



2U Annual Report 2020

Form 10-K (NASDAQ:TWOU)

Published: February 28th, 2020

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

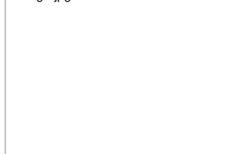
or

- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission File Number: 001-36376

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2U, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

26-2335939

(I.R.S. Employer Identification No.)

7900 Harkins Road Lanham, MD

(Address of Principal Executive Offices)

20706

(Zip Code)

(301) 892-4350

Registrant's telephone number, including area code:

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, \$0.001 par value per share	TWOU	The Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the 47,449,901 shares of the registrant's common stock held by non-affiliates as of June 28, 2019 (computed based on the closing price on such date as reported on The Nasdaq Global Select Market) was \$1,786,014,274.

As of February 24, 2020, there were 63,627,643 shares of the registrant's common stock, par value \$0.001 per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Company's definitive proxy statement, to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934, for its 2020 Annual Meeting of Stockholders, or an amendment on Form 10-K/A are incorporated by reference in Part III of this Form 10-K.

2U, Inc.
FORM 10-K
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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and which are subject to substantial risks and uncertainties. In some cases, you can identify forward-looking statements by the words "may," "might," "will," "could," "would," "should," "expect," "intend," "plan," "objective," "anticipate," "believe," "estimate," "predict," "project," "potential," "continue" and "ongoing," or the negative of these terms, or other comparable terminology intended to identify statements about the future. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this Annual Report on Form 10-K, we caution you that these statements are based on a combination of facts and factors currently known by us and our expectations of the future, about which we cannot be certain. Factors that may cause actual results to differ materially from current expectations include, but are not limited to:

- trends in the higher education market and the market for online education, and expectations for growth in those markets;
 - the acceptance, adoption and growth of online learning by colleges and universities, faculty, students, employers, accreditors and state and federal licensing bodies;
 - the impact of competition on our industry and innovations by competitors;
 - our ability to comply with evolving regulations and legal obligations related to data privacy, data protection and information security;
 - our expectations about the potential benefits of our cloud-based software-as-a-service, or SaaS, technology and technology-enabled services to university clients and students;
 - our dependence on third parties to provide certain technological services or components used in our platform;
 - our ability to meet the anticipated launch dates of our degree programs, short courses and boot camps;
 - our expectations about the predictability, visibility and recurring nature of our business model;
 - our ability to acquire new university clients and expand our degree programs, short courses and boot camps with existing university clients;
 - our ability to successfully integrate the operations of our acquisitions, including Trilogy Education Services, Inc., or Trilogy, achieve the expected benefits of our acquisitions and manage, expand and grow the combined company;
 - our ability to service our substantial indebtedness and comply with the financial and other restrictive covenants contained in the credit agreement governing our senior secured term loan facility;
 - our ability to refinance our indebtedness on attractive terms, if at all, to better align with our focus on profitability;
 - our ability to generate sufficient future operating cash flows from recent acquisitions to ensure related goodwill is not impaired;
 - our ability to execute our growth strategy in the international, undergraduate and non-degree alternative markets;
 - our ability to continue to recruit prospective students for our offerings;
 - our ability to maintain or increase student retention rate in our degree programs;
 - our ability to attract, hire and retain qualified employees;
 - our expectations about the scalability of our cloud-based platform;
 - our expectations regarding future expenses in relation to future revenue;
 - potential changes in regulations applicable to us or our university clients;
 - our expectations regarding the amount of time our cash balances and other available financial resources will be sufficient to fund our operations; and
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- the impact and cost of stockholder activism.

You should refer to the risks described in Part I, Item 1A “Risk Factors” in this Annual Report on Form 10-K for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this Annual Report on Form 10-K will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

You should read this Annual Report on Form 10-K completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

In this Annual Report on Form 10-K, the terms “2U,” “our company,” “we,” “us,” and “our” refer to 2U, Inc. and its subsidiaries, unless the context indicates otherwise.

PART I

Item 1. Business

Overview

We are a leading provider of education technology for nonprofit colleges and universities. We build, deliver, and support more than 400 digital and in-person educational offerings, including graduate degrees, undergraduate degrees, professional certificates, boot camps, and short courses, across the career curriculum continuum. Together with our university clients, we have positively transformed the lives of more than 200,000 students.

Our comprehensive platform of tightly integrated technology and services provides the digital infrastructure that universities need to attract, enroll, educate and support students at scale. With our platform, students can pursue their education anytime, anywhere, without quitting their jobs or moving; and university clients can provide broader access to their educational offerings, thereby improving outcomes, skills attainment, and career prospects for a greater number of students.

We are leading the way in helping nonprofit colleges and universities succeed in the digital age and we have become a trusted partner and brand steward to 73 leading institutions. We continue to develop new and innovative tools to enhance the effectiveness of instructional methods and improve the student learning experience. In addition, our platform allows our university clients to extend their brands and fulfill their missions by delivering high quality education offerings to students anywhere in the world, while maintaining their academic rigor and admissions standards.

Business Segments

We have two reportable segments: the Graduate Program Segment and the Alternative Credential Segment.

In our Graduate Program Segment, we provide the technology and services to nonprofit colleges and universities to enable the online delivery of degree programs. Students enrolled in these programs are generally seeking an undergraduate or graduate degree of the same quality they would receive on campus.

In our Alternative Credential Segment, we provide premium online short courses and technical, skills-based boot camps through relationships with nonprofit colleges and universities. Students enrolled in these offerings are generally working professionals seeking career advancement through skills attainment.

Our Platform

Our platform, or 2UOS, consists of a seamlessly integrated ecosystem of technology, people and data. Through 2UOS, we provide front-end and back-end cloud-based SaaS technology and technology-enabled services, which are tightly integrated and optimized with data analysis and machine learning techniques. Our 2UOS platform includes the following technology and services:

Data-Driven Approach to Selecting Offerings

Through our experience launching and operating educational offerings, we have developed a proprietary algorithm to drive the process for identifying new offerings, which enables us to systematically identify offerings that we believe have the highest probability of success. Our algorithm draws on a wide variety of data, including the operating history of our existing offerings, and is based on key market variables, such as the existing market size of an offering, potential student demographics and university characteristics. The algorithm not only enables us to deploy capital with greater confidence, but it also provides our university clients with greater assurance of, and visibility into, the success of the offering.

Pre-Launch Technology and Services

2UOS provides the following before launching an offering:

- *Technology Infrastructure.* We use a variety of proprietary technologies to unify our suite of applications and automate the setup of technology infrastructure for new degree programs. We also have proprietary technology that translates school-specific code into a common language to streamline launching new degree programs with multiple schools.
 - *Marketing.* We use data analytics and proprietary algorithms to develop digital marketing campaigns to engage prospective students efficiently. Our marketing services include the following:
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- *Attract Prospective Students* - Our marketing team uses best-in-class digital marketing strategies to attract prospective students, including Search Engine Optimization, Search Engine Marketing and Social Media Optimization.
- *Brand Identity* - Our brand marketing team works with each university client to develop offering-specific content and ensure that the right message is presented to the consumer.
- *Data Analysis* - Using data analytics and machine learning techniques, we focus our marketing efforts on finding prospective students for appropriate offerings at times when conversion is more likely. We also believe that our continuously expanding selection of educational offerings increases our marketing efficiency across our portfolio.
- *Compliance*. Many of our degree programs are subject to authorization requirements in states in which students reside. We typically work with our university clients to identify and comply with a complex array of state authorization requirements to ensure that students can enroll in our degree programs no matter where they live.

Recruiting and Enrollment Technology and Services

2UOS provides the following technology and services to streamline the admissions and enrollment process for students and university clients:

- *Recruiting*. We use third-party and proprietary technologies to support prospective students through the admissions process. We provide prospective students with transparent information regarding admissions requirements, the application process, curriculum, financial information, and time to completion. For our degree programs, while our clients make admissions decisions, we organize and route completed student application packages to the university's admissions office.
- *Technology Tools*. The following systems and applications automate and simplify admissions-related processes for our university clients:
 - *Customer Relationship Management*. We deploy a customer relationship management system for each degree program we enable. This system serves as the data hub for student recruiting activities, application progress, university admissions review, registration and student support. We and our university clients use this information to ensure proper coordination and support as a student progresses through the program.
 - *University Systems Integration Applications*. We use a proprietary application to integrate our technology with our university clients' student information systems. This application automates the student enrollment process, allowing for efficient and timely student enrollments.
 - *Admissions Application Processing Portal*. Our proprietary admissions application system, known as the Online Application and Recommendation System, or OARS, automates the admissions application process for degree programs. OARS is customized to meet each degree program's unique application requirements.

Learning and Student Success Technology and Services

2UOS provides the following technology and services to develop engaging curriculum for our offerings and to support the student learning experience:

- *Learning Technology*. Our online learning platform is an end-to-end learning and teaching platform that allows our university clients to deliver high-quality educational content. For our degree programs, our online learning platform provides a live and engaging classroom environment that is accessible through proprietary web, mobile and TV applications, as well as offline for convenient consumption of asynchronous coursework. Our STEM-based education tools and collaborative annotation technology significantly enhance the learning experience for degree program students and instruction capabilities for faculty. Offerings in our Alternative Credential Segment are delivered through our proprietary learning platforms that share many of the core features of our degree program learning platform.
 - *Live classes*. Our offerings feature live, online, face-to-face classes, in addition to asynchronous content and coursework.
 - *Curriculum*. For many of our offerings, our production staff and course developers collaborate with faculty to produce high-quality, engaging, online coursework and content. We use a content management system that facilitates reviewing and deploying asynchronous content. For our boot camp offerings, we use an application to make real-time updates to
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our boot camp curriculum and keep our offerings current in quickly evolving fields such as coding, data analytics and cybersecurity.

- *Placements.* Using our global network of clinics, hospitals, schools and other sites, our field placement team secures local placements for students enrolled in degree programs such as nursing, social work, teaching and other programs that require field placements to satisfy curriculum and accreditation requirements.
- *Hybrid Experiences.* Many of our university clients' degree programs require students to attend in-person immersions. These experiences provide students with collaborative learning experiences where they develop invaluable personal and professional relationships. We provide the resources and technology to support our clients in facilitating these experiences.
- *Accessibility.* Our platform provides many features to accommodate the accessibility needs of students with disabilities, including clear navigation, flexible, robust content display, and compatibility with screen-reading and assistive keyboard technologies. Working with our university clients, we support certain accommodations requested by students with disabilities, including providing real-time sign language and captioning for live classes and audio descriptions of video content we produce.
- *Student Success.* We augment each student's academic experience by providing ongoing, personalized non-academic support. For degree programs, we provide a dedicated team to support and train university administration and faculty on how to use our platform to facilitate outstanding live instruction. In addition, we help our university clients succeed by assisting with faculty recruiting efforts, including attracting, cultivating and vetting a pool of faculty candidates for our university clients. In our boot camp offerings, we use a proprietary analytics platform to capture the sentiment of students in our classes. We use this data to improve our curricula, calibrate differences across classrooms and offer targeted support to students.

Key Benefits to University Clients

Our platform provides our university clients with the following key benefits:

- *Extend Institutional Mission and Reach.* Our platform enables our university clients to extend their brands and fulfill their missions by delivering high quality education offerings to students anywhere in the world, while maintaining their academic rigor and admissions standards.
- *Low Financial Risk.* We make the initial investment required to launch new offerings across our portfolio. In our Graduate Program Segment, in particular, we make significant investments in technology, integration, content production, marketing, student and faculty support, and other services. Our revenue-share model, combined with long contractual terms in this segment, enables us to make these investments without significant financial risk to our clients.
- *Turnkey Solution.* Our platform provides a broad set of capabilities that would otherwise require universities to purchase multiple, disparate point solutions, and significantly increase headcount in marketing, data analytics, technology and other areas.
- *Qualified Student Enrollment.* Our robust marketing capabilities enable us to find qualified students for our university clients' degree programs who meet the university's admissions criteria.

Key Benefits to Students

Our platform provides students with the following key benefits:

- *Flexibility.* Many students require flexible learning environments to accommodate work and personal responsibilities. Often, these students are working adults who are looking to either complete a full degree, or who want to gain a credential to accelerate or change careers. Our spectrum of offerings provides students with the flexible, high-quality offerings they need to achieve their goals.
 - *Outcomes.* Our platform allows students to pursue a wide range of high-quality education offerings provided by leading universities. Through these offerings, students obtain valuable skills and credentials that can create upward career mobility, facilitate a transition to a new field or lead to personal enrichment.
 - *Lower Cost-Burden.* Students do not need to move or quit their jobs to enroll in our offerings. As a result, many students incur lower total costs than they otherwise would on-campus.
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- *Support.* High-quality student support is a central pillar of our platform. Prior to enrollment, our support teams work with prospective students as they consider and apply to a particular offering. Once enrolled, we augment each student's academic experience by assigning a dedicated advisor to provide ongoing individualized non-academic support. We also help improve retention rates by using data analysis to predict when students may need additional support.

Our Growth Strategy

We intend to continue our industry leadership as a provider of a digital education platform that enables nonprofit colleges and universities to deliver education online. Our approach to growth is disciplined and focused on long-term success. The principal elements of our strategy are to increase student enrollments by:

- *Adding Degree Programs.* We intend to add degree programs in select academic disciplines where we believe we have a strategic advantage, such as degrees that require field placements to satisfy curriculum and accreditation requirements, as well as to continue to expand into the undergraduate market.
- *Adding Alternative Credential Offerings.* We intend to add short courses with globally recognized universities and broadly deploy our existing boot camp offerings across our university client base.
- *Expanding our Reach.* We believe that there are significant opportunities to provide multiple types of offerings to our current university clients and prospective students. We also intend to provide short course and boot camp offerings to enterprise clients looking to offer valuable training and reskilling opportunities to their employees.

