



Students' Perceptions of Institutional Services and Online Learning Self-Efficacy

Jesús Trespalacios , Lida Uribe-Flórez , Patrick R. Lowenthal , Scott Lowe, and Shawna Jensen

Boise State University,

ABSTRACT

The purpose of this study was to explore new online students' perceptions of self-efficacy and satisfaction with institutional resources. A mixed methods approach was used to better understand online students' perceptions. During the first phase of the study, 155 new online graduate students were surveyed about the importance and their satisfaction with university resources as well as their online self-efficacy. During the second phase of the study, follow-up interviews were conducted with six participants to better understand their perceptions. Participants reported being aware of the institutional resources and having positive experiences with online course tools. Furthermore, most participants found administrative services such as Registration and Financial Aid and Scholarship services the most important. Participants also reported high levels of online self-efficacy. While the results illustrate student perceptions of institutional resources, more studies are needed to explore how participants with limited prior experience in online courses would evaluate the effectiveness of institutional resources.

Introduction

Online graduate education continues to be a vital option for working adults who might be unable to attend classes on campus. However, many students struggle to transition from face-to-face education to online education. Although distance education enrollments have increased over the past decade (Seaman, Allen, & Seaman, 2018), online courses are estimated to have higher attrition rates than traditional face-to-face courses (Brown, 2017). Common risk factors that contribute to higher attrition rates include family, course design, lack of self-directedness, and cultural issues; however, research has also shown that poor support services may exacerbate this attrition problem (Richardson, Sheeks, Waller, & Lemoine, 2021; Rovai & Downey, 2010). Ludwig-hardman and Dunlap (2003) argued years ago that learner support services programs are critical to retaining online students. Irani, Wilson, Slough, and Rieger (2014) even claimed that institutions with fully online programs need multiple channels of support and resources for online students to help mitigate the feeling of loneliness and separation from their virtual school and classmates. In addition, to support services, they also identified the importance of self-directedness and self-efficacy

CONTACT Jesús Trespalacios  jesustrespalacios@boisestate.edu  Department of Educational Technology, Boise State University

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when it comes to persisting in fully online programs. Other researchers have even argued that online students' self-efficacy might be the most important factor contributing to retention and overall student learning and success (Liaw, 2008; Prior, Mazanov, Meacheam, Heaslip, & Hanson, 2016).

Questions remain, though, about the best ways to provide student support services, which student support services institutions should provide (Crawley & Fetzner, 2013), and the best ways to support students' self-efficacy. Educational institutions need to use different channels to inform the different resources and services available for those online students new to the university system, and at the same time, their online learning self-efficacy. Confronted with this problem and inspired by the work of Milman, Posey, Pintz, Wright, and Zhou (2015) who studied master's students' perceptions of institutional support and resources, we conducted an explanatory sequential mixed-methods study to explore new online graduate students' perceptions of the resources offered for a public institution and assess their level of online learning self-efficacy. In the following article, we briefly discuss the literature on institutional support services and online learning self-efficacy, report the results of our study, and discuss the implications for additional research and practice.

Institutional support services for online students

Graduate students have multiple information needs outside of their programs that should be provided by other departments on campus (Fong, Wang, White, & Tipton, 2016). There are different ways institutions can support online students. Thorpe (2002) distinguished two contexts for learner support: the institutional context and the course context. Regarding institutional context, students need to have support regarding admission, registration, scholarship, research, and student life issues. However, students also need support when it comes to their courses such as completing assignments, understanding the instructional or assessment materials. McCracken (2008), on the other hand, defined, "support services include those functions that reinforce instruction and advising, facilitate academic continuity, promote institutional affiliation, and connect users to critical university functions and systems within a virtual environment." (p. 67). Similarly, Stewart, Goodson, Miertschin, Norwood, and Ezell (2013) stated, "student services were defined as the academic, administrative, social, and psychological policies and practices to enable and facilitate student success." (p. 292). These different definitions and perspectives suggest a need to provide a comprehensive set of resources at different areas and levels (program, department, college, and/or institution) for online students that allow them to succeed in their programs and at the same time to feel part of the educational community.

