Student Perceived Benefits of Embedded Online Peer Tutors

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Abstract

In fall of 2017, the Center for Academic Program Support at the University of New Mexico revamped its Online Learning Assistant (OLA) Program, which focuses on embedding undergraduate peer tutors in multidisciplinary fully online courses. Students who had an OLA during the Spring 2020 and Fall 2020 semesters, were surveyed to better understand the perceived benefits of having this type of support in their courses. Survey results showed that by engaging with the OLA, students felt their coursework improved, they were more confident in the material, and engaged more in the course. This study should be of interest to learning center practitioners, faculty, and researchers focused on online academic support.

Keywords: Online tutor, peer tutor, learning center/s, embedded

Introduction

Prior to 2020, one in seven students in the United States was taking at least one course online (Allen & Seaman, 2016). With the sudden move to online in 2020 due to Covid-19, colleges and universities have faced unique challenges as they support an increasing number of faculty and students who are teaching and learning online. To comply with social distancing measures, in a matter of days universities had to cancel, postpone or move their in-person instruction online (Johnson, Veletsianos, & Seaman, 2020). Many learning centers had to increase their online academic support and some even started providing online academic services for the first time. Now that the world has experienced this sudden thrust into online learning and teaching, as we move into the future, online learning will no longer be something a few students will choose to do. It is then important that higher education, in particular, learning centers explore new support methods and improve the quality of their services as learning and teaching continues online (Toquero, 2020). One way to enhance academic support for online students is through the use of embedded online tutors.

The nature of distance education requires that students be self-directed and self-reliant (Allen & Seaman, 2016). Online learning can feel like an isolated endeavor for students, especially those new to it (Richardson, Maeda, Lv, & Caskurlu, 2017; Son, Hegde, Smith,

Wang, & Sasangohar, 2020)). Peer tutors have been at the forefront of providing academic support for distance learners for many years now (LaPadula, 2003; Mcpherson & Nunes, 2013; Felder-Strauss, Franklin, Machuca, Self, Affil & Lockwood, 2019). Research, which has primarily focused on in-person tutoring has shown that students who use peer tutoring benefit in various ways (Colver & Fry, 2016; Martin & Bolliger, 2018). Students who have access to a tutor benefit from varied perspectives on a topic and can address problem areas in the content that they would have otherwise ignored (Evans & Moore, 2013). In addition, they tend to have reduced anxiety, greater satisfaction, and more transferable skills (Evans & Moore, 2013; Martin & Bolliger, 2018). A peer tutor can provide personal, social, academic and psychological support for students and can aid in promoting positive student outcomes (Munley, Garvey, & Mcconnell, 2010). Learning centers then can provide effective support for online students by using online peer tutors within courses (LaPadula, 2003; Mcpherson & Nunes, 2013; Bourelle, Bourelle, & Rankins-Robertson, 2015).

While there is extensive research that focuses on the benefits of tutoring, previous research that emphasizes online embedded peer tutors is scarce (Bourelle et al., 2015; Bourelle & Bourelle, 2015; Marshall, Valentic & Rasmussen, 2019). Thus, further research is needed to provide higher education and learning center

practitioners with a better understanding of the use and benefits of embedded online peer tutors in diverse disciplines.

Embedded Online Tutoring

Online tutoring has been traditionally provided through a learning center's virtual drop-in environment, online appointments, or a combination of both. In addition to drop-in and appointments, embedded tutoring has also been a tutoring modality used in in-person courses and a few online courses; however, research has shown that simply placing a tutor into an course is not enough (Martinovic, 2009; Bourelle & Bourelle, 2015; Ramirez-Wrease, 2016). The utilization of online tutors is typically very low since students reach out to the tutor only if they have a question with their homework (Martinovic, 2009; Ramirez-Wrease, 2016). Rarely will they reach out to gain further knowledge of the course material (Martinovic, 2009). An approach that focuses on the training of instructors prior to teaching an online class with an embedded tutor and focused tutor development can create positive results for embedded tutoring programs (Bourelle et al., 2015; Bourelle & Bourelle, 2015).