Clients

Graduate Program Segment

As of December 31, 2019, we had 31 university clients with 127 offerings in 26 academic disciplines.

Our long-term university client contracts, which typically have 10 to 15 year terms, generally do not include termination rights for convenience, and require universities to pay teach-out fees for a university client's non-renewal, unless the university client otherwise terminates due to our uncured breach.

Our contracts also set forth the parties' respective rights to offer competitive programs. For example, some contracts permit us to offer competitive programs with other schools whose potential students are not academically qualified or otherwise interested in the program we offer with our client. Other contracts prohibit us from offering competitive programs with a specific list of schools, expressed either by reference to a certain ranking on U.S. News & World Report's "best" schools list or as a specifically enumerated list of schools negotiated with our university client. In addition, any limitation on our ability to offer competitive programs becomes inapplicable if a university client either refuses to scale the program to accommodate all students qualifying for admission into the program, or raises the program admissions standards above those at the time of contract execution. In addition, our contracts generally prohibit our university clients from offering any online competitive program. Most of our more recent contracts either do not restrict our ability to offer competitive programs or provide for only limited restrictions.

For the years ended December 31, 2019 and 2018, 15% and 21%, respectively, of our consolidated revenue was derived from our programs with University of Southern California, or USC, including our two longest running programs, launched in 2009 and 2010. We expect that these programs will continue to account for a large portion of our revenue.

Our programs with Simmons University accounted for 8% and 13% of our consolidated revenue for the years ended December 31, 2019 and 2018, respectively. Our programs with Syracuse University accounted for 8% and 10% of our consolidated revenue for the years ended December 31, 2019 and 2018, respectively.

Alternative Credential Segment

In our Alternative Credential Segment, as of December 31, 2019, we had more than 250 offerings with 60 university clients. Revenue in this segment is derived from individual students, rather than directly from university clients. No university clients in this segment accounted for 10% or more of our consolidated revenue.

Competition

The overall market for technology solutions that enable higher education providers to deliver education online is highly fragmented, rapidly evolving and subject to changing technology, shifting needs of students and educators and frequent introductions of new delivery methods. Several competitors provide platforms that compete with some of the capabilities of our platform.

Two of our largest competitors are Pearson Online Learning Services and Wiley Education Services, owned by Pearson and John Wiley & Sons, respectively, both of which are large education and publishing companies. In addition, traditional massive open online course providers have evolved from providing massive open online courses to providing degrees, short course certificates and similar non-degree alternatives. We also face competition from companies providing corporate training programs, boot camps and online courses taught outside the university environment (e.g., by experts in various fields). Many of these companies provide components of the technology and services we provide, and these companies may choose to pursue some of the institutions we target. Moreover, nonprofit colleges and universities may elect to continue using or develop their own online learning solutions in-house.

We expect that the competitive landscape will expand as the market for online education offerings at nonprofit institutions matures. We believe the principal competitive factors in our market include the following:

- robustness and evolution of technology solutions and content;
- brand awareness and reputation;
- ability of online degree programs, short courses and boot camps to deliver desired student outcomes;
- breadth and depth of service offering;
- ability to make significant investments in launching and operating degree programs;
- expertise in marketing, student acquisition and student retention;
- student and faculty experience;
- ease of deployment and use of technology solutions;
- level of customization, configurability, integration, security, scalability and reliability of technology solutions; and
- quality of university client base and track record of performance.

We believe we compete favorably on the basis of these factors. Our ability to remain competitive will depend, to a great extent, on our ability to consistently deliver high-quality offerings; meet university client needs for content development; attract, support and retain students; and deliver desired student, faculty and university outcomes.

Seasonality

We experience seasonality in our marketing and sales expense in both our Graduate Program Segment and our Alternative Credential Segment. We typically reduce our paid search and other marketing and sales efforts during late November and December because of less demand during the holiday season. We generally do not experience pronounced seasonality in our revenue, although revenue can fluctuate significantly from quarter to quarter due to variations driven by the varying academic schedules of our offerings and university clients.

Intellectual Property

We protect our intellectual property by relying on a combination of copyrights, trademarks, trade secrets and contractual agreements. For example, we rely on trademark protection in the United States and various foreign jurisdictions to protect our rights to various marks, including 2U, NO BACK ROW, GETSMARTER, TRILOGY and other distinctive logos associated with our brand. We continue to evaluate developing and expanding our intellectual property rights in patents, trademarks and copyrights, as available through registration in the United States and internationally.

We ensure that we own intellectual property created for us by signing agreements with employees, independent contractors, consultants, companies, and any other third party that creates intellectual property for us that assign any intellectual property rights to us.

We have also established business procedures designed to maintain the confidentiality of our proprietary information, including the use of confidentiality agreements with employees, independent contractors, consultants and companies with which we conduct business.

We also purchase or license technology that we incorporate into our technology or services. While it may be necessary in the future to seek or renew licenses relating to various aspects of our technology and services, we believe, based upon past experience and industry practice, such licenses generally could be obtained on commercially reasonable terms.

For important additional information related to our intellectual property position, please review the information set forth in “Risk Factors—Risks Related to Intellectual Property.”

Education Laws and Regulations

The higher education industry is heavily regulated. Institutions of higher education that award degrees and certificates to signify the successful completion of an academic program are subject to regulation from three primary entities: the U.S. Department of Education, or DOE, accrediting agencies and state licensing authorities. Each of these entities promulgates and enforces its own laws, regulations and standards, which we refer to collectively as education laws.

We contract with postsecondary institutions that are subject to education laws. In addition, we ourselves are required to comply with certain education laws as a result of our role as a service provider to institutions of higher education, either directly or indirectly through our contractual arrangements with university clients. Our failure, or that of our university clients, to comply with education laws could adversely impact our operations. As a result, we work closely with our university clients to maintain compliance with education laws.

Federal Laws and Regulations

Under the Higher Education Act of 1965, as amended, or the HEA, institutions offering postsecondary education must comply with certain laws and related regulations promulgated by the DOE in order to participate in the Title IV federal student financial assistance programs. Most of our university clients participate in the Title IV programs.

The HEA and the regulations promulgated thereunder are frequently revised, repealed or expanded. Congress historically has reauthorized and amended the HEA in regular intervals, approximately every seven years. The re-authorization process is currently under way.

The re-authorization of the HEA could alter the regulatory landscape of the higher education industry, and thereby impact the manner in which we conduct business and serve our university clients. In addition, the DOE is independently conducting an ongoing series of rulemakings. The DOE also issues formal and informal guidance instructing institutions of higher education and other covered entities how to comply with various federal laws and regulations. DOE guidance is subject to change and may impact our business model.

Although we are not considered an institution of higher education and we do not directly participate in Title IV programs, we are required to comply with certain regulations promulgated by the DOE as a result of our role as a service provider to institutions that do participate in Title IV programs. These include, for example, regulations governing student privacy under Family Educational Rights and Privacy Act, or FERPA. While online short courses and boot camps are typically not eligible for Title IV aid, when offered by or on behalf of Title IV eligible institutions, many education laws, such as FERPA, remain applicable to us or our university clients even in the Alternative Credential Segment.

Current DOE rules material to our business include principally the incentive compensation rule, the misrepresentation rule, the “written arrangements” rules and state authorization requirements, which are discussed in further detail below. Certain DOE rules have been revised by the current administration as part of its policy to deregulate and spur innovation in higher education, and such changes are generally expected to become final in 2020.

Incentive Compensation Rule

The HEA provides that any institution that participates in the Title IV federal student financial assistance programs must agree with the DOE that the institution will not provide any commission, bonus or other incentive payment to any person or entity engaged in any student recruiting or admission activities as those terms are defined in DOE regulations.

Under DOE’s incentive compensation regulations, each higher education institution agrees that it will not “provide any commission, bonus, or other incentive payment based in any part, directly or indirectly, upon success in securing enrollments or the award of financial aid, to any person or entity who is engaged in any student recruitment or admission activity, or in making decisions regarding the award of Title IV, HEA program funds.” Pursuant to this rule, we are prohibited from offering our covered employees, who are those involved with or responsible for recruiting or admissions activities, any bonus or incentive-based compensation based on the successful recruitment, admission or enrollment of students into a postsecondary institution.

At the time the incentive compensation rule was last revised in July 2011, the revised rule initially raised a question as to whether entities could be prohibited from entering into tuition revenue-sharing arrangements with university clients. On March 17, 2011, the DOE issued official agency guidance, known as a “Dear Colleague Letter,” or the DCL, providing guidance on this point. The DCL states that “[t]he Department generally views payment based on the amount of tuition generated as an indirect payment of incentive compensation based on success in recruitment and therefore a prohibited basis upon which to measure the value of the services provided” and that “[t]his is true regardless of the manner in which the entity

compensates its employees.” But the DCL also provides an important exception to the ban on tuition revenue-sharing arrangements between institutions and third parties. According to the DCL, the DOE does not consider payment based on the amount of tuition generated by an institution to violate the incentive compensation ban if the payment compensates an “unaffiliated third party” that provides a set of “bundled services” that includes recruitment services, such as those we provide. Example 2-B in the DCL is described as a “possible business model” developed “with the statutory mandate in mind.” Example 2-B describes the following as a possible business model:

“A third party that is not affiliated with the institution it serves and is not affiliated with any other institution that provides educational services, provides bundled services to the institution including marketing, enrollment application assistance, recruitment services, course support for online delivery of courses, the provision of technology, placement services for internships, and student career counseling. The institution may pay the entity an amount based on tuition generated for the institution by the entity’s activities for all the bundled services that are offered and provided collectively, as long as the entity does not make prohibited compensation payments to its employees, and the institution does not pay the entity separately for student recruitment services provided by the entity.”

The DCL guidance indicates that an arrangement that complies with Example 2-B will be deemed to be in compliance with the incentive compensation provisions of the HEA and the DOE’s regulations. Our business model and contractual arrangements with our university clients closely follow Example 2-B in the DCL. In addition, we assure that none of our “covered employees” are paid any bonus or other incentive compensation in violation of the rule.

Because the bundled services rule was promulgated in the form of agency guidance issued by the DOE in the form of a DCL and is not codified by statute or regulation, the rule could technically be altered or removed without prior notice, public comment period or other administrative procedural requirements that accompany formal agency rulemaking. Similarly, a court could technically invalidate the rule in an action involving our company or our university clients, or in an action that does not involve us at all. Finally, while most states defer to DOE regulations, different versions of the federal incentive compensation rule exist under state law, and such statutes or rules, or their interpretation, may change at any time. The revision, removal or invalidation of the bundled services rule by Congress, the DOE or a court could technically require us to change our business model, and separate revisions at the state level could require us to amend certain of our contracts.

Misrepresentation Rule

The HEA prohibits an institution that participates in the Title IV programs from engaging in any “substantial misrepresentation” regarding three broad subject areas: (i) the nature of the school’s education programs, (ii) the school’s financial charges and (iii) the employability of the school’s graduates.

Under the rule, “misrepresentation” is defined broadly as any false, erroneous or misleading statement, written, visual or oral. This may include even statements that “have the likelihood or tendency to deceive.” Therefore, a statement need not be intentionally deceitful to qualify as a misrepresentation. “Substantial misrepresentation” is defined loosely as a misrepresentation on which the person to whom it was made could reasonably be expected to rely, or has reasonably relied, to that person’s detriment.

The current regulation also covers statements made by any representative of an institution, including agents, employees and subcontractors, and statements made directly or indirectly to any third party, including state agencies, government officials or the public, and not just statements made to students or prospective students.

Violations of the misrepresentation rule are subject to various sanctions by the DOE and violations may be used as a basis for legal action by third parties or as a defense to the obligation to repay student loans. Similar rules apply under state laws or are incorporated in institutional accreditation standards, and the Federal Trade Commission, or FTC, applies similar rules that prohibit any unfair or deceptive marketing practices by vendors in the education sector. As a result, we and our employees and subcontractors, as agents of our university clients, must use a high degree of care to comply with such rules and are prohibited by contract from making any false, erroneous or misleading statements about our university clients. To avoid an issue under the misrepresentation rule and similar state and federal rules, we assure that all marketing materials are approved in advance by our university clients before they are used by our employees.

Accreditation Rules and Standards

Accrediting agencies primarily examine the academic quality of the instructional programs of an educational institution, and a grant of accreditation is typically viewed as confirmation that an institution or an institution’s programs meet generally accepted academic standards. Accrediting agencies also review the administrative and financial operations of the institutions they accredit to ensure that each institution has the resources to perform its educational mission. The DOE also relies on accrediting agencies to determine whether institutions qualify to participate in Title IV programs.

In addition to institutional accreditation, colleges and universities may require specialized programmatic accreditation for particular educational programs. Many states and professional associations require professional programs to be accredited, and require individuals to have graduated from accredited programs in order to sit for professional license exams. Programmatic accreditation, while not a sufficient basis for institutional Title IV Program certification by the DOE, assists graduates to practice or otherwise secure appropriate employment in their chosen field. Common fields of study subject to programmatic accreditation include teaching and nursing.

Although we are not an accredited institution and are not required to maintain accreditation, accrediting agencies are responsible for reviewing an accredited institution's third-party contracts with service providers like us and may require an institution to obtain approval from or to notify the accreditor in connection with such arrangements. One purpose of the notification and approval requirements is to verify that the accredited institution remains responsible for providing academic instruction leading to a credential and provides oversight of other activities undertaken by third parties like us that are within the scope of its accreditation. We work closely with our university clients to assure that the standards of their respective accreditors are met and are not adversely impacted by us.

Accrediting agencies are also responsible for assuring that any "written arrangements" to outsource academic instruction meet accrediting standards and related regulations of the DOE. Our operations are generally not subject to such "written arrangements" rules because academic instruction is provided by our university client institutions and not by us; however, the "written arrangements" rules may apply to online programs in the Alternative Credential Segment to the extent such courses are outsourced by university clients. The "written arrangements" rule is under review by the current administration. Any changes are not expected to be final until later in 2020.