Research suggests that institutional support and resources can help alleviate common challenges faced by online students. For example, Lieblein (2000) found,

Technical support of faculty and students is essential for program success. It is a good idea to provide a comprehensive guide to the online learning environment in hardcopy form and online. The online version should be downloadable. Also, the school's or university's Web site should provide an extensive online "help" system that contains downloadable software and documents. A help desk, reachable online or by telephone, should provide advice and support toward the resolution of technical problems. (p. 168).

Britto and Rush (2013) identified other retention strategies for online students such as campus and online orientations, readiness assessment, and a help desk for technical support. Adkins and Marr (2008) also described three broad areas that need to be addressed to improve online students' retention:

1) the personal attributes relating to cognitive, affective, and psychological behaviors that internally offer a student a better chance for success; 2) the teacher's role in developing an interactive course that promotes organized learning; and 3) an institution that offers a curriculum, student services, academic policies and procedures, and technological access that are learner focused." (p. 261).

Finally, based on a literature review on research related to online student services, Bailey and Brown (2016) recommended a major focus on the institutional website, help desks and information centers, student orientation, academic support and library services. Authors concluded on the need of services to support online students in both their academic goals and non-academic activities to make them part of the college community.

Online learning self-efficacy

In addition to different types of institutional support services, research has also shown that self-efficacy plays an integral role in the success of online students (Wang, Shannon, & Ross, 2013). Self-efficacy is defined as "people's judgments of their capabilities to organize and execute a course of action required to attain designated types of performances" (Bandura, 1986, p. 391). Performance outcomes, vicarious experiences, verbal persuasion, and physiological feedback are the main sources of self-efficacy (Bandura, 1997). Over the years, research has found that self-efficacy is the strongest predictor of academic achievement (Schunk, 1991). Margolis and McCabe (2006) build on Bandura's (1997) self-efficacy work by sharing four sources of self-efficacy: (a) mastery experiences, (b) vicarious experiences, (c) verbal persuasion, and (d) emotional state and what these look like in a learning environment. Mastery experiences include experiences that allow students to feel successful. Vicarious experiences include situations where a student observes another peer find success, therefore allowing the student to feel more confident in their own ability to succeed. Verbal persuasion connects to positive feedback that motivates students to provide their strongest efforts. Finally, emotional stimulation is important to self-efficacy as positive emotions strengthen beliefs about one's ability to succeed. Similar studies have found comparable factors in increasing self-efficacy in students (Fend & Scheel, 2005; Siegle & McCoach, 2007). While these studies provide indicators for increasing self-efficacy in traditional learning environments, more research is needed in exploring how these factors manifest in online learning environments for students. Understanding how self-efficacy plays a role in online learning is crucial as dropout rates for online learning are higher than in traditional learning environments (Ali & Leeds, 2009). Given the connection between self-efficacy, motivation, and performance outcomes, more research is needed exploring students' learning self-efficacy in online learning environments.

While self-efficacy has shown positive effects on in-person education, its relevance in online learning is less clear (Prior et al., 2016). Most studies of online self-efficacy focus on self-efficacy with computer and online learning systems use (Bates & Khasaweh, 2007). For instance, Wu, Tennyson, and Hsia (2010) found that computer self-efficacy, among others,

is a primary determinant of student learning satisfaction with a blended e-learning system environment. However, some recent research has discussed additional dimensions. Prior et al. (2016) found positive student attitude and digital literacy significantly contribute to self-efficacy. Shen, Cho, Tsai, and Marra (2013) identified five dimensions of online learning self-efficacy: (a) self-efficacy to complete an online course, (b) self-efficacy to interact socially with classmates, (c) self-efficacy to handle tools in a Course Management System (CMS), (d) self-efficacy to interact with instructors in an online course, and (e) self-efficacy to interact with classmates for academic purposes.

