicators of different self-regulated learning skills. The actual online survey items are listed in Table 2.

Criterion Variables

The criterion variables were positive perceptions of five aspects of online accelerated learning experiences: (1) Attitude, (2) scheduling, (3) instructional designs, (4) content, and (5) satisfaction. The total scores of various numbers of items on a 7-point Likert scale (i.e., 1 as strongly disagree & 7 as strongly agree) measured each aspect of online accelerated learning experiences. The actual online survey items are listed in Table 3.

DATA ANALYSIS

All the data analysis procedures were implemented with IBM SPSS Statistics 24.

Linear Regression Analyses

Linear regression analyses (Cohen, Cohen, West, & Aiken, 2003; Norusis, 2012) were conducted to assess the predictive relationship between each predictor variable and the criterion variable, one at

Table 2. Online Survey Items Measuring Different Predictor Variables

Variable	Survey item
Goal setting	
	I set standards for my assignment in online course.
	I set short-term (daily or weekly) goals as well as long term goals (monthly or for the semester).
	I keep a high standard for my learning in my online courses.
	I set goals to help me manage studying time for my online courses.
	I don't compromise the quality of my work because it is online.
	I set goals for my formal learning.
	I set goals for my informal learning.
	I apply online technologies to support goals.
	I constantly search, evaluate, select, and reselect online technologies to reflect my current goals.
Environment structuring	
	I choose the location where I study to avoid too much distraction.
	I find a comfortable place to study.
	I know where I can study most efficiently for online courses.
	I choose a time with few distractions for studying for my online courses.
	I use mobile devices (smartphones, tablets, etc.) to help me to study.
Time management	
	I try to take more thorough notes for my online courses because notes are even more important for learning online than in a regular classroom.
	I read aloud instructional materials posted online to fight against distractions.
	I prepare my questions before joining in the chat room and discussions.
	I work extra problems in my online courses in addition to the assigned ones to master the course content.
	I build "people network" online to help me to learn.
	I build "resources network" online to help me to learn.
	I build and connect "tools/technologies network" online to help me to learn.
	I manage online tools and technologies regularly to help me to learn.
	I use online technologies to collaborate with others to help me to learn.
Task strategies	
	I allocate extra studying time for my online courses because I know it is time-demanding.
	I try to schedule the same time every day or every week to study for my online courses, and I observe the schedule.
	Although we don't have to attend daily classes, I still try to distribute my studying time evenly across days.
	I frequently allocate small chunks of time to engage in just-in-case, just-in-time, and bite size learning.
	I frequently allocate substantial chunks of time to engage in learning.
Help seeking	
	I find someone who is knowledge in course content so that I can consult with him or her.
	I share my problems with my classmates online so we know what we are struggling with and how to solve our problems.
	If needed, I try to meet my classmates face-to-face.
	I am persistent in getting help from the instructor through e-mail.
	I am persistent in getting help by using different devices (computers, mobile devices).
	I am persistent in getting help by using different technologies (Twitter, social networks, etc.).
Self-evaluation	
	I summarize my learning in online courses to examine my understanding of what I have learned.
	I ask myself a lot of questions about the course materials when studying for an online course.
	I communicate with my classmates to find out how I am doing in my online classes.
	I communicate with classmates to find out what I am learning that is different from what they are learning.
	I use different technologies to reflect my online learning, such as online portfolio, personal blogs, Twitter, social media, etc.
	I re-evaluate online tools and technologies that I used for my online learning after each online course I took.

a time. Accordingly, thirty simple regression models were fitted to the data to address the research questions of interest. The alpha level was set at .01 instead of .05. to control the inflated experiment-

Table 3. Online Survey Items for Positive Perception of Different Aspects in Online Accelerated Learning Experiences as the Criterion Variables