State Laws and Regulations

Each state has at least one licensing agency responsible for the oversight of educational institutions operating within its jurisdiction. Continued approval by such agencies is necessary for an institution to operate and grant degrees, diplomas or certificates in those states. Moreover, under the HEA, approval by such agencies is necessary to maintain eligibility to participate in Title IV programs. State attorneys general are also active in enforcing education laws, and the level of regulatory oversight varies substantially from state to state.

We and our university clients may be subject to regulation in each state in which we or they own facilities, provide distance education or recruit students. State laws establish standards for, among other things, student instruction, qualifications of faculty, location and nature of facilities, recruiting practices and financial policies. The need to comply with applicable state laws and regulations may limit or delay our ability to market or expand our offerings. In addition, the interpretation of state authorization regulations is subject to substantial discretion by the state agency responsible for enforcing the regulations.

DOE requires, among other things, that an institution offering distance learning or online programs secure the approval of those states which require such approval and provide evidence of such approval to the DOE upon request. This regulation increases the importance of state authorization because failure to obtain the necessary state authorization for online programs (which may also be obtained through participation in a state authorization reciprocity agreement) could result in an obligation to return federal funds received by an institution. The current administration initially delayed the effective date of the current state authorization regulations before making minor changes to them, which are expected to be effective on July 1, 2020.

All states except California now participate in the State Authorization Reciprocity Agreement, or SARA, governing the licensing of online offerings. All SARA-member institutions may provide online offerings in SARA states without obtaining separate state authorization (this includes externships, recruiting, local advertising, and faculty presence). SARA-member institutions must still obtain a separate authorization in order to open a physical location in another state and are also required to obtain any additional approvals that may be required for offerings leading to professional licensure in a state (e.g., nursing, teaching, or counseling). Most of our university clients are SARA members and the DOE accepts participation in a reciprocity agreement as evidence of state approval.

Finally, many programs leading to professional licensure, such as graduate degree programs in nursing or teaching, also require approval from, and are subject to ongoing oversight by separate state agencies such as state nursing boards. Membership in SARA does not encompass approvals by professional licensing boards, which must be obtained separately.

We monitor state law developments closely and work closely with our university clients to assist them with obtaining any required approvals.

Other Laws

Our activities are also subject to other federal and state laws. These regulations include, but are not limited to, consumer marketing and unfair trade practices laws and regulations, including those promulgated and enforced by the FTC, state and federal consumer lending laws, student accessibility requirements and federal and state data protection and privacy requirements.

Culture and Employees

2U was founded on a set of “guiding principles” that are core to our culture and guide big and small decisions every day. New employees are introduced to the guiding principles in orientation and are expected to bring these guiding principles to life as they work with their teams, interact with our university clients and students or otherwise represent 2U in the community.

- *Cherish each opportunity.* Life is short, so treasure every moment.
- *Give a damn.* Care about what you do each day.
- *Strive for excellence.* Don't settle for second best.
- *Be bold and fearless.* Question the status quo and embrace change.
- *Be candid, honest and open.* Listen to others and offer respectful feedback.
- *Have fun.* Fun is important. Fun is simply better.
- *Make service your mission.* Give the highest level of support to our partners and to one another.
- *Don't let the skeptic win.* “No” is easy. “Yes” is hard. Fight for “yes.”
- *Relationships matter.* Invest the time, build trust, and value differences.

As of December 31, 2019, we had 3,749 full-time employees and 2,099 part-time employees. None of our employees are represented by a labor union or covered by a collective bargaining agreement. We consider our relations with our employees to be good.

Other Information

We were incorporated as a Delaware corporation in April 2008 and completed our initial public offering in April 2014. We acquired Get Educated International Proprietary Limited, or GetSmarter, in July 2017, and acquired Trilogy in May 2019.

Our principal executive offices are located at 7900 Harkins Road, Lanham, MD 20706, and our telephone number is (301) 892-4350.

You can obtain copies of our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and other filings with the U.S. Securities and Exchange Commission, or the SEC, and all amendments to these filings, free of charge from our website at investor.2u.com or on the SEC's website at www.sec.gov as soon as reasonably practicable following our filing of any of these reports with the SEC. The contents of these websites are not incorporated into this filing. Further, our references to the URLs for these websites are intended to be inactive textual references only.

Item 1A. Risk Factors

In addition to the other information set forth in this Annual Report on Form 10-K, you should carefully consider the factors discussed in the “Special Note Regarding Forward-Looking Statements” in this Annual Report on Form 10-K.

Risks Related to Our Business Model, Our Operations and Our Growth Strategy

We have a limited operating history, which makes it difficult to predict our future financial and operating results, and we may not achieve our expected financial and operating results in the future.

We were incorporated in 2008 and launched our first graduate program in 2009. In July 2017, we acquired GetSmarter and extended our offerings to include premium online short courses, and in May 2019, we acquired Trilogy and further extended our offerings to include skills-based boot camps. As a result of our limited operating history, our ability to forecast our future operating results, including revenue, cash flows and profitability, is limited and subject to a number of uncertainties. We have encountered and will encounter risks and uncertainties frequently experienced by growing companies in the technology industry. If our assumptions regarding these risks and uncertainties are incorrect or change due to factors impacting our targeted markets, or if we do not manage these risks successfully, our operating and financial results may differ materially from our expectations and our business may suffer.

We have incurred significant net losses since inception, and we are uncertain about our future profitability.

We incurred net losses of \$235.2 million, \$38.3 million and \$29.4 million during the years ended December 31, 2019, 2018 and 2017, respectively. We will need to generate and sustain increased revenue levels in future periods to become profitable, and, even if we do, we may not be able to maintain or increase our level of profitability. We expect to continue to expend substantial financial and other resources on, technology and production efforts to support a growing number of offerings and our marketing and sales efforts to drive the acquisition of potential students. In addition, as a public company, we will continue to incur significant accounting, legal and other expenses that we did not incur as a private company. These expenditures will make it harder for us to achieve and maintain profitability. Our efforts to grow our business may be more costly than we expect, and we may not be able to increase our revenue enough to offset our operating expenses. If we are forced to reduce our expenses, our growth strategy could be compromised. We may incur significant losses in the future for a number of reasons, including unforeseen expenses, difficulties, complications, delays and other unknown events. As a result, we may be unable to achieve and maintain profitability, and the value of our company and our common stock could decline significantly.

Our financial performance depends heavily on our ability to recruit qualified potential students for our offerings, and our ability to do so may be affected by circumstances beyond our control.

Building awareness of our offerings is critical to our ability to recruit prospective students for our university clients' offerings and generate revenue. A substantial portion of our expenses is attributable to marketing and sales efforts dedicated to attracting potential students to our offerings. Because we generate revenue based on a portion of the tuition and fees that students pay, it is critical to our success that we identify qualified prospective students for our offerings in a cost-effective manner, and that enrolled students remain active in our offerings until graduation or completion.

The following factors, many of which are largely outside of our control, may prevent us from successfully driving and maintaining student enrollment in our offerings in a cost-effective manner or at all:

- ***Negative perceptions about online learning programs.*** As a non-traditional form of education delivery, prospective students will subject our university clients' online offerings to increased scrutiny. Online offerings that we or our competitors provide may not be successful or operate efficiently, and new entrants to the field of online learning also may not perform well. Such underperformance could create the perception that online offerings in general are not an effective way to educate students, whether or not our offerings achieve satisfactory performance, which could make it difficult for us to successfully attract prospective students. Students may be reluctant to enroll in online educational offerings for fear that the learning experience may be substandard, that employers may be averse to hiring students who received their education online, or that organizations granting professional licenses or certifications may be reluctant to grant them based on degrees earned through online education.
 - ***Unsuccessful marketing efforts.*** We invest substantial resources in developing and implementing data-driven marketing strategies that focus on identifying the right potential student at the right time. These marketing efforts make substantial use of search engine optimization, paid search, social media and custom website development and deployment and we rely on a small number of internet search engines and marketing partners. If our execution of this strategy proves to be inefficient or unsuccessful in generating a sufficient quantity of qualified prospective students, or if the costs associated with the execution of this strategy increase, our revenue and ability to achieve profitability could be adversely affected.
 - ***Damage to university client reputation.*** Because we market a specific offering to each potential student and use the university client's brand in connection with our marketing efforts, the reputations of our university clients are critical to our ability to enroll students. Many factors affecting our university clients' reputations are beyond our control and can change over time, including their academic performance, ranking among nonprofit educational institutions and university leadership positions.
 - ***Lack of interest in an offering.*** We may encounter difficulties attracting qualified students for offerings that are not highly desired or that are relatively new within their fields. Macroeconomic conditions beyond our control may diminish interest in employment in a field, and that could contribute to a lack of interest in offerings in the disciplines related to that field.
 - ***Our lack of control over our university clients' admissions standards and admissions decisions for degree programs.*** Even if we are able to identify prospective students for a degree program, there is no guarantee that students will be admitted to that program. In the Graduate Program Segment, the university clients retain complete discretion over setting admissions standards and making admissions decisions, and any changes to admissions
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standards, or inconsistent application of admissions standards, could affect student enrollment and our ability to generate revenue.

- *Inability of students to secure funding.* Like traditional college and university students, many of the students in our university clients' offerings, in particular degree programs, rely on the availability of third-party financing to pay for the costs of their educations, including tuition. This tuition assistance may include federal or private student loans, scholarships and grants, or benefits or reimbursement provided by the students' employers. Any developments that reduce the availability of financial aid for higher education generally, or for our university clients' offerings, could impair students' abilities to meet their financial obligations, which in turn could result in reduced enrollment and harm our ability to generate revenue.
- *General economic conditions.* Student enrollment in our offerings may be affected by changes in global economic conditions. An improvement in economic conditions and, in particular, an improvement in the economic conditions in the U.S. and the U.S. unemployment rate, may reduce demand among potential students for educational services, as they may find adequate employment without additional education. Conversely, a worsening of economic and employment conditions may reduce the willingness of employers to sponsor educational opportunities for their employees or discourage existing or potential students from pursuing additional education due to a perception that there are insufficient job opportunities, increased economic uncertainty or other factors, any of which could adversely impact our ability to attract qualified students to our offerings. If one or more of these factors reduces student demand for our offerings, enrollment could be negatively affected, our costs associated with student acquisition and retention could increase, or both, any of which could materially compromise our ability to grow our revenue or achieve profitability. These developments could also harm our reputation and make it more difficult for us to engage new and existing university clients for new offerings, which would negatively impact our ability to expand our business.

Our business depends heavily on the adoption by colleges and universities of online delivery of their educational offerings. If we fail to attract new university clients, or if new leadership at existing university clients does not have an interest in continuing or expanding online delivery of their educational offerings, our revenue growth and profitability may suffer.

The success of our business depends in large part on our ability to enter into agreements with additional nonprofit colleges and universities to offer their offerings online. In particular, to engage new university clients, we need to convince potential university clients, many of which have been educating students in generally the same types of on-campus programs for hundreds of years, to invest significant time and resources to adjust the manner in which they teach students. The delivery of online education at leading nonprofit colleges and universities is nascent, and many administrators and faculty members have expressed concern regarding the perceived loss of control over the education process that might result from offering content online, as well as skepticism regarding the ability of colleges and universities to provide high-quality education online that maintains the standards they set for their on-campus programs. It may be difficult to overcome this resistance, and online programs of the kind we develop with our university clients may not achieve significant market acceptance. In addition, our university clients have regular turnover in their leadership positions, and there is no guarantee that any new leader will have an interest in continuing or expanding online delivery of the university's educational offerings. If new leaders at our university clients do not embrace online delivery of educational offerings, we may not be able to add additional offerings with the university client and the university client may attempt to terminate or may not renew their relationship with us.

Disruption to or failures of our platform could reduce university client and student satisfaction with our offerings and could harm our reputation.

The performance and reliability of our platform is critical to our operations, reputation and ability to attract new university clients, as well as our student acquisition and retention efforts. Our university clients rely on this technology to provide their offerings online, and students access this technology on a frequent basis as an important part of their educational experience. Because our platform is complex and incorporates a variety of hardware and proprietary and third-party software, our platform may have errors or defects that could result in unanticipated downtime for our university clients and students. Web- and mobile- based applications frequently contain undetected errors when first introduced or when new versions or enhancements are released, and we have from time to time found errors and defects in our technology and new errors and defects may be detected in the future. In addition, we have experienced and may in the future experience temporary system interruptions to our platform for a variety of reasons including network failures, power failures, problems with third-party firmware updates, as well as an overwhelming numbers of users trying to access our platform. Any errors, defects, disruptions or other performance problems with our platform could damage our or our university clients' reputations, decrease student satisfaction and retention and impact our ability to attract new students and university clients. If any of these problems occur, our university clients could attempt to terminate their agreements with us, or make indemnification or other claims against us. In addition, sustained or recurring disruptions in our platform could adversely affect our and our university clients' compliance with applicable regulations and accrediting body standards.

We rely upon Amazon Web Services to host certain aspects of our platform and any disruption of or interference with our use of Amazon Web Services could impair our ability to deliver our platform to university clients and students, resulting in university client and student dissatisfaction, damage to our reputation, and harm to our business.

Amazon Web Services, or AWS, provides a distributed computing infrastructure platform for business operations, or what is commonly referred to as a cloud computing service. We have designed our technology and technology-enabled services to use data processing, storage capabilities and other services provided by AWS. Currently, our online learning platform and certain of our front-end and back-end technology and services are run on AWS. Given this, along with the fact that we cannot easily switch our AWS operations to another cloud provider, any disruption of, or interference with our use of, AWS would impact our operations and our business would be adversely impacted. AWS provides us with computing and storage capacity pursuant to an agreement that continues until terminated by either party. AWS may terminate the agreement without cause by providing 30 days' prior written notice, and may terminate the agreement for cause with 30 days' prior written notice, including any material default or breach of the agreement by us that we do not cure within the 30-day period. Additionally, AWS has the right to terminate the agreement immediately with notice to us in certain scenarios such as if AWS believes providing the services could create a substantial economic or technical burden or material security risk for AWS, or in order to comply with the law or requests of governmental entities. If any of our arrangements with AWS is terminated, we could experience interruptions in our software as well as delays and additional expenses in arranging new facilities and services.