Studies on self-efficacy have shown its relationship to other variables such as motivation and learning performance. (Chang et al., 2014). Wang and Newlin (2002) also argued that self-efficacy is connected to learners' desire to take an online course. Additionally, Bradley, Browne, and Kelley (2017) found a strong correlation between self-efficacy scores and self-regulatory scores in both online and traditional learning environments suggesting that high scores in both areas are solid predictors of success in online learning environments. These results also suggest that tapping into resources that support self-regulation may increase student self-efficacy not only in traditional learning environments but also in online learning environments (Bradley et al., 2017; Wang et al., 2013). To build on this point, research has consistently shown that self-regulation is important for student success online due to the independent nature of online learning environments (Wijekumar, Ferguson, & Wagoner, 2006). As online learners take more online courses, and in turn grow and master new skills, their needs and perceptions of their abilities are likely to shift (Wang et al., 2013).

Overall, online students face many challenges in online learning environments. While some of these challenges are similar to students in face-to-face programs, many of these challenges are unique to online learning environments. Research suggests that educational institutions can mitigate some of these challenges by providing resources targeted at supporting online students. These supports can help online learners navigate important administrative, technical, financial, and other educational challenges while also increasing self-efficacy for online students which can, in turn, improve student retention in online programs over time. However, additional research is needed to better understand student perceptions of support services and online self-efficacy. Given this, we set out to investigate this problem further guided by the following research questions:

- What are online new graduate students' perceptions of and satisfaction with resources offered by their institution?
- What are online new graduate students' online learning self-efficacy levels?

Method

Research design overview

An explanatory sequential mixed methods approach, in which quantitative research was collected and analyzed and then built on with latter qualitative interview data, was used to answer the research questions (Creswell & Creswell, 2020). Quantitative results provided an overview of the new online graduate students' perceptions of the institutional resources and their online learning self-efficacy. Additionally, it allowed the collection of a larger and more

representative sample. The qualitative interviews then enabled us to explain and have a more in-depth understanding of the earlier findings (Creswell & Plano-Clark, 2017).

The quantitative data were collected through an online survey that was divided into three different sections. The first section consisted of student demographic questions. The second section, based on Milman et al. (2015) survey instrument, consisted of 19 items that students rated the importance of, and satisfaction with, each of the specific services provided by the institution on a 4-point Likert scale (very unimportant, unimportant, important, and very important). Because new students may not have used some services, the scale included a “Not Applicable” (N/A) option. These services were grouped into Administrative, Academic, Graduate college, and Support services. The final section included Shen et al.’s (2013) survey instrument to measure students’ online learning self-efficacy to: complete an online course, interact socially with classmates, handle tools in a course management system (CMS), interact with instructors, and interact with classmates for academic purposes. A final item of the survey asked students to respond as to whether they were interested in participating in an interview that was conducted through web conferencing. Qualitative data were gathered from semi-structured interviews with the selected participants that agreed to participate in follow-up interviews.

Context and participants

This study was conducted at a metropolitan research university located in the Pacific Northwest of the United States. The university enrolls more than 22,000 students in over 200 undergraduate and graduate programs. Enrollments in online courses continue to grow; currently, 39% of students take at least one online course during their program of study. As of Spring 2021, combining in-person and online programs, there are 12 doctoral and 69 master’s programs and 27 certificates established across the academic colleges and schools.

At the beginning of the Fall 2019 semester, the graduate college provided an orientation session for newly admitted graduate students about the available resources and services; online graduate students had the opportunity to participate live or watch the recordings of the orientation session. An online survey, administered in Qualtrics, was sent to all 361 online graduate students who started their program in summer or fall of 2019. A total of 155 students completed the survey (122 female and 33 male) for a response rate of 42.9%. Most of the students were white (81.3%), worked full time (66.4%), and were enrolled in master’s programs (81.3%) (see https://docs.google.com/document/d/1yZZv8Lx_IEDD9t3eciCZpJRjv50rC-6PLexDuGRR0DI/edit?usp=sharing). Additionally, around 80% of the new graduate students were new to the university system and approximately 81% of them had experience with online learning environments completing one or more online courses in the past. New online graduate students between 25–34 years old are the most frequent group (35.9%) followed by the group between 35 and 44 years with 30.7%. Finally, an additional question was asked about where this group of new online graduate students is learning about institutional resources. They mentioned that the graduate college website (32%), followed by personal contact (26.7%) are the most frequent sources to learn about the institutional resources (see https://docs.google.com/document/d/1rwjEojXsQtCVNvU4Pwn_B_1-Lb5D8-h6hwMwt70eSHM).