Variable	Survey item
Attitude	Minimester instructions motivate me to learn.
	Minimester instructions meet my learning needs and goals.
	Minimester instructions make the content more interesting.
	Minimester instructions coordinate well with my learning context (preferences/styles).
	Minimester instructions stimulate me to complete the course.
	Minimester instructions are too stressful to learn.
	Minimester instructions are an "efficient" way to learn.
	Minimester instructions are an "effective" way to learn.
	Minimester instructions are rigorous and robust.
	Minimester instructions allow me to have better focus on my own learning.
	Minimester instructions allow me to assume more responsibility for my learning.
	Minimester instructions extend beyond the short timeframe of the instructions to foster/sustain ongoing learning development.
	Scheduling
Taking minimester courses (5-week, 7-week) at the same time with extreme short courses (3-week) are manageable.	
Taking different minimester courses (5-week, 7-week) at the same time are manageable.	
Taking minimester courses (5-week, 7-week) at the same time as traditional 14/16-week long instructions produce negative learning outcomes.	
I will have more satisfactory learning experiences if ALL courses in the programs/Degrees are in minimester format (5-week, 7-week).	
Follow the course sequences (EX: 645 and 655) to complete minimester courses are satisfactory.	
Instructional designs	Minimester instructions allow me to build "online learning community."
	Minimester instructions allow me to build "online collaboration."
	Minimester instructions allow me to build "trusting relationship."
	Minimester instructions allow me to build "interactive learning."
	Minimester instructions allow me to engage in "Open Educational Resources (OERs)."
	Minimester instructions allow me to build "personalized learning environments."
	Minimester instructions allow me to build "different online learning networks (people network, resource network, tool network)."
	Minimester instructions allow me to obtain more "immediate" feedbacks.
	Minimester instructions allow me to obtain "frequent" feedbacks.
	Content
Minimester instructions cover ENOUGH CONTENT in general.	
Minimester instructions cover the content of the courses comprehensively.	
Satisfaction	I am satisfied with minimester "instructional designs."
	I am satisfied with minimester "content."
	I am satisfied with minimester "curriculum."
	I am satisfied with minimester "assessment" methods.
	Overall, I am satisfied with minimester "learning experiences."

wise type I error rate due to multiple significance tests in one study (Hinkle, Wiersma, & Jurs, 2003). One example of the fitted simple regression models is listed below:

$$\hat{Y} = \beta_0 + \beta_1 (\text{Goal setting})$$

Significance Test

In light of the theoretical expectation of positive predictive relationship between each predictor variable and the criterion variable, the one-tailed *t* test of the regression coefficient for a predictor was used to assess the aforementioned relationship (Cohen et al., 2003; Norusis, 2012). In order to control the inflated experiment-wise type I error rate from the implementation of multiple significance tests, the alpha level was set at .01 instead of .05. (Hinkle, Wiersma, & Jurs, 2003).

Effect Size Index

In each simple regression model, the squared multiple correlation coefficient (R^2) (Cohen et al., 2003; Norusis, 2012) was computed to estimate the proportion of variance in a criterion variable predictable by a predictor variable. The cutoff values of a small, medium, or large R^2 were .02, .13, and .26 respectively (Cohen, 1988).

RESULTS

Descriptive Statistics of the Research Variables

The descriptive statistics of the research variables are listed in Table 4 and Table 5. Overall, the participants had the highest mean score in goal setting skill and the lowest in self-evaluation skill with the correction for the numbers of the related survey items. As to the positive perception of online accelerated learning experiences, the mean score was highest on satisfaction and lowest on instructional designs after correcting for the numbers of survey items.

Table 4. Descriptive Statistics of the Predictor Variables (N = 45)

Variable	<i>n</i> of items	<i>M</i>	<i>M/n</i> of items	<i>Mdn</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
Goal setting	9	58.87	6.54	59.00	7.11	28.00	63.00
Environment structuring	5	30.98	6.20	32.00	15.00	5.18	35.00
Task strategies	9	42.09	4.68	44.00	11.30	10.88	59.00
Time management	5	27.02	5.40	27.00	6.46	13.00	35.00
Help seeking	6	26.36	4.39	28.00	7.96	10.00	36.00
Self-evaluation	6	25.91	4.32	25.00	6.76	12.00	39.00

Note. *M/n* of items: Mean scores divided by the number of items measuring each predictor variable.

Attitude as the Criterion Variable

Goal setting, environment structuring, task strategies, help seeking, and self-evaluation were predictive of the positive perception of attitude in online accelerated learning experiences (see Table 6). The proportions of the variance in the criterion variable predictable by each of the five statistically significant self-regulated learning skills (i.e., R^2) ranged from .14 to .71 and suggested medium to strong predictive relationships (Cohen, 1988). Moreover, the signs of the related regression coefficients supported the theoretically expected positive linear relationships between each statistically significant predictor and the criterion variable.