We utilize third-party data center hosting facilities operated by AWS. Our operations depend, in part, on AWS's abilities to protect these facilities against damage or interruption from natural disasters, power or telecommunications failures, criminal acts and similar events. The occurrence of spikes in usage volume, a natural disaster, an act of terrorism, vandalism or sabotage, a decision to close a facility without adequate notice, or other unanticipated problems at a facility could result in lengthy interruptions in the availability of our platform, which would result in harm to our business. In the event of a system failure, the backup systems and disaster recovery services provided by AWS may be insufficient or fail. Also, in the event of damage or interruption, our insurance policies may not adequately compensate us for any losses that we may incur. These factors in turn could further reduce our revenue, subject us to liability or cause our university clients to fail to renew or terminate their contracts, any of which could harm our business.

Our ability to deliver our services is dependent on the development and maintenance of the infrastructure of the Internet by third parties.

The infrastructure of the Internet consists of multiple fragmented networks. Multiple third-party organizations run this infrastructure together under the governance of the Internet Corporation for Assigned Numbers and Names ("ICANN") and the Internet Assigned Numbers Authority under the stewardship of ICANN. The Internet has experienced outages and other delays resulting from damage to portions of infrastructure, denial-of-service attacks or related cyber incidents, and the Internet could face outages and delays in the future. These outages and delays could reduce the level of Internet usage or result in fragmentation of the Internet, resulting in multiple separate networks lacking interconnection. These scenarios are outside of our control and could impair the delivery of our platform to our university clients and students. Resulting interruptions in our platform or the ability of our university clients or students to access our platform could result in a loss of potential or existing university clients and students, subject us to liability or harm our business.

Our student acquisition efforts depend in large part upon the availability of advertising space through a variety of media.

We depend upon the availability of advertising space through a variety of media, including third-party applications on platforms such as Facebook and LinkedIn, to direct traffic to, and recruit new students for, our offerings. The availability of advertising space varies, and a shortage of advertising space in any particular media or on any particular platform, or the elimination of a particular medium on which we advertise, could limit our ability to direct traffic to our offerings and recruit new students on a cost-effective basis, any of which could have a material adverse effect on our business, results of operations and financial condition.

The market for our offerings may be limited based on the types of nonprofit colleges and universities we target.

Our target market of select nonprofit colleges and universities is necessarily limited. Some of the contracts we have entered into or may enter into with our university clients contain limitations on our ability to contract with other institutions to provide the same or a similar offering. In addition, in order to maintain good relations with our university clients, we may decide not to approach certain institutions that our university clients regard as their direct competitors to offer similar programs or courses, even if we are allowed to do so under our contracts.

We have agreed to incur, and we may incur in the future, costs to terminate some or all of the exclusivity obligations in certain of our university client contracts.

Certain of our contracts with our university clients limit our ability to enable competitive offerings with other schools. In our Graduate Program Segment, we have determined that enabling some of these contractually prohibited competitive programs may be part of our business strategy. To eliminate some or all of the exclusivity obligations in certain university clients' contracts with us, we have agreed with certain university clients in our Graduate Program Segment to do some or all of the following: make fixed and contingent cash payments over time, reduce our revenue share over time, and/or make minimum investments in marketing under certain conditions.

We may determine in the future that enabling additional contractually prohibited competitive offerings is desirable, and we may therefore agree with additional university clients to incur costs similar to those noted above to reduce or eliminate the exclusivity obligations contained in their contracts with us.

If the competitive offerings we ultimately enable fail to reach scale or cannot be scaled at a reasonable cost, or if we need to incur contingent costs in connection with enabling competitive offerings, our ability to grow our business and achieve profitability would be impaired.

Attracting new university clients for the launch of new offerings is complex and time-consuming. If we pursue unsuccessful opportunities, we may forgo more profitable opportunities and our operating results and growth would be harmed.

The process of identifying new offerings at select nonprofit colleges and universities, and then negotiating contracts with potential university clients, is complex and time-consuming. Because of the initial reluctance on the part of some nonprofit colleges and universities to embrace a new method of delivering their education services and the complicated approval process within universities, our sales process to attract and engage a new university client can be lengthy. Depending on the particular college or university and the particular offering, we may face resistance from university administrators or faculty members during the process.

The sales cycle for a new university client often spans one year or longer. In addition, our sales cycle can vary substantially because of a number of factors, including the university client's approval processes or disagreements over the terms of our offerings. We spend substantial time and management resources on these sales efforts without any assurance that our efforts will result in the launch of a new offering. If we invest substantial resources pursuing unsuccessful opportunities, we may forgo other more profitable university client relationships, which would harm our operating results and growth.

To launch a new degree program, we must incur significant expense in technology and content development, as well as in marketing and sales to identify and attract prospective students, and it may be several years, if ever, before we generate revenue from a new program sufficient to recover our costs.

To launch a new degree program, we must integrate components of our platform with the various student information and other operating systems our university clients use to manage functions within their institutions. In addition, our content development staff must work closely with the university client's faculty members to produce engaging online coursework and content, and we must commence student acquisition activities. This process of launching a new degree program is time-consuming and costly and, under our agreements with our university clients, we are primarily responsible for the significant costs of this effort, even before we generate any revenue. Additionally, during the life of our university client agreements, we are responsible for the costs associated with continued marketing, maintaining our platform and providing non-academic and other support for students enrolled in the degree program. We invest significant resources in these new degree programs from the beginning of our relationship with a university client, and there is no guarantee that we will ever recoup these costs.

We make significant upfront investments in our university clients' degree programs, therefore, our university client agreements provide that we receive a fixed percentage of the tuition that the university clients receive from the students enrolled in their degree programs, we only begin to recover these costs once students are enrolled and our university clients begin billing students for tuition and fees. The time that it takes for us to recover our investment in a new degree program depends on a variety of factors, primarily the level of our content development costs, student acquisition costs, the rate of growth in student enrollment in the program, and the tuition of the program. We estimate that, on average, it takes approximately four to five years after engagement with a university client to fully recover our investment in that university client's new degree program. Because of the lengthy period required to recoup our investment in a new degree program, unexpected developments beyond our control could occur that result in the university client ceasing or significantly curtailing a degree program before we are able to fully recoup our investment. As a result, we may ultimately be unable to recover the full investment that we make in a new degree program or achieve our expected level of profitability for the degree program.

If new offerings do not scale efficiently and in the time frames we expect, our reputation and our revenue will suffer.

Our continued growth and profitability depends on our and our university clients' ability to successfully scale newly launched offerings. As we continue growing our business, we plan to continue to hire new employees, particularly in our

marketing and sales team and our technology and content development teams. If we cannot adequately train these new employees, we may not be successful in recruiting potential students for our offerings, which would adversely impact our ability to generate revenue, and our university clients and the students in their offerings could lose confidence in the knowledge and capability of our employees. If we cannot quickly and efficiently scale our technology to handle growing student enrollment and new offerings, our university clients' and their students' experiences may suffer, which could damage our reputation among colleges and universities and their faculty and students and impact our ability to acquire new university clients.

In addition, in our Graduate Program Segment, if our university clients cannot quickly develop the infrastructure and hire sufficient faculty and administrators to handle growing student enrollments, our university clients' and their students' experiences with our platform may suffer, which could damage our reputation among colleges and universities and their faculty and students.

Our ability to effectively manage any significant growth of new offerings and increasing student enrollment will depend on a number of factors, including our ability to:

- satisfy existing students in, and attract and enroll new students for, our offerings;
- assist our university clients in recruiting qualified faculty to support their expanding enrollments;
- assist our university clients in developing and producing an increased volume of course content;
- successfully introduce new features and enhancements and maintain a high level of functionality in our platform; and
- deliver high-quality support to our university clients and their faculty and students.

Establishing new offerings or expanding existing offerings will require us to make investments in management and key staff, increase capital expenditures, incur additional marketing expenses and reallocate other resources. If student enrollment in our offerings does not increase, if we are unable to launch new offerings in a cost-effective manner or if we are otherwise unable to manage new offerings effectively, our ability to grow our business and achieve profitability would be impaired, and the quality of our platform and the satisfaction of our university clients and their students could suffer.

Our financial performance depends heavily on student retention within our offerings, and factors influencing student retention may be out of our control.

Once a student is enrolled in an offering, we and our university client must retain the student over the life of the offering to generate ongoing revenue. Our strategy involves offering high-quality support to students enrolled in these offerings to support their retention. If we are unable to help students quickly resolve any educational, technological or logistical issues they encounter, otherwise provide effective ongoing support to students or deliver the type of high-quality, engaging educational content that students expect, students may withdraw from the offering, which would negatively impact our revenue.

In addition, student retention could be compromised by the following factors, many of which are largely outside of our control:

- *Reduced support from our university clients.* Because revenue from a particular offering is directly attributable to the level of student enrollment in the offering, our ability to grow our revenue from a university client relationship depends on the growth of enrollment in that offering. Our university clients could limit enrollment in their offerings, cease providing the offerings altogether or significantly curtail or inhibit our ability to promote their offerings, any of which would negatively impact our revenue.
 - *Lack of support from faculty members in our university clients' degree programs.* It takes a significant time commitment and dedication from our university clients' faculty members to work with us to develop course content for their degree programs and courses designed for an online learning environment. Our university clients' faculty may be unfamiliar with the development and production process, may not understand the time commitment involved to develop the course content, or may otherwise be resistant to changing the ways in which they present the same content in an on-campus class. Our ability to maintain high student retention will depend in part on our ability to convince our university clients' faculty of the value in the time and effort they will spend developing the course content. Lack of support from faculty could cause the quality of our degree programs to decline, which could contribute to decreased student satisfaction and retention in our Graduate Program Segment.
 - *Student dissatisfaction.* Enrolled students may drop out of our offerings based on their individual perceptions of the value they are getting from the offering. For example, we may face retention challenges as a result of students'
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dissatisfaction with the quality of course content and presentation, dissatisfaction with our university clients' faculty, changing views of the value of our offerings and perceptions of employment prospects following completion of the offering. Factors outside our control related to student satisfaction with, and overall perception of, an offering may contribute to decreased student retention rates for that offering.

- *Personal factors.* Factors impacting a student's willingness and ability to stay enrolled in an offering include personal factors, such as ability to continue to pay tuition, ability to meet the rigorous demands of the offering, and lack of time to continue classes, all of which are generally beyond our control.

If student retention is compromised by any of these factors, it could significantly reduce the revenue that we generate from our offerings, which would negatively impact our return on investment for the particular offering, and could compromise our ability to grow our business and achieve profitability.

Of the degree programs we operate, only a small number contribute a significant portion of our revenue, and loss or material underperformance of any one of these programs could have a disproportionate effect on our business.

In our Graduate Program Segment, we currently have, and for the foreseeable future expect to continue to have, a small number of degree programs that contribute a meaningful portion of our revenue and generate positive earnings and cash flows. Therefore, if any of these programs were to materially underperform for any reason or if the university client for these programs terminate or does not renew their relationship with us, it would hurt our future financial performance.

A significant portion of our revenue is currently attributable to degree programs with three university clients. The loss of, or a decline in enrollment in, these programs could significantly reduce our revenue.

We expect that our programs with our three largest university clients in the Graduate Program Segment will continue to account for a large portion of our revenue until our other university client programs become more mature and achieve significantly higher enrollment levels. Any decline in reputation, any increase in tuition, or any changes in policies or leadership at these university clients, could adversely affect the number of students that enroll in these programs. Further, the faculty or administrators of these university clients could become resistant to offering their online programs through our platform, making it more difficult for us to attract and retain students. These university clients are not required to expand student enrollment in these online programs, and, upon the expiration of their contracts, they are not required to continue using us as the provider of these or other online programs. If certain of these programs were to materially underperform for any reason or if any of these university clients terminated or did not renew their relationships with us, it would significantly reduce our revenue.

A significant portion of our revenue in the Alternative Credential Segment is attributable to short courses with one university client. The loss of the university client, or a decline in enrollment in certain short courses offered with this university client, could significantly reduce our revenue in this segment.

We expect that our short courses with our largest university client in the Alternative Credential Segment will continue to account for a large portion of our revenue in this segment. Any decline in this university clients' reputation or any increase in the fees charged by the university client for its short courses could adversely affect the number of students that enroll in these short courses. Further, this university client could become resistant to offering online short courses through our platform, and it is not required to continue using us as its provider for online short courses. If this university client elected to end certain short courses or to terminate or not renew its relationships with us, it would significantly reduce our revenue in this segment.

The loss, or material underperformance, of any one of our degree programs could harm our reputation, which could in turn affect our future revenue growth.

We rely on our reputation for delivering high-quality online degree programs and recommendations from existing university clients to attract potential new university clients. Therefore, the loss of any single degree program, or the failure of any university client to renew its agreement with us upon expiration, could harm our reputation and impair our ability to pursue our growth strategy and ultimately to become profitable.

If our security measures or those of our third-party service providers are breached or fail and result in unauthorized disclosure of data, we could lose university clients, fail to attract new university clients and be exposed to protracted and costly litigation.