Data collection and analysis

Data from this study were collected from two different sources. Initially, at the beginning of the fall semester of 2019, quantitative data were collected using a survey that was divided into two different parts. The first part asked students about a list of resources that the university provides to graduate students. These resources were grouped into four sections: Administrative, academic, graduate college, and support services. Students were asked to rate the importance of these resources (very unimportant, unimportant, important, or very important), and their satisfaction with the information provided about them by the institution (very unsatisfied, unsatisfied, satisfied, and very satisfied). The second part of the survey, using a validated survey developed by Shen et al. (2013), asked students about online self-efficacy. This thirty-question survey measured five diverse aspects of online self-efficacy: (a) complete an online course, (b) interact socially with classmates, (c) handle tools in a Course Management System, (d) interact with instructors in an online course, and (e) interact with classmates for academic purposes. An 11-point Likert scale was used, where 0 indicated “cannot do at all,” 5 indicated “moderately confident can do,” and 10 indicated “highly confident can do.” Each one of these constructs had a Cronbach alpha of 0.92 or higher. Data obtained from the survey were analyzed using descriptive statistics.

After the survey was closed, purposeful sampling was used to identify participants to take part in follow-up semi-structured interviews (Creswell & Creswell, 2020). The researchers purposely selected participants with different perceptions of institutional resources and online learning self-efficacy. Six students agreed to be interviewed. A content analysis was conducted on the students’ answers to the interview questions (see here the interview questions) to further explore their perceptions of institutional resources and online learning self-efficacy.

Results

Survey results

Results from the survey about students’ perceptions of and satisfaction with resources and services were first analyzed. Regarding Administrative services (Table 1) – which consisted of registration, financial aid, and career center – around 90% of participants described registration services as an important service and 87% or more were satisfied with the information provided. Another relevant service in this group was the one provided by the Financial Aid and Scholarship office. When asked about Academic support services (Table 2) – which included resources like the library, program-specific academic advising, bookstore, or help desk technology assistance–83% of the students reported that Program-

Table 1. Administrative services rated as important/very important and satisfied/very satisfied.

Services/Resources	Importance		Satisfaction	
	N	%	N	%
Registration Services	142	90.5	137	87.3
Financial Aid and Scholarships	113	71.9	99	63.1
Career Center	72	45.8	49	31.2

Table 2. Academic support services rated as important/very important and satisfied/very satisfied.

Services/Resources	Importance		Satisfaction	
	N	%	N	%
Program-specific Academic Advising	130	82.8	119	75.8
Library	104	66.2	93	59.3
Graduate Students Orientation	97	61.8	96	61.2
Help Desk Technology Assistance	117	74.5	87	55.4
Bookstore	76	48.4	75	47.7
Graduate Students Success Center	78	49.7	67	42.6
Associated Students and Student Organizations	45	28.7	46	29.3

Table 3. Graduate college services rated as important/very important and satisfied/very satisfied.

Services/Resources	Importance		Satisfaction	
	N	%	N	%
Gradwell	41	26.1	26	16.5
Graduate Student Showcase	31	19.7	23	14.6
Campus Climate and Graduate Advising Surveys	42	26.7	34	21.7
The Beyond the Degree	39	24.9	28	17.8
Graduate Student Travel Awards	40	25.5	28	17.9

specific Academic Advising was important and 76% of the participants were satisfied with the information provided respectively.

When asked about graduate college services (Table 3) – which provide unique support to graduate students like the Graduate Student Showcase or The Beyond the Degree – students rated the surveys developed to collect information about Campus Climate and Graduate Advising as to the most important graduate college service (Importance 27% and Resource relevance 22%). Finally, when asked about support services (Table 4), approximately 42% of the online students mentioned the importance of Veteran services, but only around 24% were satisfied with the information provided about Veteran services. Students were also asked about the sources they have used to learn about Institutional support and resources (i.e., they were asked to select all that apply).