Table 5. Descriptive Statistics of the Criterion Variables (N =45)

Variable	n of items	M	M/n of items	Mdn	SD	Min.	Max.
Attitude	12	69.56	5.80	75.00	13.20	26.00	81.00
Scheduling	6	31.36	5.23	33.00	6.96	15.00	41.00
Instructional designs	9	40.71	4.52	44.00	14.01	10.00	61.00
Content	3	14.96	5.44	17.00	5.17	3.00	20.00
Satisfaction	5	30.44	5.99	31.00	5.57	12.00	35.00

Scheduling as the Criterion Variable

Goal setting, environment structuring, help seeking, and self-evaluation were predictive of the positive perception of scheduling in online accelerated learning experiences (see Table 7). Furthermore, the predictive relationships were from medium to strong as indicated by the R^2 values (Cohen, 1988). And the relationships were positive according to the signs of the related regression coefficients.

Instructional Designs as the Criterion Variable

The results supported the predictive utility of all five self-regulated learning skills other than time management for the positive perception of instructional designs in online accelerated learning experiences (see Table 8). The proportions of the variance in the criterion variable predictable by each of the six self-regulated learning skills (i.e., R^2) were .13 to .82 and suggested medium to strong predictive relationships (Cohen, 1988). In addition, the signs of the related regression coefficients supported the theoretically expected positive linear relationships between each predictor and the criterion variable.

Content as the Criterion Variable

With the exception of time management, the results suggested that the other five self-regulated skills were useful predictors for the positive perception of content in online accelerated learning experiences (see Table 9). The related R^2 values ranged from .14 to .75 and suggested medium to strong predictive relationships (Cohen, 1988). The directions of the above predictive relationships were positive as supported by the signs of the related regression coefficients and consistent with the theoretical expectation.

Table 6. Six Simple Regression Models with Attitude as the Criterion Variable

Predictor variable	B	t	df	R ²
Goal setting	1.38	7.25 ^{††}	43	.55
Environment structuring	2.15	10.23 ^{††}	43	.71
Task strategies	.50	2.98 ^{††}	43	.17
Time management	.55	1.82	43	.07
Help seeking	1.06	5.48 ^{††}	43	.41
Self-evaluation	.73	2.65 ^{††}	43	.14

Note. B = unstandardized regression coefficient; t = one-tailed t test statistic; df = degrees of freedom; R² = squared multiple correlation coefficient.
^{††}p < .01, one tailed.

Table 7. Six Simple Regression Models with Scheduling as the Criterion Variable

Predictor variable	<i>B</i>	<i>t</i>	<i>df</i>	<i>R</i> ²
Goal setting	.58	4.81 ^{††}	43	.35
Environment structuring	.80	4.85 ^{††}	43	.35
Task strategies	.22	2.40	43	.12
Time management	.36	2.31	43	.11
Help seeking	.48	4.27 ^{††}	43	.30
Self-evaluation	.40	2.78 ^{††}	43	.15

Note. *B* = unstandardized regression coefficient; *t* = one-tailed *t* test statistic; *df* = degrees of freedom; *R*² = squared multiple correlation coefficient.
^{††}*p* < .01, one tailed.

Table 8. Six Simple Regression Models with Instructional Designs as the Criterion Variable

Predictor variable	<i>B</i>	<i>t</i>	<i>df</i>	<i>R</i> ²
Goal setting	.71	2.55 ^{††}	43	.13
Environment structuring	1.95	6.85 ^{††}	43	.52
Task strategies	.81	5.26 ^{††}	43	.39
Time management	.18	.54	43	.01
Help seeking	1.59	13.99 ^{††}	43	.82
Self-evaluation	1.52	7.06 ^{††}	43	.54

Note. *B* = unstandardized regression coefficient; *t* = one-tailed *t* test statistic; *df* = degrees of freedom; *R*² = squared multiple correlation coefficient.
^{††}*p* < .01, one tailed.

Table 9. Six Simple Regression Models with Content as the Criterion Variable

Predictor variable	<i>B</i>	<i>t</i>	<i>df</i>	<i>R</i> ²
Goal setting	.35	3.58 ^{††}	43	.23
Environment structuring	.86	11.19 ^{††}	43	.75
Task strategies	.18	2.68 ^{††}	43	.14
Time management	.02	.13	43	< .001
Help seeking	.47	6.97 ^{††}	43	.53
Self-evaluation	.28	2.59 ^{††}	43	.14

Note. *B* = unstandardized regression coefficient; *t* = one-tailed *t* test statistic; *df* = degrees of freedom; *R*² = squared multiple correlation coefficient.
^{††}*p* < .01, one tailed.