Our platform and computer systems store and transmit proprietary and confidential university, student, and company information, which may include personal information of students, prospective students, faculty and employees, that are subject to stringent legal and regulatory obligations. As a technology company, we face an increasing number of threats to our platform and computer systems, including unauthorized activity and access, system viruses, worms, malicious code, denial of service

attacks, phishing attacks, and organized cyberattacks, any of which could breach our security and disrupt our platform and our university clients' offerings. The techniques used by computer hackers and cyber criminals to obtain unauthorized access to data or to sabotage computer systems change frequently and generally are not detected until after an incident has occurred. We have implemented certain safeguards and processes to thwart hackers and protect the data in our platform and computer systems. However, our efforts to maintain the security and integrity of our platform, and the cybersecurity measures taken by our third-party service providers may be unable to anticipate, detect or prevent all attempts to compromise our systems. If our security measures are breached or fail as a result of third-party action, employee error, malfeasance or otherwise, it could result in the loss or misuse of proprietary and confidential university, student (including prospective student), employee and company information, which could subject us to liability, or interrupt our business, potentially over an extended period of time. Any or all of these issues could harm our reputation, adversely affect our ability to attract new university clients and students, cause existing university clients to scale back their offerings or elect not to renew their agreements, cause prospective students not to enroll or existing students to not stay enrolled in our offerings, or subject us to third-party lawsuits, regulatory fines or other action or liability. Further, any reputational damage resulting from breach of our security measures could create distrust of our company by prospective university clients or students. In addition, our insurance coverage may not be adequate to cover losses associated with such events, and in any case, such insurance may not cover all of the types of costs, expenses and losses we could incur to respond to and remediate a security breach. As a result, we may be required to expend significant additional resources to protect against the threat of these disruptions and security breaches or to alleviate problems caused by such disruptions or breaches.

Many governments have enacted laws that require companies and institutions to notify impacted individuals of data breach incidents, usually in writing. Under the terms of our contracts with our university clients, we would be responsible for the costs of investigating and disclosing data breaches to the university clients' students. In addition to costs associated with investigating and fully disclosing a data breach, we could be subject to substantial monetary fines or private claims by affected parties and our reputation would likely be harmed.

If we fail to manage our growth effectively, the success of our business model will be compromised.

We have experienced rapid growth in a relatively short period of time, which has placed, and will continue to place, a significant strain on our administrative and operational infrastructure, facilities and other resources. Our ability to manage our operations and growth may require us to continue to expand our marketing and sales personnel, technology team, finance and administration teams, as well as our facilities and infrastructure. We will also be required to refine our operational, financial and management controls and reporting systems and procedures. If we fail to manage this expansion of our business efficiently, our costs and expenses may increase more than we plan and we may not successfully expand our university client base, enhance our platform, develop new offerings with new and existing university clients, attract a sufficient number of qualified students in a cost-effective manner, satisfy the requirements of our existing university clients, respond to competitive challenges or otherwise execute our business plan. Accordingly, our historical revenue growth rate may not continue in the future.

Our ability to manage any significant growth of our business effectively will depend on a number of factors, including our ability to:

- effectively recruit, integrate, train and motivate a large number of new employees, including our marketing and technology teams, while retaining existing employees;
- maintain the beneficial aspects of our corporate culture and effectively execute our business plan;
- continue to improve our operational, financial and management controls;
- protect and further develop our strategic assets, including our intellectual property rights; and
- make sound business decisions in light of the scrutiny associated with operating as a public company.

These activities will require significant capital expenditures and allocation of valuable management and employee resources, and our growth will continue to place significant demands on our management and our operational and financial infrastructure.

We may not be able to effectively manage any future growth in an efficient, cost-effective or timely manner, or at all. In particular, any failure to implement systems enhancements and improvements successfully will likely negatively impact our ability to manage our expected growth, ensure uninterrupted operation of key business systems and comply with the rules and regulations that are applicable to public reporting companies. Moreover, if we do not manage the growth of our business and

operations effectively, the quality of our platform could suffer, which could negatively affect our reputation, results of operations and overall business.

We may expand by acquiring or investing in other companies or technologies, which may divert our management's attention, result in dilution to our shareholders and consume resources that are necessary to sustain our business.

We have in the past and may in the future acquire complementary products, services, technologies or businesses. Negotiating these transactions can be time-consuming, difficult and expensive, and our ability to complete these transactions may often be subject to conditions or approvals that are beyond our control. In addition, we have limited experience in acquiring other companies or technologies. We may not be able to identify desirable additional acquisition targets, may incorrectly estimate the value of an acquisition target or may not be successful in entering into an agreement with any particular target. Consequently, these transactions, even if undertaken and announced, may not close.

An acquisition, investment, or new business relationship may result in unforeseen operating difficulties and expenditures. It is also possible that the integration process could result in material challenges, including, without limitation:

- the diversion of management's attention from ongoing business concerns and performance as a result of the devotion of management's attention to acquisition or integration activities;
- managing a larger combined company;
- maintaining employee morale and retaining key management and other employees;
- the possibility of faulty assumptions underlying expectations regarding the integration process;
- retaining existing business and operational relationships and attracting new business and operational relationships;
- consolidating corporate and administrative infrastructures and eliminating duplicative operations and inconsistencies in standards, controls, procedures and policies;
- coordinating geographically separate organizations;
- unanticipated issues in integrating information technology, communications and other systems;
- undetected errors or unauthorized use of a third party's code in the products of the acquired companies or in the technology acquired;
- breaches of our cybersecurity measures if there are cybersecurity issues we are not aware of at the time of the acquisition;
- entry into highly competitive markets in which we have no or limited direct prior experience and where competitors have stronger market positions; and
- exposure to unknown liabilities, including claims and disputes by third parties against the companies we acquire.

Many of these factors will be outside of the combined company's control and any one of them could result in delays, increased costs, decreased revenue and diversion of management's time and energy, which could materially affect our financial position, results of operations and cash flows.

If we experience difficulties with the integration process following an acquisition, the anticipated benefits of the acquisition may not be realized fully or at all, or may take longer to realize than expected. Moreover, the anticipated benefits of any acquisition, investment, or business relationship may not be realized.

In addition, in connection with an acquisition, investment or new business relationship we may:

- issue additional equity securities that would dilute current shareholders;
 - use cash that we may need in the future to operate our business;
 - incur debt on terms unfavorable to us or that we are unable to repay or that may place burdensome restrictions on our operations;
 - incur large charges or substantial liabilities; or
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- become subject to adverse tax consequences.

Any of these outcomes could harm our business and operating results.

We face competition from established and emerging companies, which could divert university clients or students to our competitors, result in pricing pressure and significantly reduce our revenue.

We expect that the online learning market will continue to expand and that the number of degree and non-degree offerings available online will proliferate.

Particularly in the Graduate Program Segment, the number of new competitive entrants into the online learning market has expanded rapidly in recent years. As the number of online degree programs expands, we face increasing competition to enroll students in our offerings. This expansion has also resulted in an increase in regional online degree program offerings for potential students. In addition to making enrollment decisions based on factors such as program quality and university brand strength, we have observed potential students giving preference to universities located in their region, which has further impacted the competitive landscape in our Graduate Program Segment.

In our Alternative Credential Segment, which has a lower barrier to entry, we are facing increasing competition from traditional massive open online course providers, which have evolved from providing massive open online courses to providing short course certificates, nano-degrees and similar non-degree alternatives, as well as from companies that provide corporate training programs and online courses taught outside the university environment (e.g., by experts in various fields).

We expect existing competitors and new entrants to the online learning market to revise and improve their business models constantly in response to challenges from competing businesses, including ours. If these or other market participants introduce new or improved delivery of online education and technology-enabled services that we cannot match or exceed in a timely or cost-effective manner, our ability to grow our revenue and achieve profitability could be compromised.

Some of our competitors and potential competitors have significantly greater resources than we do. Increased competition may result in pricing pressure for us in terms of the percentage of tuition and fees we are able to negotiate to receive. The competitive landscape may also result in longer and more complex sales cycles with a prospective university client or a decrease in our market share among select nonprofit colleges and universities seeking to offer online educational offerings, any of which could negatively affect our revenue and future operating results and our ability to grow our business.

A number of competitive factors could cause us to lose potential university client and student opportunities or force us to offer our platform on less favorable economic terms, including:

- competitors may develop service offerings that our potential university clients or students find to be more compelling than ours;
- competitors may adopt more aggressive pricing policies and offer more attractive sales terms, adapt more quickly to new technologies and changes in university client and student requirements, and devote greater resources to the acquisition of qualified students than we can;
- current and potential competitors may establish cooperative relationships among themselves or with third parties to enhance their products and expand their markets, and our industry is likely to see an increasing number of new entrants and increased consolidation. Accordingly, new competitors or alliances among competitors may emerge and rapidly acquire significant market share; and
- colleges and universities may choose to continue using or to develop their own online learning solutions in-house, rather than pay for our platform.

We may not be able to compete successfully against current and future competitors. In addition, competition may intensify as our competitors raise additional capital and as established companies in other market segments or geographic markets expand into our market segments or geographic markets. If we cannot compete successfully against our competitors, our ability to grow our business and achieve profitability could be impaired.

If for-profit postsecondary institutions, which offer online education alternatives different from ours, or online program management providers perform poorly or continue to attract negative publicity, it could tarnish the reputation of online education as a whole, which could impair our ability to grow our business.

For-profit postsecondary institutions, many of which provide course offerings predominantly online, remain under intense regulatory and other scrutiny, even under the current administration, which has led to media attention that has portrayed

that sector in an unflattering light. Some for-profit online school operators have been subject to governmental investigations alleging the misuse of public funds, financial irregularities, exaggerated promises to students, and failure to achieve positive outcomes for students, including the inability to obtain employment in their fields. These allegations have attracted significant adverse media coverage and have prompted ongoing legislative hearings and actions as well as regulatory responses at both the state and federal level. These investigations have focused on specific companies and individuals, and the entire industry in the case of marketing and recruiting practices by for-profit higher education companies. Even though we do not market our platform to for-profit institutions, and have a different business model from them, this negative media attention may nevertheless foster skepticism about online higher education generally and our company specifically. Allegations of abuse of federal financial aid funds and other statutory violations against for-profit higher education companies, even if unfounded, could negatively impact our opportunity to succeed due to increased regulation or decreased demand for our offerings. More recently, our company has been the subject of articles and inquiries by critics of for-profit education models more generally, and such critics have advocated for changes in law and regulation at the state and federal level that would be adverse to our business model and sought information regarding the business practices of online program management companies generally. Efforts to further regulate for-profit institutions or our own business model could increase in the event of a change in political party control of the U.S. Congress or the executive branch. Any of these factors could negatively impact our ability to increase our university client base and grow our offerings and our revenue, which would make it difficult to continue to grow our business.

Our internal information technology systems are critical to our business. System integration and implementation issues could disrupt our operations, which could have a material adverse impact on our business or result in significant deficiencies or material weaknesses in our internal controls.

We rely on the efficient and uninterrupted operation of complex information technology systems, including systems for billing, human resources, enterprise resource planning, and customer relationship management. As our business has grown in size and complexity, the growth has placed, and will continue to place, significant demands on our internal information technology systems. To effectively manage this growth, we must commit significant financial resources and personnel to maintain and enhance existing systems and develop or acquire new systems to keep pace with continuing changes in our business and information-processing technology as well as evolving industry, regulatory, and accounting standards. If the information we rely upon to run our businesses is determined to be inaccurate or unreliable, or if we fail to properly maintain or enhance our internal information technology systems, we could have operational disruptions, significant deficiencies, or material weaknesses in our internal controls, incur increased operating and administrative expenses, lose our ability to produce timely and accurate financial reports, or suffer other adverse consequences.

If we do not retain our senior management team and key employees, we may not be able to sustain our growth or achieve our business objectives.

Our future success is substantially dependent on the continued service of our senior management team. Because of our small number of university clients and the significant nature of each new university client relationship, our senior management team is heavily involved in the university client identification and sales process, and their expertise is critical in navigating the complex approval processes of large nonprofit colleges and universities. We do not maintain key-person insurance on any of our employees, including our senior management team. The loss of the services of any individual on our senior management team, or failure to find a suitable successor, could make it more difficult to successfully operate our business and achieve our business goals.

Our future success also depends heavily on the retention of our marketing and sales, technology and content development and support teams to continue to attract and retain qualified students, thereby generating revenue for us. In particular, our highly-skilled technology and content development employees provide the technical expertise underlying our bundled technology-enabled services that support our university clients' offerings and the students enrolled in these offerings. Competition for these employees is intense. As a result, we may be unable to attract or retain these key personnel that are critical to our success, resulting in harm to our relationships with university clients, loss of expertise or know-how and unanticipated recruitment and training costs.

In addition, as a result of business acquisitions, current and prospective employees of 2U and any acquired company may experience uncertainty about their future roles following the acquisition. If our employees or the employees of any acquired company depart because of issues relating to uncertainty or perceived difficulties of integration, our ability to realize the anticipated benefits of an acquisition could be adversely impacted.

We have incurred substantial transaction and integration expenses related to the acquisition of Trilogy and expect to incur additional integration expenses related to the Trilogy acquisitions that could negatively impact our financial results and cash flows.

We have incurred, and expect to continue to incur, a number of non-recurring costs associated with the Trilogy acquisition and associated integration activities. For example, we expect to incur costs related to formulating and implementing integration plans, including facilities and systems consolidation costs and employment-related costs. We continue to assess the magnitude of these costs, and additional unanticipated costs may be incurred in the integration process. Any expected efficiencies to offset these costs may not be achieved in the near term, or at all.

We may need additional capital in the future to pursue our business objectives. Additional capital may not be available on favorable terms, or at all, which could compromise our ability to grow our business.

We may need to raise additional funds to respond to business challenges or opportunities, accelerate our growth, develop new offerings or enhance our platform. If we seek to raise additional capital, it may not be available on favorable terms or may not be available at all. In addition, under our credit facility, we may be restricted from using the net proceeds of financing transactions for our operating objectives. Lack of sufficient capital resources could significantly limit our ability to manage our business and to take advantage of business and strategic opportunities. Any additional capital raised through the sale of equity or debt securities with an equity component would dilute our stock ownership. If adequate additional funds are not available if and when needed, we may be required to delay, reduce the scope of, or eliminate material parts of our business strategy.