Results from the second part of the survey focused on online self-efficacy showed that this group of new online graduate students had a high level of online learning self-efficacy ($M= 9.15$) (see here the complete self-efficacy survey results). Looking at each one of the factors from the Shen et al. (2013) self-efficacy survey, we can say that this group of new online graduate students is confident in their ability to complete an online course, handle Learning Management System (LMS) tools, interact socially with classmates, and academically with classmates, and instructors (see Table 5).

Table 4. Support services rated as important/very important and satisfied/very satisfied.

Services/Resources	Importance		Satisfaction	
	N	%	N	%
Gender Equity Center	62	39.5	31	19.8
Student Diversity Center	67	42.7	31	19.7
Veteran Services	71	45.2	37	23.6
International Student Services	52	33.1	24	15.3

Table 5. Descriptive statistics from the online learning self-efficacy survey.

Survey sections	M	SD
Factor 1: Self-efficacy to complete an online course	8.97	1.13
Factor 2: Self-efficacy to interact socially with classmates	8.34	1.63
Factor 3: Self-efficacy to handle tools in a course management system (CMS)	9.59	.96
Factor 4: Self-efficacy to interact with instructors in an online course	9.45	.92
Factor 5: Self-efficacy to interact with classmates for academic purposes	9.34	.95
Total	9.15	1.11

Cannot do at all (0), Moderately confident can do (5), Highly confident can do (10)

Interview results

Institutional services

None of the six interviewees attended the live online orientation or watched the recording organized by the graduate college. However, all of them participated in the orientations provided by their own departments. Aligned with the survey results, students reported that they knew about the institutional resources and services from different sources such as websites (i.e., university, graduate college or own departments) (40%), own program orientations (40%), instructors (10%), and e-mail (10%). For instance, Student A stated, “*It was primarily through the program orientation. I also spent a considerable amount of time on the [university] website, the student center, and then the just general graduate college information page as well.*” Student B also stated about the benefits of having resources in one virtual place to facilitate students’ exploration of what is available for them,

The nice part is everything is accessible through the student portal. It’s very easy to get from one thing to the other. So it didn’t require too much searching because [the institution] does a really nice job of putting it all in one place. All of the student resources in one place, all the financial aid stuff, account stuff, registration stuff. It’s all right there. As long as you can access your student portal.

Additionally, showing the relevance of having a robust system to support new online students, one student stated, *I applied to three schools and actually decided in large part chose [this institution] because there was such good communication and particularly when it came to registration and things like that and so I was pretty satisfied with that.*

Since the participants interviewed were new graduate students, they had heard about institutional services but had not the time and need to actually use them. For instance, Student C stated, “*I haven’t had to access anything other than the library but I have looked at the resource site several times. I just haven’t had to access anything yet.*” However, corroborating the results from the survey, the library (40%) is the most cited institutional resource followed by the writing center (20%). About these two services, Student D expressed,

“I would say the one that I’ve used more often is the library. I’ve actually gone in there and used it. I haven’t used the writing center, mostly because there’s such a rapid turnaround from when we get assignments to when they’re due that I don’t always feel I have time to really check with somebody.”

Additionally, by questioning students about their satisfaction with those institutional resources that have been used so far, all of them are satisfied with the service or information that they have obtained. For instance, Student F stated,

“ . . . probably registration and financial aid [I am] super satisfied. I got so many quick responses. I applied to three schools and actually decided in large part chose [this institution] because there was such good communication and particularly when it came to registration and things like that and so I was pretty satisfied with that. The other ones, like the Grad Student Success, I just haven't had time to really explore those and I see them there, I log into Blackboard and I'm like there they are. I should maybe look at those but really I need to get this homework done and this assignment and so I haven't paid a lot of attention to those.”

Finally, asking about other particular services that they want to know more about, two students say none (33.3%), and each of the other four interviewees mentioned other general services (16.6%), online students organizations (16.6%), job opportunities (16.6%), and library (16.6%). For instance, Student F stated,

“I think I'd probably want to know more about job opportunities, internship opportunities, assistantship opportunities. I don't know if that applies to so much to online students.”

About additional information on the library resources, Student D mentioned,

“I think the library. I have not stumbled upon any kind of tutorial or any kind of support to get through that. Next round I have research, and I'm kind of nervous because I noticed that a lot of the library resources that I wanted to look at were in person and I didn't have access to them online. So I'm kind of nervous. I'm not so confident about my access to those things.”