Online Learning Assistants

In 2017, the Center for Academic Program Support at the University of New Mexico, revamped its embedded online tutoring program to a new model called the Online Learning Assistant (OLA) Program, which focuses on embedding undergraduate peer

tutors into courses in multiple disciplines. The Online Learning Assistant (OLA) model was adopted, modified and expanded for multidisciplinary courses from the Bourelle et al. (2015) Teaching Assistant model. OLAs are undergraduate and graduate peer tutors who engage with undergraduate STEM and non-STEM courses. For the purposes of this study the terms OLA and peer tutor/tutor will be used interchangeably. The OLA model focuses on an instructor, tutor and student-centered approach to student success. In this model the role of "tutor" was re-defined and expanded. Thus, the following three areas of scope for OLAs were incorporated: academic support, online learning strategies, and community building/social presence.

In addition, as part of the model, faculty attend a one-hour orientation, where they learn about the three areas of focus for OLAs and brainstorm ways in which they can incorporate the tutor into their curriculum. Faculty continue to receive support from the learning center staff during the semester through one-on-one meetings with the program supervisor. OLAs are also trained based on the three areas of focus. They receive trainings that cover best online tutoring practices, providing effective feedback, creating and leading review sessions, the learning management system, among others. The subjects supported vary by semester, depending on course offerings. The support of the OLAs is customized to the

needs of the course and its students. This model allows OLAs to become a part of the course rather than an add-on.

Purpose

The purpose of this study was to explore the perceived benefits for students who worked with an OLA in one of their courses. The guiding question and sub questions for this study were as follows:

What are the perceived benefits for students who engage with an Online Learning Assistant in a fully online course?

- Did students perceive that working with an OLA helped improve their performance with the course material?
- Did students perceive that working with an OLA increased their engagement with the course?

Methods

To better understand the student perceived benefits of working with an OLA in an online course, a case study survey was conducted similar to Mills, Durepos, & Wiebe, 2010. The population of interest were undergraduate students who had taken a course with an OLA in Spring 2020 and/or the Fall 2020 semester. In Spring 2020, the program supported the following number of undergraduate general education/ introductory courses: English courses (9), Economics (3), History (2). These courses were already scheduled to be taught online prior to the Covid-19 closures. In Fall 2020, given the move to online learning, the program supported additional courses that historically had been taught in-person but

were moved to a fully online modality. The following number of undergraduate general education/introductory courses were supported: English courses (11), Economics (2), Biology (3), Chemistry (3), Physics (3), Sociology (2), History (3).

Researchers designed an online survey focused on exploring students' perceptions of academic and course engagement benefits as a result of working with an OLA. The survey was anonymous to encourage more candid responses and a higher likelihood of response. At the end of the semester a survey link was emailed to students who had taken a course with an OLA by the program supervisor. Students were encouraged to respond without incentive or penalty associated with completing the survey, relying on voluntary response. The anonymous survey contained eight questions, including matrix, multiple choice, and open-ended questions; a copy of the complete survey is in the Appendix. The survey was kept short to encourage students to respond. Data was excluded for individuals who started the survey but did not complete it, also for those who did not consent to participate in the study. In addition, data was also excluded for students who expressed that they did not work with the OLA in the course. Data reports were exported from the Opinio survey software and analyzed in Excel and SAS.

Results

The survey was sent to a total of 372 students in Spring 2020 and in Fall 2020 to 1,482 students. There was an increase in surveys sent Fall 2020 due to the addition of new courses to the program, some of which had high enrollments of 250+ students. In Spring 2020, the total response rate was 12.9% (N=48) and the rate of usable responses was 9.4 % (N=35). Among those who responded to the survey, two did not consent to be included in the study and 11 did not answer any content questions. In Fall 2020, the total response rate was 5% (N=87) and the rate of usable responses was 4 % (N=60). This made for an overall total response rate of 7.3% and a usable response rate of 5.1%. Among those who responded to the survey across both semesters, two did not consent to be included in the study and 32 did not answer any content questions.