We maintain offices outside of the United States, have international residents that apply to and enroll in our offerings and plan to expand our international business, which exposes us to risks inherent in international operations.

Since 2017, we have significantly increased our international operations, including the number of international applicants and students in our offerings. One element of our growth strategy is to continue expanding our international operations and to establish a worldwide client base. Our current international operations and future initiatives will involve a variety of risks that could constrain our operations and compromise our growth prospects, including:

- the need to localize and adapt online offerings for specific countries, including translation into foreign languages and ensuring that these offerings enable our university clients to comply with local education laws and regulations;
 - the burden of complying with a wide variety of laws, including those relating to labor and employment matters, education, data protection and privacy;
 - difficulties in staffing and managing foreign operations, including different pricing environments, longer sales cycles, longer accounts receivable payment cycles and collections issues;
 - lack of familiarity with and unexpected changes in foreign regulatory requirements;
 - challenges inherent in efficiently managing an increased number of employees over large geographic distances, including the need to implement appropriate systems, policies, benefits and compliance programs;
 - new and different sources of competition, and practices which may favor local competitors;
 - weaker protection for intellectual property and other legal rights than in the United States and practical difficulties in enforcing intellectual property and other rights outside of the United States;
 - compliance challenges related to the complexity of multiple, conflicting and changing governmental laws and regulations, including employment, tax, education, privacy and data protection, and anti-bribery laws and regulations such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act;
 - increased financial accounting and reporting burdens and complexities;
 - restrictions on the transfer of funds;
 - adverse tax consequences, including liabilities for indirect taxes or the potential for required withholding taxes for our overseas employees;
 - terrorist attacks, acts of violence or war and adverse environmental conditions;
 - unstable regional and economic political conditions; and
 - fluctuations in currency exchange rates or restrictions on foreign currency, and the resulting effect on our revenue and expenses.
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Our expansion efforts may not be successful. Our experience with attracting university clients and students in the U.S. may not be relevant to our ability to attract clients and students in other markets. If we invest substantial time and resources to expand our international operations and are unable to attract university clients and students successfully and in a timely manner, our business and operating results will be harmed.

Our international operations expose us to fluctuations in currency exchange rates that could negatively impact our financial results and cash flows.

After the GetSmarter and Trilogy acquisitions, we conduct a more substantial portion of our business outside the U.S. and we accordingly make certain business and resource decisions considering assumptions about foreign currency. As a result, we face exposure to adverse movements in foreign currency exchange rates, in particular with respect to the volatility of the South African rand, or ZAR. While our reporting currency is in U.S. dollars, a portion of our consolidated revenue and expenses is denominated in ZAR, certain of our assets are denominated in ZAR and we have a significant employee base in South Africa. A decrease in the value of the U.S. dollar in relation to the ZAR could increase our cost of doing business in South Africa.

Alternatively, if the ZAR depreciates against the U.S. dollar, the value of our ZAR revenue, earnings and assets as expressed in our U.S. dollar financial statements will decline. We have not entered into any hedging transactions in an effort to reduce our exposure to foreign exchange risk. Our exposure to adverse movements in foreign currency exchange rates, including the ZAR, could have a material adverse impact on our financial results and cash flows.

In addition, local political events, financial instability and other factors can lead to economic uncertainty and currency exchange rate fluctuations. For example, the United Kingdom has recently left the European Union ("Brexit") and is currently in a transition period, which will end at or after December 31, 2020. The uncertainties caused by Brexit resulted in significant volatility in the global stock markets and exchange rates.

The fluctuations of currencies in which we conduct business can both increase and decrease our overall revenue and expenses for any given fiscal period. Such volatility, even when it increases our revenue or decreases our expense, impacts our ability to accurately predict our future results and earnings.

Our operations in South Africa expose us to risks that could have an adverse effect on our business.

We have a significant employee base in South Africa. We may incur costs complying with labor laws, rules and regulations in South Africa, including laws that regulate work time, provide for mandatory compensation in the event of termination of employment for operational reasons, and impose monetary penalties for non-compliance with administrative and reporting requirements in respect of affirmative action policies. Our reliance on a workforce in South Africa also exposes us to disruptions in the business, political, and economic environment in that region, as well as natural disasters and other environmental conditions. Maintenance of a stable political environment is important to our operations in South Africa, and terrorist attacks and acts of violence or war may directly affect our physical facilities and workforce or contribute to general instability. Our operations in South Africa require us to comply with complex local laws and regulatory requirements and expose us to foreign currency exchange rate risk. The economy of South Africa in the past has been, and in the future may continue to be, characterized by rates of inflation and interest rates that are substantially higher than those prevailing in the United States, which could increase our South-African-based costs and decrease our operating margins. Our operations in South Africa may also subject us to trade restrictions, exchange control limitations, reduced or inadequate protection for intellectual property rights, security breaches, and other factors that may adversely affect our business. Negative developments in any of these areas could increase our costs of operations or otherwise harm our business.

We might not be able to utilize a portion of our net operating loss carryforwards, which could adversely affect our profitability.

As of December 31, 2019, we had federal net operating loss carryforwards due to prior period losses, which, if not utilized, will begin to expire in 2029. Our gross state net operating loss carryforwards are equal to or less than the federal net operating loss carryforwards and expire over various periods based on individual state tax laws. These net operating loss carryforwards could expire unused and be unavailable to offset future income tax liabilities, which could adversely affect our profitability. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change, by value, in its equity ownership over a three-year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income may be limited. Similar rules may apply under state tax laws. During the three-year period ended December 31, 2016, we determined that such an ownership change occurred. Absent a subsequent ownership change, however, all of our historical net operating losses should be available. Therefore, the occurrence of the ownership change during the three-year period ended December 31, 2016 is not expected to limit our ability to carry forward historical net

operating losses before expiration. We may experience ownership changes in the future as a result of subsequent shifts in our stock ownership. If a future ownership change occurs and limits our ability to use our historical net operating loss carryforwards, it would harm our future financial statement results by increasing our future tax obligations. We also have net operating loss carryforwards in South Africa and the United Kingdom, and there is no guarantee that entities in these countries will generate enough taxable income to fully utilize them.

We engage some individuals classified as independent contractors, not employees, and if federal or state law mandates that they be classified as employees, our business would be adversely impacted.

We engage independent contractors and are subject to the Internal Revenue Service regulations and applicable state law guidelines regarding independent contractor classification. These regulations and guidelines are subject to judicial and agency interpretation, and it could be determined that the independent contractor classification is inapplicable. Further, if legal standards for classification of independent contractors change, it may be necessary to modify our compensation structure for these personnel, including by paying additional compensation or reimbursing expenses. In addition, if our independent contractors are determined to have been misclassified as independent contractors, we would incur additional exposure under federal and state law, workers' compensation, unemployment benefits, labor, employment and tort laws, including for prior periods, as well as potential liability for employee benefits and tax withholdings. Any of these outcomes could result in substantial costs to us, could significantly impair our financial condition and our ability to conduct our business as we choose, and could damage our reputation and our ability to attract and retain other personnel.

We rely on certain third-party providers of software and services integral to the operations of our business.

Certain aspects of the operation of our business depend on third party software and service providers. We rely on software that we license from third parties and services provided by third parties to offer certain components of our technology and services. In addition, we may need to obtain future licenses or services from third parties necessary for the continued provision of our technology and services, which might not be available to us on acceptable terms, or at all. If our agreements with third-party software or services vendors are not renewed or the third-party software or services become obsolete, fail to function properly, are defective or otherwise fail to provide quality service or address our or our university clients' needs, there is no assurance that we would be able to replace the functionality provided by the third-party software or service provider with software or services from alternative providers. Any of these factors could have a material adverse effect on our financial condition, cash flows or results of operations.

Our substantial indebtedness could adversely affect our ability to raise additional capital to fund our operations, limit our ability to react to changes in the economy or our industry, expose us to interest rate risk and prevent us from meeting our obligations with respect to our indebtedness.

As of December 31, 2019, we had approximately \$254.5 million of indebtedness on a consolidated basis. See Note 9 in the Notes to Consolidated Financial Statements included in Part II, Item 8 of this Annual Report on Form 10-K.

Our substantial indebtedness could have important consequences. For example, it could:

- limit our ability to obtain additional financing for working capital, capital expenditures, acquisitions, investments and other general corporate purposes;
- require a substantial portion of our cash from operating activities to be dedicated to debt service payments and reduce the amount of cash available for working capital, capital expenditures, investments or acquisitions and other general corporate purposes;
- expose us to increased interest rate risk as a significant portion of our indebtedness is subject to variable interest rates;
- place us at a competitive disadvantage compared to certain of our competitors who have less debt;
- hinder our ability to adjust rapidly to changing market conditions;
- limit our ability to secure adequate bank financing in the future with reasonable terms and conditions; and
- increase our vulnerability to, and limit our flexibility in planning for or reacting to, a potential downturn in general economic conditions or in one or more of our businesses.

Our variable rate indebtedness may use LIBOR as a benchmark for establishing the rate. On July 27, 2017, the authority that regulates LIBOR announced that it intends to stop compelling banks to submit rates for the calculation of LIBOR

after 2021. It is unclear whether new methods of calculating LIBOR will be established such that it continues to exist after 2021. The U.S. Federal Reserve, in conjunction with the Alternative Reference Rates Committee, is considering replacing U.S. dollar LIBOR with a newly created index, calculated with a broad set of short-term repurchase agreements backed by treasury securities. It is not possible to predict the effect of these changes, other reforms or the establishment of alternative reference rates in the United Kingdom, the United States or elsewhere.

In addition, the Credit Agreement governing our Term Loan contains affirmative and negative covenants that limit our ability to engage in activities that may be in our long-term best interests. Our failure to comply with those covenants could result in an event of default which, if not cured or waived, could result in the acceleration of all of our debt.

Despite current indebtedness levels and existing restrictive covenants, we may still incur additional indebtedness that could further exacerbate the risks associated with our substantial financial leverage.

We may incur significant additional indebtedness in the future under the agreements governing our indebtedness. Although the Credit Agreement governing our Term Loan contains restrictions on the incurrence of additional indebtedness, these restrictions are subject to a number of thresholds, qualifications and exceptions, and the additional indebtedness incurred in compliance with these restrictions could be substantial. Additionally, these restrictions permit us to incur obligations that, although preferential to our common stock in terms of payment, do not constitute indebtedness.

To service our indebtedness, we will require a significant amount of cash, and our ability to generate cash depends on many factors beyond our control.

Our ability to make cash payments on and to refinance our indebtedness will depend upon our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and to financial, business, legislative, regulatory and other factors beyond our control.

If we are unable to generate sufficient cash from operating activities or are otherwise unable to obtain funds necessary to meet required payments of principal, premium, if any, and interest on our indebtedness or if we fail to comply with the various covenants in the instruments governing our indebtedness and we are unable to obtain waivers from the required lenders, we could be in default under the terms of the agreements governing such indebtedness. In the event of such default, the holders of our indebtedness could elect to declare all the funds borrowed to be due and payable, together with accrued and unpaid interest. As a result, we could be forced into bankruptcy or liquidation.

Our debt obligations may limit our flexibility in managing our business.

The Credit Agreement governing our Term Loan requires us to comply with several customary financial and other restrictive covenants, such as maintaining leverage ratios in certain situations, maintaining insurance coverage, and restricting our ability to make certain investments. We are also required to maintain liquidity of \$25.0 million of unrestricted cash as of the last day of each fiscal quarter, which may limit our ability to engage in new lines of business, make certain investments, pay dividends, or enter into various transactions. The Credit Agreement also includes covenants that require us to maintain minimum: (i) annualized last quarter Graduate Program Segment revenue ("Minimum Graduate LQAR") and (ii) Alternative Credential Segment revenue for the last four consecutive fiscal quarters ("Minimum Alternative Credential LTMR"). For the quarter and four consecutive fiscal quarters ended December 31, 2019, our Minimum Graduate LQAR and Minimum Alternative Credential LTMR were \$432.9 million and \$218.8 million, respectively, which exceeded the requirements of \$397.8 million and \$185.0 million, respectively. In order to satisfy the Minimum Graduate LQAR covenant during the year ending December 31, 2020, we will be required to achieve minimum Graduate Program Segment revenue each fiscal quarter of various levels ranging from \$92 million to \$111 million. In order to satisfy the Minimum Alternative Credential LTMR covenant during the year ending December 31, 2020, we will be required to achieve Minimum Alternative Credential LTMR each fiscal quarter of various levels ranging from \$204 million to \$207 million. These covenants may limit the flexibility of our operations, and failure to meet either one of these minimum revenue covenants could result in defaults under the Credit Agreement governing our Term Loan even if we have satisfied our payment obligations. If such a default were to occur, our business, financial condition, and results of operations would be materially adversely affected. See Note 9 in the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K for additional details regarding our Credit Agreement.

We have incurred and may incur in the future significant charges due to impairment of our goodwill.

We review goodwill at least annually, and more frequently if indicators of impairment occur, at the reporting unit level. An interim goodwill impairment test performed during the reporting period indicated that the carrying value of Trilogy exceeded its fair value, primarily due to lower expectations of future performance of Trilogy that impacted estimated operating cash flows. As a result, we recorded an impairment charge of \$70.4 million on our consolidated statements of operations and

comprehensive loss for the year ended December 31, 2019. Future changes in our circumstances or in the variables associated with the judgments, assumptions and estimates used in assessing the fair value of our reporting units could require us to record additional impairment charges, which could have a material adverse effect on our business, financial condition, and results of operations.

Risks Related to Regulation of Our Business and That of Our University Clients

Our business model relies on university client institutions complying with federal and state laws and regulations.