Online learning self-efficacy

Confirming the result obtained in the survey, all six students expressed that they are confident or very confident that they will be successful in the online graduate program. For instance, Student G stated, *“Now that I've gotten the first round of classes under my belt . . . I'm fairly confident I can do this. I'm kind of rusty. It's 2006 when I graduated with my bachelor's degree. So I was a little nervous.”* Students were divided about the social interaction they have had with their classmates. Half of them described that they hadn't had social interactions in their classes so far. For example, Student H stated, *“Socially, I don't feel like I connected so easily with others. We're all busy and I'm trying not to burden others.”* The other half have experienced some social interactions, for example, Student F stated,

“This is my very first semester. I'm only in the two classes. And so my experiences are kind of limited, but I have enjoyed the non-academic related discussions that we kind of have to participate in. And I think it's just the right amount where it doesn't feel like it's a burden to have to participate in it. But it's a good way just to kind of get to know some of the other people that you're in class with.”

On the contrary, all of the interviewees agreed that they have experienced positive academic interactions with their classmates in different activities such as asynchronous group discussions, synchronous video meetings, and Google docs peer-review activities. About these academic interactions, Student A stated, “

Sure. I guess so far in the classes, I've used a lot of Google Hangouts for group work as well as some I guess it's primarily been the discussion boards. And I like that they're a combination of short essays and peer to peer interaction. But I felt like the Google Hangouts are more authentic."

In the same line, Student D mentioned her experience with discussion forums,

"I think the way the modules have been set up, they've done a really good job at having academic threads going and then having parts of that assignment being that you have to reply to those threads and then interact further. I think that's been helpful in many ways because that pushes us to interact with each other."

Students were also divided about the interactions they have had with their instructors. Half of them expressed they felt good about the opportunities they had to interact with their instructors (e.g., ask the Professor forum, virtual office hours, discussion boards, e-mail, and introductory videos). For example, Student A stated,

"It's been mostly via Blackboard. I had an instructor who instead of an introduction post in a group forum, he had us upload introduction videos, which was really interesting and gave us a chance to learn how to pronounce each other's names and get a feel for the other person as a human interaction more than discussion boards. I thought that was really interesting and very useful."

About having the opportunity to use video, Student E also stated,

"I've had occasion to email instructors too if it was something that was more, it didn't have as much to do with the class or something more personal. Then some of them, a couple of them, I think two professors have posted videos about themselves at the beginning of the class, so that's really nice to get to know them a little bit and have just a better idea of what they're like as a person . . ."

However, the other half stated that they would like to have more interactions with their instructors. For example, Student F stated,

"I wish there was just a tiny bit more interaction and I understand they're busy. It seems like a lot of the interaction just comes when I hear back when an assignment is graded and there's a little bit of a comment and sometimes I think it sounds a little bit like a canned response."

Finally, analyzing students' responses about their experiences with online course tools, the majority of students (83%) have had a positive experience with tools they have used such as the LMS, Flipgrid, Google Hangouts, Google Docs, and e-mail. Only one student described a negative experience uploading assignments in the LMS as the student described,

"My experience has been that it messes up my papers . . . But then when I called the help desk the next time, because I was trying to submit something for another class later, and every time I looked at it before submitting it, I could see that the formatting was off."

Discussion

The aim of this study was to explore new online graduate students' perceptions of and satisfaction with resources offered by their institution and to assess their online self-efficacy. In order to achieve these goals, a mixed-method approach was used in this study in which quantitative data revealed new graduate students' perceptions of and satisfaction with

resources offered by their institution as well as their online learning self-efficacy. Following this, qualitative interviews supported a more in-depth investigation and understanding of the quantitative data. Results from this study revealed that the newly admitted online graduate students had a high level of online learning self-efficacy. Furthermore, varying opinions about the importance and perceived usefulness of different institutional resources were found.