Out of those that completed the survey and consented to participate in Spring, five students (10.4%), responded they had not interacted with the OLA in their course and in Fall three (3.4%) students responded the same, demonstrating that even with the option available not all students will choose to actively utilize this type of support. The responses of those who did not interact with the OLA were not considered in the following results given that they could not provide data related to their experience working with an OLA.

The results for those students who completed the survey, interacted with the OLA in their course, and consented to participate in the study are below. It is important to note that the responses in the matrix for question three were split into two types of questions for analysis purposes. Questions pertaining to perceived academic/content improvement are in Table 1. Most students felt having an OLA had contributed to their learning in their class on all four measures included in the survey. A majority of students both semesters (Spring/Fall) reported being able to work on similar problems on their own after working with an OLA (82.1%), 75.8% felt they had a deeper understanding of the material and learned something new from their OLA, and 82.1% felt their work quality had improved.

Table 1.
Responses to perceived academic/content improvement questions for students who indicated they had used the OLA. (Percentage (number of respondents))

Because of my OLA:	% Yes	% No	% NA
I learned something new	73.7 (70)	12.6 (12)	7.4 (7)
I was able to work on similar problems on my own	82.1 (78)	4.2 (4)	7.4 (7)
I have a deeper understanding of the material	75.8 (72)	8.4 (8)	9.5 (9)
The quality of my work has improved	82.1 (78)	5.3 (5)	7.4 (7)

Question three matrix responses pertaining to perceived course engagement are in Table 2. While students felt more supported (84.2%) and that they got more out of their course (76.8%) with an OLA in their class, fewer students felt the OLA contributed to their engagement with peers (48.4%).

Table 2.
Responses to perceived course engagement improvement questions for students who indicated they had used the OLA.

Because of my OLA:	% Yes	% No	% NA
I felt more comfortable participating on discussion boards	63.2 (60)	11.6 (11)	18.9 (18)
I felt more supported in my coursework	84.2 (80)	4.2 (4)	6.3 (6)
I was more connected to my course peers	48.4 (46)	23.2 (22)	22.1 (21)
I got more out of my class	76.8 (73)	6.3 (6)	11.6 (11)

Question four in the survey asked if students were able to engage with an OLA when work became difficult. The majority said 'Yes' (90% (27) in Spring & 86.7% (52) Fall). We also asked if students would ask questions of their OLA that they did not feel comfortable asking the instructor in Spring we found only 20.7% (6) used their OLA for this purpose with an increase in Fall with 38.3% (23) of respondents saying yes.

Table 3 shows responses to question six which asked students to respond on a Likert scale. Both semesters 76.8% of students strongly agreed or agreed that the use of the OLA contributed to them feeling more connected to the class, while 5.3% disagreed or strongly disagreed. The majority of students also agreed and strongly agreed that they felt more engaged in their learning having an OLA (83.2%), while 4.2% disagreed. Also, 80.0% of respondents agreed or strongly agreed that working with the OLA contributed to them feeling more confident in their ability to solve problems in their class, while 2.1% disagreed or strongly disagreed.

Table 3.

Responses to questions on OLA contribution to student engagement for students who indicated they had used the OLA.

Working with my OLA has contributed to:	% Strongly Agree	% Agree	% Disagree	% Strongly Disagree	% Unsure
Being more connected to my class	36.8 (35)	40.0 (38)	4.2 (4)	1.1 (1)	11.6 (11)
Being more engaged in my learning	48.4 (46)	34.7 (33)	4.2 (4)	0.0 (0)	6.3 (6)
Being more confident in my ability to solve problems	50.5 (48)	29.5 (28)	1.1 (1)	1.1 (1)	10.5 (10)

Table 4 provides a selection of open-ended responses for both semesters from question seven, 'Would you like to tell us anything else about your OLA?' While this is not a complete list of responses, these are all indicative of received responses and those

with the most specific feedback. No open-ended response was critical of the OLA experience.

Table 4.
Qualitative responses from participants.