Satisfaction as the Criterion Variable

Each of the six self-regulated learning skills was predictive of the positive perception of satisfaction in online accelerated learning experiences (see Table 10). Moreover, the predictive relationships were from medium to strong as suggested by the *R*² values (Cohen, 1988). Last but not least, the relationships were positive according to the signs of the related regression coefficients.

Table 10. Six Simple Regression Models with Satisfaction as the Criterion Variable

Predictor variable	<i>B</i>	<i>t</i>	<i>df</i>	<i>R</i> ²
Goal setting	.64	9.17 ^{††}	43	.66
Environment structuring	.87	8.96 ^{††}	43	.65
Task strategies	.22	3.16 ^{††}	43	.19
Time management	.34	2.82 ^{††}	43	.16
Help seeking	.42	4.90 ^{††}	43	.36
Self-evaluation	.37	3.26 ^{††}	43	.20

Note. *B* = unstandardized regression coefficient; *t* = one-tailed *t* test statistic; *df* = degrees of freedom; *R*² = squared multiple correlation coefficient.
 ††*p* < .01, one tailed.

DISCUSSIONS

This study found that time management was not a useful predictor for positive perceptions of various aspects in accelerated learning experiences except overall satisfaction. On the other hand, task strategies were predictive of positive perceptions of all aspect in accelerated learning experiences except scheduling. As to the SRL skills of goal setting, environment structuring, help seeking, and self-evaluation, they were predictive of positive perceptions of all aspects in accelerated learning experiences.

Satisfaction of Online Accelerated Learning Experiences

It is noteworthy that all six SRL skills are predictive of the overall satisfaction of online accelerated experiences. While inspecting the actual positive perceptions of online accelerated learning experiences, the mean score was highest on satisfaction and lowest on instructional designs of accelerated learning experiences. Therefore, even the undergraduate learners were satisfied with the content, curriculum, assessment, and instructions of online accelerated learning experiences, they seemed to be not content with the applied instructional activities in it. Accordingly, educators may consider constructivist pedagogical activities, such as online discussions, hands-on or practical activities, and online collaboration, of which the effectiveness for online accelerated instructions is support by existing literature.

Time Management

Time management as an SRL skill was only predictive of the overall satisfaction in the online accelerated learning experiences, but not of attitude, scheduling, instructional design, and content. This finding warrants further discussions. While examining the actual levels of time management among those undergraduate students, they seem to be medium (*M* = 5.40). This may be due to the “*quid pro quo*” effect. Namely, learners might have tried coping with the stress in the accelerated courses in exchange for the faster course completion or the reduced course load in the future. Accordingly, they were satisfied with the overall accelerated learning experiences even though not fond of the specific aspects in accelerated learning experiences. Given the average number of accelerated courses taken as 3.29, educators should assist the learners on their time management skills so that the learners can navigate to rich and rigorous learning outcomes in accelerated learning.

Task Strategies

Interestingly, task strategies are not a predictor for the positive perception of scheduling in accelerated learning given the medium level of task strategies skill (*M* = 4.68) among those undergraduate students. While examining their task strategies skill further, the students had lowest scores on these

strategies: work extra instructions ($M = 4.07$), built people networks ($M = 4.05$), and used technology to build network ($M = 4.07$) to support their learning. In online accelerated learning instructions, these task strategies are essential for learning success. Moreover, nearly 50% of the students did not take thorough notes, work extra activities, build people networks, and use online technologies to learn and to collaborate. Therefore, educators need to prepare online accelerated learners with these task strategies before and during their accelerated instructions.

The negative effect of course schedule comingling suggested by previous literature was not found in the current study. In fact, 97.56% of the students stated that taking online courses of different instructional lengths (e.g., accelerated or 16-week) simultaneously was manageable and 90% of them denied the negative course schedule comingling effect on their learning outcomes.

Furthermore, 52% of the students explicitly stated that different accelerated (e.g., 6 – 8 weeks) and extra short (e.g., less than 4 weeks) courses were not manageable.