Higher education is heavily regulated. All of our university clients in the United States and certain university clients outside of the United States participate in Title IV federal student financial assistance programs under the HEA of 1965, as amended, or HEA, and are subject to extensive regulation by the DOE, as well as various state agencies, licensing boards and accrediting commissions. To participate in the Title IV programs, an institution must receive and maintain authorization by the appropriate state education agencies, be accredited by an accrediting commission recognized by the DOE, and be certified by the DOE as an eligible institution. If a university client participating in Title IV was found to be in non-compliance with any of these laws, regulations, standards or policies, the university client could lose some or all of its access to Title IV program funds, lose the ability to offer certain programs or lose its ability to operate in certain states, any of which could cause our revenue from that university client's program to decline.

The regulations, standards and policies applicable to our university clients change frequently and are often subject to interpretation. Changes in, or new interpretations of, applicable laws, regulations or standards could compromise our university clients' accreditation, authorization to operate in various states, permissible activities or use of federal funds under Title IV programs. We cannot predict with certainty how the requirements applied by our university clients' regulators will be interpreted, or whether our university clients will be able to comply with these requirements in the future.

Our activities are subject to federal and state laws and regulations and other requirements.

Although we are not an institution of higher education, we are required to comply with certain education laws and regulations as a result of our role as a service provider to higher education institutions, either directly or indirectly through our contractual arrangements with university clients. Failure to comply with these laws and regulations could result in breach of contract and indemnification claims and could cause damage to our reputation and impair our ability to grow our business and achieve profitability.

Activities of the U.S. Congress or Department of Education could result in adverse legislation or regulatory action.

The process of re-authorization of the HEA began in 2014 and is ongoing. Congressional hearings will continue to be scheduled by the U.S. Senate Committee on Health, Education, Labor and Pensions, the U.S. House of Representatives Committee on Education and the Workforce and other Congressional committees regarding various aspects of the education industry, including accreditation matters, student debt, student recruiting, cost of tuition, distance learning, competency-based learning, student success and outcomes and other matters.

The increased scrutiny and results-based accountability initiatives in the education sector, as well as ongoing policy differences in Congress regarding spending levels and other issues, could lead to significant changes in connection with the reauthorization of the HEA or otherwise. These changes may place new or additional regulatory burdens on postsecondary schools generally, and specific initiatives may be targeted at or have an impact upon companies like us that serve higher education. The adoption of any laws or regulations that limit our ability to provide our bundled services to our university clients could compromise our ability to drive revenue through their programs or make our platform less attractive to them. Congress could also enact laws or authorize regulations that require us to modify our practices in ways that could increase our costs, including as a result of new regulatory burdens.

In addition, regulatory activities and initiatives of the DOE may have similar consequences for our business even in the absence of Congressional action. For example, in September 2015, the DOE publicly released its College Scorecard website, a tool aimed at helping students make informed decisions about education options after high school (including 2 and 4-year degree programs, certificate programs and some degree programs). In May 2019, the DOE expanded the data available in College Scorecard and students can now view data regarding salary after completion or graduation, graduation rates, average cost, transfer rates, median debt after graduation, and earnings based on fields of study, among other data. College Scorecard data may not accurately reflect our university clients' offerings because it only includes students who are recipients of Title IV program funds and does not distinguish between a university's online and campus-based programs, however it may impact enrollment in our offerings if students have a negative impression of our university clients' offerings based on the data presented. The DOE is expected to update the data annually to demonstrate how graduates' earning prospects and debt levels

progress in years following completion or graduation. We cannot predict the impact that College Scorecard may have on enrollment in our offerings, reputation or operating results.

Our business model, which depends on our ability to receive a share of tuition revenue as payment from our university clients, has been validated by a DOE "dear colleague" letter, but such validation is not codified by statute or regulation and may be subject to change.

Each institution that participates in Title IV programs agrees it will not "provide any commission, bonus, or other incentive payment based in any part, directly or indirectly, upon success in securing enrollments or the award of financial aid, to any person or entity who is engaged in any student recruitment or admission activity, or in making decisions regarding the award of Title IV, HEA program funds." All of our university clients participate in Title IV Programs.

Although this rule, referred to as the incentive compensation rule, generally prohibits entities or individuals from receiving incentive-based compensation payments for the successful recruitment, admission or enrollment of students, the DOE provided guidance in 2011 permitting tuition revenue-sharing arrangements known as the "bundled services rule." Our current business model relies in part on the bundled services rule to enter into tuition revenue-sharing agreements with our university clients.

Because the bundled services rule was promulgated in the form of agency guidance issued by the DOE in the form of a "dear colleague" letter, or DCL, and is not codified by statute or regulation, there is risk that the rule could be altered or removed without prior notice, public comment period or other administrative procedural requirements that accompany formal agency rulemaking. Although the DCL represents the current policy of the DOE, the bundled services rule could be reviewed, altered or vacated in the future. In addition, the legal weight the DCL would carry in litigation over the propriety of any specific compensation arrangements under the HEA or the incentive compensation rule is uncertain. We can offer no assurances as to how the DCL would be interpreted by a court. The revision, removal or invalidation of the bundled services rule by Congress, the DOE or a court, whether in an action involving our company or our university clients, or in action that does not involve us, could require us to change our business model and renegotiate the terms of our university client contracts and could compromise our ability to generate revenue.

If we or our subcontractors or agents violate the incentive compensation rule, we could be liable to our university clients for substantial fines, sanctions or other liabilities.

Even though the DCL clarifies that tuition revenue-sharing arrangements with our university clients are permissible, we are still subject to other provisions of the incentive compensation rule that prohibit us from offering to our employees who are involved with or responsible for recruiting or admissions activities any bonus or incentive-based compensation based on the successful identification, admission or enrollment of students into any institution. If we or our subcontractors or agents violate the incentive compensation rule, we could be liable to our university clients for substantial fines, sanctions or other liabilities, including liabilities related to "whistleblower" claims under the federal False Claims Act. Any such claims, even if without merit, could require us to incur significant costs to defend the claim, distract management's attention and damage our reputation.

If we or our subcontractors or agents violate the misrepresentation rule, or similar federal and state regulatory requirements, we could face fines, sanctions and other liabilities.

We are required to comply with other regulations promulgated by the DOE that affect our student acquisition activities, including the misrepresentation rule. The misrepresentation rule is broad in scope and applies to statements our employees, subcontractors or agents may make about the nature of a university client's program, a university client's financial charges or the employability of a university client's program graduates. A violation of this rule, FTC rules or other federal or state regulations applicable to our marketing activities by an employee, subcontractor or agent performing services for university clients could hurt our reputation, result in the termination of university client contracts, require us to pay fines or other monetary penalties or require us to pay the costs associated with indemnifying a university client from private claims or government investigations.

If our university clients fail to maintain their state authorizations, or we or our university clients violate other state laws and regulations, students in their offerings could be adversely affected and we could lose our ability to operate in that state and provide services to these university clients.

Our university clients must be authorized in certain states to offer online educational offerings, engage in recruiting and operate externships, internships, clinical training or other forms of field experience, depending on state law. The loss of or failure to obtain state authorization would, among other things, limit the ability of a university client to enroll students in that state, render the university client and its students ineligible to participate in Title IV programs in that state, diminish the

attractiveness of the university client's offering and ultimately compromise our ability to generate revenue and become profitable.

In addition, if we or any of our university clients fail to comply with any state agency's rules, regulations or standards beyond authorizations, the state agency or state attorney general could limit the ability of the university client to offer educational offerings in that state or limit our ability to perform our contractual obligations to our university client in that state.

If our university clients fail to maintain institutional or programmatic accreditation for their offerings, our revenue could be materially affected.

The loss or suspension of a university client's accreditation or other adverse action by the university client's institutional or programmatic accreditor would render the institution or its offerings ineligible to participate in Title IV programs, could prevent the university client from offering certain educational offerings and, for certain degree-granting programs, could make it impossible for the graduates of the university client's program to obtain employment in the profession for which they trained. If any of these results occurs, it could hurt our ability to generate revenue from that offering.

Our future growth could be impaired if our university clients fail to obtain timely approval from applicable regulatory agencies to offer new programs, make substantive changes to existing programs or expand their programs into or within certain states.

Our university clients are required to obtain the appropriate approvals from the DOE and applicable state and accrediting regulatory agencies for new programs or locations, which may be conditioned, delayed or denied in a manner that could impair our strategic plans and future growth. Regulatory constraints have resulted in delays to various approvals our university clients are requesting, and such delays could in turn delay the timing of our ability to generate revenue from our university clients' programs.

If more state agencies require specialized approval of our university clients' offerings, our operating costs could increase significantly, approval times could lag, or we could be prohibited from operating in certain states.

In addition to state licensing agencies, our university clients may be required to obtain approval from professional licensing boards in certain states to offer specialized programs in specific fields of study. Currently, relatively few states require institutions to obtain professional board approval for their online educational offerings. However, more states could pass laws requiring our university clients' offerings, such as graduate programs in teaching or nursing, to obtain approval from state professional boards. If a significant number of states pass additional laws requiring schools to obtain professional board approval, the cost of obtaining all necessary state approvals could dramatically increase, which could make our platform less attractive to university clients, and these university clients could be barred from operating in some states entirely.

Evolving regulations and legal obligations related to data privacy, data protection and information security and our actual or perceived failure to comply with such obligations, could have an adverse effect on our business.

The legislative and regulatory framework for privacy and security issues worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. In providing our platform to university clients and in operating our business, we collect and process regulated personal information from students, faculty, prospective students and employees. Our handling of this personal information is subject to a variety of laws and regulations, which have been adopted by federal, state and foreign governments to regulate the collection, distribution, use and storage of personal information. Any failure or perceived failure by us to comply with these privacy laws and regulations or any security incident that results in the unauthorized release or transfer of this personal information in our possession, could result in government enforcement actions, litigation, fines and penalties or adverse publicity, all of which could have an adverse effect on our reputation and business.

Various federal, state and foreign legislative, regulatory or other governmental bodies may enact new or additional laws or regulations, or issue rulings that invalidate prior laws or regulations concerning privacy, data storage and data protection that could materially adversely impact our business. For example, in April 2016, the European Parliament and the Council of the European Union formally adopted a comprehensive General Data Protection Regulation ("GDPR"), which took effect in May 2018. The GDPR introduces new requirements for the protection of personal data of individuals in the EU and substantial fines for non-compliance. After the United Kingdom withdraws from the EU ("Brexit"), we will also be subject to the UK Data Protection Act 2018 which introduces certain UK-specific requirements and also imposes substantial fines for non-compliance. As another example, the European ePrivacy Directive (Directive 2002/58/EC, as amended by Directive 2009/136/EC), which obliges EU member states to introduce certain national laws regulating privacy in the electronic communications sector, will soon be replaced by the ePrivacy Regulation. As the text of the ePrivacy Regulation is still under development and in draft form, and as further guidance is issued and interpretations of both the ePrivacy Regulation and the GDPR develop, it is difficult to assess the impact of either on our business or operations, but it may require us to modify our

data practices and policies (e.g., in relation to management of cookies and direct marketing messages sent through different media) and we could incur substantial costs as a result. We are also subject to evolving EU laws on data transfer, as we may transfer personal data from the European Economic Area to other jurisdictions. There is currently litigation challenging various EU mechanisms for adequate data transfers and it is uncertain whether various mechanisms, such as the "Privacy Shield" or "model contractual clauses" will be invalidated by the European courts. Brexit has also introduced significant uncertainty about data transfers from the EU to the UK and from the UK to other jurisdictions, which could affect our operations in the U.K. and EU.

Similarly, in the U.S., various states have either passed or proposed privacy laws that will go into effect in the next few years. For example, California passed the California Consumer Privacy Act ("CCPA") in 2018, which took effect in January 2020, and Massachusetts recently proposed MA Bill SD 341, "An Act relative to consumer data privacy." There are similar bills pending in a number of other states, as well. CCPA and MA Bill SD 341 each represent a trend toward stronger privacy protections and greater data transparency in the U.S. Currently, federal law legislates privacy on an industry by industry basis. Without an overarching federal law driving privacy compliance, the risk is high of a patchwork of privacy legislation formed by individual state laws, similar to the states' approach to breach notification obligations. This could not only increase costs for compliance but also raise the risk of enforcement by individual state attorneys general.

Complying with these and other changing requirements could cause us to incur substantial costs, or require us to change our business practices, any of which could materially adversely affect our business and operating results.

We are required to comply with the Family Educational Rights and Privacy Act, or FERPA, and failure to do so could harm our reputation and negatively affect our business.

FERPA generally prohibits an institution of higher education participating in Title IV programs from disclosing personally identifiable information from a student's education records without the student's consent. Our university clients and their students disclose to us certain information that originates from or comprises a student education record under FERPA. As an entity that provides services to institutions participating in Title IV programs, we are indirectly subject to FERPA, and we may not transfer or otherwise disclose any personally identifiable information from a student record to another party other than in a manner permitted under the statute. If we violate FERPA, it could result in a material breach of contract with one or more of our university clients and could harm our reputation. Further, in the event that we disclose student information in violation of FERPA, the DOE could require a university client to suspend our access to its student information for at least five years.

In our Alternative Credential Segment, we are subject to risks and compliance rules and regulations related to the third-party credit card payment processing platform integrated within our websites or otherwise used by our business.

Students typically use a credit or debit card to pay application and enrollment fees and to make tuition payments for our short courses and boot camps. We are subject to payment card association operating rules, certification requirements and rules governing electronic funds transfers, which could change or be reinterpreted to make it difficult or impossible for us to comply. We believe that we and the payment processing service providers we use are compliant in all material respects with the Payment Card Industry Data Security Standard. However, there is no guarantee that such compliance will be maintained or that compliance will prevent illegal or improper use of our systems that are integrated with our payment processing providers. If we or any of the third-party payment processors we use fails to be in compliance with applicable credit card rules and regulations, we may be required to migrate to an alternate payment processor which could result in transaction downtime during the migration and/or a loss of students and have a material adverse effect on our business, financial condition and results of operations.