	Would you like to tell us anything else about your OLA?
Student A	"Having a tutor has helped understand the material. My grammar and spelling have bettered over the course thanks to the OLA."
Student B	"Constantly provided great feedback and thought-provoking questions"
Student C	"The feedback they give is great because you can get help on a rough draft from someone that in my opinion has the same quality of criticism as my professor, before having to turn in the final draft".
Student D	"Enjoyed working with her and liked having someone available that was not in charge of the class. We had a great instructor as well and they worked extremely well together."
Student E	"She did a great job and maintained very clear communication. Her emails and the information she provided was very helpful and made me feel more connected to the class during COVID and the unusual circumstances".

Limitations

As all studies, this study faces various limitations. First, given the Covid-19 circumstances many students and instructors were taking or teaching online courses for the first time. This changed the dynamic of students and instructors who would have traditionally chosen to take online courses. The way an OLA was effectively embedded into the course also varied across faculty who were new to teaching online and those who had previous experience. In addition, the low response rate of the surveys is a limitation of this study. The low responses were expected given that during this time students had an overload of email communication due to studying remotely during the pandemic (Aguilera-Hermida, 2020). The

survey was sent during the last week of the semester (both semesters), when students are preoccupied with final exams or projects and are also receiving additional university surveys for their courses. The voluntary nature of the survey may also lead to self-selection bias, this limitation is one that is expected and common in research on tutoring (Colver & Fry, 2016). While self-selection bias and the low response rate can be a concern, research has found that higher education surveys with response rates as low as 5% do not pose a bias issue into the interpretation of the data (Fosnacht et al., 2017). Still, we recognize the need to employ different methods that may result in a higher response rates such as sending survey reminders for future studies. The results from this study are not generalizable, given the context-dependency of case studies and the small sample response size (Rossman et al., 2017). However, the results do give insight into current theory and practice even with these limitations.

Discussion

In three years of using this model, we find that embedded tutoring has been highly effective across disciplines and curricula, as instructors, OLAs and learning center staff work closely together. Since 2017, over 3,400 students have been served. While previous research has shown that peer tutoring has extensive benefits (Colver & Fry, 2016; Martin & Bolliger, 2018), this study sought to understand the perceived benefits by those students who engaged

with an online embedded tutor. Based on student responses from students who worked with an OLA either Spring 2020 and Fall 2020, this study found that students benefited by feeling more supported in their coursework, more connected to their courses and were able to have a deeper understanding of the material.

Many students perceived that working with an OLA improved their performance with the course material. It was found that 90% of students felt more confident in the course material because of working with the OLA and 82% said the quality of their work had improved. This is important given that during the semesters this study is focused on, the quality of work for students declined and students had difficulty completing assignments online (Son et al., 2020). One of the respondent's shared, "Having a tutor has helped me understand the material. My grammar and spelling have bettered over the course thanks to the OLA". We also see in the study that when a tutor is embedded into the course, students are more likely to reach out. Close to 90% of respondents also said that they had reached out to the OLA when work in the course became difficult. With student's often being hesitant to seek help, especially online (Martinovic, 2009), the combination of accessibility and availability allows for the seamless inclusion of the OLA into the online course. This in turn encourages students to seek help when needed the most.

In addition, students reported that working with the OLA improved their engagement with the course. With the shift to courses being taught primarily online, students who would have not chosen to take an online course otherwise, had no choice. Along with this sudden shift to fully online, students in both Spring and Fall semesters were facing decreased motivation, self-efficacy and cognitive engagement in addition to feelings of isolation (Aguilera-Hermida, 2020; Son et al., 2020). Many of the courses supported by OLAs Spring and Fall semesters, primarily STEM courses had traditionally been taught in large lecture halls and had enrollments of over 200 students, making it even more difficult to support and engage students when shifted online. However, in this study we see that close to 80% of the students who worked with an OLA felt more supported and engaged in their courses. As one student wrote, my OLA "…did a great job and maintained very clear communication. Her emails and the information she provided was very helpful and made me feel more connected to the class during covid and the unusual circumstances." Students also reported feeling that they got more out of the course. One of the roles of the OLA is to help create social presence, so that students will feel more connected and engage more deeply with the course. This is done through reaching out to students, providing review sessions, and engaging with students one-on-one. Thus, having a tutor that is easily accessible as a part of the course can help in keeping students

engaged and supported by providing individualized support that may not otherwise be available in the course.