Looking at online new graduate students' perceptions of and satisfaction with resources offered by their institution, the administrative services like Registration and Financial Aid and Scholarship services were rated the most important for new online graduate students in this higher education institution. On the other hand, only up to 30% of the participants considered the specific services provided by the Graduate College important. These findings are aligned with those of Milman et al. (2015) that found that the registrar's and admissions offices' support services were important compared to other university support services. Looking at the different channels where online graduate students received support and information, it is important to mention that institutions need to make an effort to provide online information on their website, but also faculty and staff available to support online graduate students' needs.

In addressing the second research question, What are online new graduate students' online learning self-efficacy levels?, results showed that they had a high sense of online learning self-efficacy. Given that 66.6% of the participants are between 25 and 44 years old and 80.6% had previous experience with online learning, the result is aligned with previous research (Ramsin & Mayall, 2019; Ruthotto, Kreth, Stevens, Trively, & Melkers, 2020). For instance, Hodges (2008) found that "prior performance has proven to be an important element in students' perceptions of self-efficacy" (p. 8). Some of the stress and anxiety that can arise in novel situations for new online learners can often be lessened, if not, avoided based on their previous knowledge and experience. According to Stiller and Köster (2016), online students can be impacted, psychologically, by the immediate and complex nature of online learning experiences. Students who come into online learning environments with prior experiences navigating online platforms, eliminate some of the stressors that first-time users may experience.

Additionally, interview results offered insights into some of the quantitative data collected in this study. Many students commented on the relative ease of use of institutional resources. Moreover, a participant specifically appreciated that many resources could be easily accessed from a central location. The interviews also provided some clarity on why some tools were seen as more used, satisfactory, and/or useful. Since participants were new online students, time to properly utilize resources may be a determining factor in these results as participants mentioned the lack of time to access or explore resources when they felt the most relevant. It is important to mention that almost 67% of the participants were full-time employees and time to explore institutional support services could also be a limitation for them.

Conclusions

It is extremely valuable for graduate students to know the institutional resources and services available to them. Having detailed information in one specific virtual place, such as on the graduate school webpage, is especially important for online graduate students

(Newberry & DeLuca, 2013). As demonstrated in this study, new graduate students are looking for administrative and academic services that help them to navigate during the first weeks and months inside of their programs. To address some participants' concerns about the impact of time, institutions could consider partnering with program coordinators and faculty to infuse the supports into orientation workshops and course contents. Similarly, institutions need to be prepared to support online graduate students with low levels of online learning self-efficacy. It is shown in the literature that online learning self-efficacy is related to academic achievement. Thus, it is important to support students to help them to complete their courses successfully offering opportunities to get familiar with the course management system and to interact with instructors and classmates. Self-efficacy levels are likely to change over time. For instance, as students move through an online course and build new skill sets, their beliefs about their capabilities are likely to shift (Wang et al., 2013).

In summary, declining attrition rates in online learning environments have created a need to explore different ways in which online students can feel more supported in their online courses. Educational institutions can provide resources that help online students navigate the challenges that can arise in online learning environments. These resources can be tailored to support the specific and immediate needs of these learners. Furthermore, building on student self-efficacy is a promising tool to increase learner motivation and performance outcomes. However, even though current research suggests a number of ways to promote positive self-efficacy in traditional learning environments, more studies are needed to better understand the role self-efficacy plays in online learning environments and specifically how to foster it in this type of learning environment.

Limitations and future work

The study had several limitations. Initially, voluntary responses to the survey could have some degree of selection bias, as the group of respondents might not accurately represent the entire population. Additionally, the response rate was 42.9% and there is a possibility that students who responded to the survey were those with a higher self-motivation to start their online graduate programs.

A delimitation of this study is that it was conducted at one university, the results are not representative of new online graduate students in general. Therefore, it is recommended that future research should include a larger sample that includes different institutions. Finally, since this study focused only on new online graduate students, this type of studies could also be expanded to include experienced online students to compare their perceptions of institutional services and online learning self-efficacy.

Consent to Publish

This research study was approved by the Boise State University Office of Research Compliance (ORC). Protocol number: 101-SB19-163

ORCID

Jesús Trespalacios  <http://orcid.org/0000-0002-3162-3601>

Lida Uribe-Flórez  <http://orcid.org/0000-0001-8254-4228>

Patrick R. Lowenthal  <http://orcid.org/0000-0002-9318-1909>

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