Self-Evaluation

Self-evaluation skills in SRL can serve as a predictor for the positive perceptions of all five aspects of online accelerated instructions. This finding supports the crucial role of self-evaluation skills and practices in short-term courses, even though the mean score of self-evaluation skill was lowest ($M = 4.32$) relative to the other five SRL skills. This finding might have resulted from the lack of time and strategies to self-evaluate and self-reflect effectively. Three survey items scored below 4 on average in self-evaluation are: communicate with classmates to learn my own learning progress, and to learn how others learn, and re-evaluate different online tools and technologies to advance learning. Therefore, instructors and educators need to be creative in designing and imbedding self-evaluation instructions into existing activities. Weekly journal on blog, e-portfolio, or social media can be effective activities to engage students in self-evaluation and self-reflection regularly. Instructors can utilize those venues to lead the dialogue and coach students to self-reflect their learning process and make timely adjustments.

Help Seeking

Help seeking, as the 2nd lowest ($M = 4.39$) among six SRL skills, can a predictor for positive perceptions of all five aspects in online accelerated learning experiences. It is important to engage students seeking for help in online accelerated instructions. Nearly 90% of the undergraduate students in this study indicated that they did not see the needs to meet with the classmates face-to-face, if needed, even when they resided in the same city. In addition, only 21.95% of the students reached out for help from classmates when they were struggling in the class.

The infrequent help seeking behaviors might be due to the lack of time to seek help from instructors, peers, and other stakeholders via online communication. To encourage the help-seeking behaviors among students, instructors can utilize online collaborative activities for online learning community building, host face-to-face and virtual office hours, or remind students of face-to-face communication with peers and instructors, especially in asynchronous courses with no real-time communication and feedback.

Implication and Limitation

The practical implications of the findings to the educators are that the learning experiences of undergraduates in the online accelerated instructions will not be the same as their counterpart in the 16-week ones. Furthermore, student self-regulated learning skills seem to be even more important in online accelerated instructions. If educators plan on the accelerated online instructions, it is advisable to measure students' SRL in advance. Then the instructions should be delivered with the emphasis on the constructivist pedagogical activities and collaborative designs that facilitate dynamic social interaction, active self-reflection, interconnective community building to foster effective online social presence.

The results of this study suggest a literature gap in online accelerated instruction, self-regulated learning skills, and online interconnectivity. In the past, the researchers have not paid enough attention to the potential effects of social interaction and connective network in the fast-pace learning process. Accordingly, the areas of socioemotional learning, and culturally responsive teaching should be examined in the context of online accelerated instruction.

The participants in this study were undergraduate students enrolled in the online accelerated education courses. It is noteworthy that different SRL skills may be required for students of various backgrounds, study levels, disciplines, and instructional lengths to have successful online accelerated learning experiences.

Future Research

Future studies should focus on the needs of various SRL skills for students at different study levels in different disciplines. Certain SRL skills will be more relevant to some pedagogies and teaching but not to others. In addition, researchers should examine course scheduling and sequence, instructional design, course content, curriculum planning in a broad context to understand how they may interplay with students' learning outcomes and experiences in online accelerated instructions. Non-instructional support should also be investigated to determine how they may impact online accelerated learning. Furthermore, future research should examine other potential predictors, such as online collaboration skills, social learning skills, and cognitive learning skills. The research of different predictor variables can help educators to understand how learners progress in online accelerated instructions. Given the availability of learning analytics and educational data mining, real-time behavioral data from accelerated learning instructions will also shed the light on the dynamics in online accelerated learning and enable instructors, educators, and administrators to make effective data-driven decisions for instructions and administration. Data-driven decision-making strategies can also be applied to and facilitate data-informed learning for students.

CONCLUSION

The findings in the current study suggest that educators should go beyond comparing online courses with different instructional lengths. The mere conversion of existing 16-week face-to-face or online courses into online accelerated ones may not always result in optimal learning experiences and outcomes. Student SRL skills are also essential to their accelerated learning experiences and success. Educators should take more proactive approach to understand what SRL skills are needed and how to prepare them among students beforehand to ensure positive learning experiences. Moreover, SRL skill preparations should be dynamic since all courses are designed and taught differently. Instructor, educators, and administrators can also integrate SRL skills training into their existing online accelerated instructions to prepare students and improve their accelerated learning experiences.

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