Conclusion

As online teaching and learning continues to grow, embedded online tutoring can be a tool for universities, especially learning centers to provide effective individualized tutoring support for students. While little research has focused on this area of tutoring support, the findings of this study are meant to help researchers and practitioners better understand the benefits of supporting online learners through embedded peer tutors. The findings are of interest given the multidisciplinary data sample. In addition, the study data was collected during a global pandemic where online courses were composed of new and experienced online learners. It was found that students perceived benefits included, the ability to work on problems on their own, deeper understanding of course material and increased quality of work. This is in line with the benefits found in studies that have looked at in-person tutoring and some focused on embedded online support (Evans & Moore, 2013; Bourelle & Bourelle, 2015; Martin & Bollinger, 2018; Marshal et al., 2019).

One of the most important findings especially given that students were navigating a global pandemic during both semesters that data was collected, is that of students feeling more connected to their class, increased confidence with the material and feeling more

engaged in their learning because of working with the OLA in their course. While we know that tutors across the field are effective, embedding them into fully online courses can help in countering the feelings of isolation and decreased motivation students may feel.

Thus, the use of embedded peer tutors can be a beneficial approach for learning centers to support online students. The benefits go beyond academics and having tailored support at the reach of the students can help enhance a student's learning experience. The opportunities for future research in this area are limitless. More studies are needed that explore further the academic and social benefits of embedded online tutors as well as training. Future research can focus on looking at differences in benefits and efficacy of embedded tutors across disciplines. In addition, studies can also focus on the participation of faculty and their perspective on working with embedded tutors in their courses.

References

Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open*, *1*, 100011. https://doi.org/10.1016/j.ijedro.2020.100011

Allen , E., & Seaman, J. (2016). (rep.). *Online Report Card: Tracking Online Education in the United States*. Babson Survey Research Group. Retrieved from https://files.eric.ed.gov/fulltext/ED572777.pdf

Bourelle, T., & Bourelle, A. (2015). eComp at the University of New Mexico: Emphasizing Twenty-first Century Literacies in an Online Composition Program. Composition Forum, 32(1), 21.

Bourelle, T., Bourelle, A., & Rankins-Robertson, S. (2015). Teaching with Instructional Assistants: Enhancing Student Learning in Online Classes. *Computers and Composition*, *37*, 90–103. https://doi.org/10.1016/j.compcom.2015.06.007

Colver, M., & Fry, T. (2016). Evidence to Support Peer Tutoring Programs at the Undergraduate Level. *Journal of College Reading and Learning*, *46*(1), 16–41. https://doi.org/10.1080/10790195.2015.1075446

Evans, M. J., & Moore, J. S. (2013). Peer tutoring with the aid of the Internet. *British Journal of Educational Technology*, *44*(1), 144–155. https://doi.org/10.1111/j.1467-8535.2011.01280.x

Felder-Strauss, J., Franklin, P., Machuca, A., Self, S., Offil, T., & Lockwood, R. (2019). The effect of online tutor center visits on student performance in undergraduate accounting courses. *International Journal of Business Research and Information Technology*, 6(1), 62-77.

Fosnacht, K., Sarraf, S., Howe, E., & Peck, L. K. (2017). How Important are High Response Rates for College Surveys? *The Review of Higher Education*, *40*(2), 245–265. https://doi.org/10.1353/rhe.2017.0003

Johnson, N., Veletsianos, G., & Seaman, J. (2020). U.S. Faculty and Administrators' Experiences and Approaches in the Early Weeks of the COVID-19 Pandemic. *Online Learning*, *24*(2), 6–21. https://doi.org/10.24059/olj.v24i2.2285

LaPadula, M. (2003). A Comprehensive Look at Online Student Support Services for Distance Learners. *American Journal of Distance Education*, *17*(2), 119–128. https://doi.org/10.1207/s15389286ajde1702_4

Marshall, H., Valentic, G., & Rasmussen, S. (2019). Embedded Tutoring to Enhance Dialogic Feedback and Improve Student Self-Regulation. *Learning Assistance Review*, 24(2).

Martin, F., & Bolliger, D. U. (2018). Engagement Matters: Student Perceptions on the Importance of Engagement Strategies in the Online Learning Environment. *Online Learning*, *22*(1). https://doi.org/10.24059/olj.v22i1.1092

Martinovic, D. (2009). Being an expert mathematics online tutor: what does expertise entail? *Mentoring & Tutoring: Partnership in Learning*, *17*(2), 165–185. https://doi.org/10.1080/13611260902860125

Mcpherson, M., & Nunes, M. B. (2013). The Role of Tutors as a Fundamental Component of Online Learning Support. *Distance and E-Learning in Transition*, 235–246. https://doi.org/10.1002/9781118557686.ch16

Mills, A. J., Durepos, G., & Wiebe, E. (2009). *Encyclopedia of case study research*. SAGE Publications.

Munley, V. G., Garvey, E., & Mcconnell, M. J. (2010). The Effectiveness of Peer Tutoring on Student Achievement at the University Level. *American Economic Review*, *100*(2), 277–282. https://doi.org/10.1257/aer.100.2.277

Ramirez-Wrease, G. (2016). A Comprehensive Tutoring Service Plan for a Community College. ProQuest Dissertations and Theses, UMI No. 10241881.

Richardson, J. C., Maeda, Y., Lv, J., & Caskurlu, S. (2017). Social presence in relation to students' satisfaction and learning in the online environment: A meta-analysis. *Computers in Human Behavior*, *71*, 402–417. https://doi.org/10.1016/j.chb.2017.02.001

Rossman, G. B., Rallis, S. F., & Rossman, G. B. (2017). *An introduction to qualitative research: learning in the field*. SAGE.

Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on College Students' Mental Health in the United States: Interview Survey Study (Preprint). *Journal of Medical Internet Research* , *22*(9). https://doi.org/10.2196/preprints.21279

Toquero, C. M. (2020). Challenges and Opportunities for Higher Education amid the COVID-19 Pandemic: The Philippine Context. *Pedagogical Research*, *5*(4). https://doi.org/10.29333/pr/7947

Appendix A
Spring 2020 and Fall 2020 CAPS Student OLA User Survey

1. By clicking continue below, you will be agreeing to participate in the above described research study.

⭘ Yes ⭘ No

Please think about your time working with an OLA (Online Learning Assistant) in your online class.

2. In which subject(s) did you have an OLA? (please include their name/number if you know it).

3. Q3: Because of my OLA:

	Yes	No	N/A
I learned something new	⭘	⭘	⭘
I was able to work on similar problems or concepts on my own	⭘	⭘	⭘
I have a deeper understanding of the material	⭘	⭘	⭘
The quality of my work has improved	⭘	⭘	⭘
I felt more comfortable participating on course discussion boards	⭘	⭘	⭘
I felt more supported in my coursework	⭘	⭘	⭘

I was more connected to my course peers	◯	◯	◯
I got more out of my class	◯	◯	◯

4. I was able to engage with my OLA when work became difficult.

    ◯ Yes   ◯ No

5. Did you ever ask the OLA a question you did not feel comfortable asking your instructor?

    ◯ Yes   ◯ No

6. Working with my OLA has contributed to my:

	Strongly Agree	Agree	Disagree	Strongly Disagree	Unsure
being more connected to my class	◯	◯	◯	◯	◯
being more engaged in my learning.	◯	◯	◯	◯	◯
being more confident in my ability to solve a problem or find the support I need.	◯	◯	◯	◯	◯

7. Would you like to tell us anything else about your OLA? (optional)

8. Is there any other support you would like to see in your online courses? (optional)