Risks Related to Intellectual Property

We operate in an industry with extensive intellectual property litigation. Claims of infringement against us may hurt our business.

Our success depends, in part, upon our ability to avoid infringing intellectual property rights owned by others and being able to resolve claims of intellectual property infringement without major financial expenditures or adverse consequences. The technology and software fields generally are characterized by extensive intellectual property litigation and many companies that own, or claim to own, intellectual property have aggressively asserted their rights. In addition, we face potential copyright and trademark infringement from the content we produce in connection with our marketing activities, including in websites related to our offerings. From time to time, we may be subject to legal proceedings and claims relating to the intellectual property rights of others, and we expect that third parties will assert intellectual property claims against us, particularly as we expand the complexity and scope of our business. In addition, our university client agreements require us to indemnify our university clients against claims that our platform infringes the intellectual property rights of third parties.

Future litigation may be necessary to defend ourselves or our university clients from intellectual property infringement claims or to establish our proprietary rights. Some of our competitors have substantially greater resources than we do and would be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us. Regardless of whether claims that we are infringing patents or other intellectual property rights have any merit, these claims are time-consuming and costly to evaluate and defend and could:

- hurt our reputation;
- adversely affect our relationships with our current or future university clients;
- cause delays or stoppages in providing our platform;
- divert management's attention and resources;
- require technology changes to our software that could cause us to incur substantial cost;
- subject us to significant liabilities; and
- require us to cease some or all of our activities.

In addition to liability for monetary damages against us, which may include attorneys' fees, treble damages in the event of a finding of willful infringement, or, in some circumstances, damages against our university clients, we may be prohibited from developing, commercializing or continuing to provide some or all of our bundled technology-enabled platform unless we obtain licenses from, and pay royalties to, the holders of the patents or other intellectual property rights, which may not be available on commercially favorable terms, or at all.

We may incur liability, or our reputation may be harmed, as a result of the activities of our university clients and students or the content in our online learning environments.

We may be subject to potential liability for the activities of our university clients or students in connection with the data they post or store in our online learning platform. For example, university personnel or students, or our employees or independent contractors, may post to our online learning platform various articles or other third-party content for use in class discussions or within asynchronous lessons.

Various U.S. federal statutes may apply to us with respect to these activities. The Copyright Act of 1976 provides recourse to copyright owners who believe that their rights under U.S. copyright law have been infringed on the internet. Those rights can be limited by operation of the Digital Millennium Copyright Act of 1998, or DMCA, such that we may not be liable for infringing content posted by university clients or students, provided that we follow the procedures for handling copyright infringement claims set forth in the DMCA.

Although statutes and case law in the U.S. have generally shielded us from liability for these activities to date, court rulings in pending or future litigation may narrow the scope of protection afforded us under these laws. In addition, laws governing these activities are unsettled in many international jurisdictions. As a result, we could incur liability to third parties for the unauthorized duplication, distribution or other use of third-party content. Any such claims could subject us to costly litigation and impose a significant strain on our financial resources and management personnel regardless of whether the claims have merit. Our various liability insurance coverages may not cover potential claims of this type adequately or at all, and we may be required to alter or cease our uses of such material, which may include changing or removing content from courses or altering the functionality of our online learning platform, or to pay monetary damages.

Additionally, university personnel or students, or our employees or independent contractors could use our online learning platform to store or process regulated personal information without our knowledge. In the event that our systems experience a data security incident, or an individual or entity accesses information without, or in excess of, proper authorization, we could be subject to data security incident notification laws, as described elsewhere, which may require prompt remediation and notification to individuals. If we are unaware of the data and information stored on our systems, we may be unable to appropriately comply with all legal obligations, and we may be exposed to governmental enforcement or prosecution actions, private litigation, fines and penalties or adverse publicity and these incidents could harm our reputation and business.

Our failure to protect our intellectual property rights could diminish the value of our platform, weaken our competitive position and reduce our revenue.

We regard the protection of our intellectual property, which includes trade secrets, copyrights, trademarks and domain names, as critical to our success. We protect our proprietary information from unauthorized use and disclosure by entering into confidentiality agreements with any party that may come in contact with such information. We also seek to ensure that we own intellectual property created for us by signing agreements with employees, independent contractors, consultants, companies and any other third party that may create intellectual property for us that assigns any copyright and patent rights to us. However, these arrangements and the other steps we have taken to protect our intellectual property may not prevent the misappropriation of our proprietary information or deter independent development of similar technologies by others.

We pursue the registration of our domain names, trademarks and service marks in the United States and in jurisdictions outside the United States. However, third parties may knowingly or unknowingly infringe on our trademark or service mark rights, third parties may challenge our trademark or service mark rights, and pending or future trademark or service mark applications may not be approved. In addition, effective trademark protection may not be available in every country in which we operate or intend to operate. In any or all cases, we may be required to expend significant time and expense to prevent infringement or enforce our rights.

Monitoring unauthorized use of our intellectual property is difficult and costly. Our efforts to protect our proprietary rights may not be adequate to prevent misappropriation of our intellectual property. Further, we may not be able to detect unauthorized use of, or take appropriate steps to enforce, our intellectual property rights. Our competitors may also independently develop similar technology. In addition, the laws of many countries may not protect our proprietary rights to as great an extent as do the laws of the United States. Further, the laws in the United States and elsewhere change rapidly, and any future changes could adversely affect us and our intellectual property rights. Our failure to meaningfully protect our intellectual property could result in competitors offering services that incorporate our most technologically advanced features, which could seriously reduce demand for our platform. In addition, we may in the future need to initiate litigation such as infringement or administrative proceedings, to protect our intellectual property rights. Litigation, whether we are a plaintiff or a defendant, can be expensive, time-consuming and may divert the efforts of our technical staff and managerial personnel, whether or not such litigation results in a determination that is unfavorable to us. In addition, litigation is inherently uncertain, and thus we may not be able to stop our competitors from infringing upon our intellectual property rights.

The use of "open source" software in our platform could negatively affect our ability to offer our platform and subject us to possible litigation.

A substantial portion of our platform incorporates so-called "open source" software, and we may incorporate additional open source software in the future. Open source software is generally freely accessible, usable and modifiable. Certain open source licenses may, in certain circumstances, require us to offer our platform that incorporates the open source software for no cost, to make available source code for modifications or derivative works we create based upon, incorporating or using the open source software and to license such modifications or derivative works under the terms of the particular open source license. Our efforts to monitor the use of open source software in our platform to ensure that no open source software is used in such a way as to require us to disclose our source code when we do not wish to do so, may be unable to prevent such use from occurring. In addition, if a third-party software provider has incorporated certain types of open source software into software we license from such third party without our knowledge, we could, under certain circumstances, be required to comply with the foregoing conditions. If an author or other third party that distributes open source software that we use were to allege that we had not complied with the conditions of one or more of these licenses, we could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages, including being enjoined from offering the component of our platform that contained the open source software and being required to comply with the foregoing conditions, which could disrupt our ability to offer certain components of our platform.

We could also be subject to suits by parties claiming ownership of what we believe to be open source software. The terms of many open source licenses to which we are subject have not been interpreted by U.S. or foreign courts. Accordingly, there is a risk that those licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to offer our platform. Litigation could be costly for us to defend, have a negative effect on our operating results and financial condition and require us to devote additional research and development resources to change our products.

If internet search engines' methodologies are modified, our search engine optimization capability in connection with our student recruiting efforts could be harmed.

Our search engine optimization capability in connection with our student acquisition efforts substantially depends on various internet search engines, such as Google, to direct a significant amount of traffic to websites related to our offerings. Our ability to influence the number of visitors directed to these websites through search engines is not entirely within our control. For example, search engines frequently revise their algorithms in an attempt to optimize their search result listings. Future changes that may be made by Google or any other search engines could impact our ability to effectively utilize search engine

optimization as part of our student acquisition strategies in the long-term. Changes in the methodologies used by search engines to display results could cause the websites related to our offerings to receive less favorable placements, which could reduce the number of prospective students who visit these websites from search engines. Further, if our competitors' search engine optimization efforts are more successful than ours, fewer prospective students may be directed to our websites. Any reduction in the number of prospective students directed to our websites could negatively affect our ability to generate prospective students, and ultimately revenue, through our student acquisition activities.

Individuals that appear in content hosted on our online learning platform may claim violation of their rights.

Faculty and students that appear in video segments hosted on our online learning platform may claim that proper assignments, licenses, consents and releases were not obtained for use of their likenesses, images or other contributed content. Our contracts typically require that our university clients ensure that proper assignments, licenses, consents and releases are obtained for their course material, but we cannot know with certainty that they have obtained all necessary rights. Moreover, the laws governing rights of publicity and privacy, and the laws governing faculty ownership of course content, are imprecise and adjudicated on a case-by-case basis, such that the enforcement of agreements to transfer the necessary rights is unclear. As a result, we could incur liability to third parties for the unauthorized duplication, display, distribution or other use of this material. Any such claims could subject us to costly litigation and impose a significant strain on our financial resources and management personnel regardless of whether the claims have merit. Our various liability insurance coverages may not cover potential claims of this type adequately or at all, and we may be required to alter or cease our use of such material, which may include changing or removing content from courses, or to pay monetary damages. Moreover, claims by faculty and students could damage our reputation, regardless of whether such claims have merit.

Risks Related to Ownership of Our Common Stock and Our Status as a Public Company

Our operating results have fluctuated in the past and may do so in the future, which could cause our stock price to decline.

Our operating results have historically fluctuated due to seasonality and changes in our business, and our future operating results may vary significantly due to a variety of factors, many of which are beyond our control. You should not rely on period-to-period comparisons of our operating results as an indication of our future performance. Factors that may cause fluctuations in our operating results include, but are not limited to, the following:

- the timing of our costs incurred in connection with the launch of new degree programs and the delay in receiving revenue from these new programs, which delay may last for several years;
- seasonal variation driven by the semester schedules for our university clients' degree programs, which may vary from year to year;
- changes in the student enrollment and retention levels in our university clients' offerings;
- changes in our key metrics or the methods used to calculate our key metrics;
- changes in tuition rates;
- the timing and amount of our marketing and sales expenses;
- costs necessary to improve and maintain our platform;
- fluctuations in foreign currency exchange rates;
- costs related to any acquisition and integration of business and technology;
- our ability to effectively integrate businesses and technologies that we acquire; and
- changes in the prospects of the economy generally, which could alter current or prospective university clients' or students' spending priorities, or could increase the time it takes us to launch new offerings.

Our operating results may fall below the expectations of market analysts and investors in some future periods, which could cause the market price of our common stock to decline substantially.

The trading price of the shares of our common stock may be volatile, and purchasers of our common stock could incur substantial losses.

The trading price of the shares of our common stock may be volatile. The stock market in general, and the market for technology companies in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may not be able to sell their common stock at or above the price paid for the shares. The market price for our common stock may be influenced by many factors, including:

- actual or anticipated variations in our operating results;
- variations between our actual operating results and the expectations of securities analysts, investors and the financial community;
- changes in financial estimates by us or by any securities analysts who might cover our stock or our failure to meet these financial estimates;
- conditions or trends in our industry, the stock market or the economy;
- the level of demand for our stock, including the amount of short interest in our stock;
- stock market price and volume fluctuations of comparable companies and, in particular, those that operate in the software and information technology industries;
- announcements by us or our competitors of new product or service offerings, significant acquisitions, strategic partnerships or divestitures;
- announcements of investigations or regulatory scrutiny of our operations or lawsuits filed against us;
- capital commitments;
- investors' general perception of our company and our business;
- actions instituted by activist shareholders or others;
- lawsuits threatened or filed against us;
- recruitment or departure of key personnel; and
- sales of our common stock, including sales by our directors and officers or specific stockholders.

Activist shareholders who disagree with the composition of our board of directors, our strategy or the way we are managed may seek to effect change through various strategies that range from private engagement to publicity campaigns, proxy contests, efforts to force transactions not supported by our board of directors and litigation. Responding to these actions may be costly and time-consuming, disrupt our operations, divert the attention of our board of directors, management and employees and interfere with the execution of our strategic plan. A contested election could also require us to incur substantial legal and public relations fees and proxy solicitation expenses. The perceived uncertainty as to our future direction resulting from activist strategies could also affect the market price and volatility of our common stock.

As described in Part I, Item 3 of this Annual Report on Form 10-K, certain stockholders have initiated class action lawsuits against us. Our defense against this litigation will cause us to incur additional expenses and could divert management's attention and resources from our business.

If equity research analysts do not continue to publish research or reports, or publish unfavorable research or reports, about us, our business or our market, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that equity research analysts publish about us and our business. Equity research analysts may elect not to initiate or to continue to provide research coverage of our common stock, and such lack of research coverage may adversely affect the market price of our common stock. Even if we do have equity research analyst coverage, we will not have any control over the analysts or the content and opinions included in their reports. The price of our stock could decline if one or more equity research analysts downgrade our stock or issue other unfavorable commentary or research. If one or more equity research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which in turn could cause our stock price or trading volume to decline. In addition, if our operating results fail to meet the forecasts of analysts, our stock price would likely decline.

Provisions in our corporate charter documents and under Delaware law may prevent or frustrate attempts by our stockholders to change our management and hinder efforts to acquire a controlling interest in us, and the market price of our common stock may be lower as a result.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws may make it difficult for a third party to acquire, or attempt to acquire, control of our company, even if a change in control is considered favorable by you and other stockholders. For example, our board of directors has the authority to issue up to 5,000,000 shares of preferred stock. The board of directors can fix the price, rights, preferences, privileges, and restrictions of the preferred stock without any further vote or action by our stockholders. An issuance of shares of preferred stock may result in the loss of voting control to other stockholders, which could delay or prevent a change in control transaction. As a result, the market price of our common stock and the voting and other rights of our stockholders may be adversely affected.

Our charter documents also contain other provisions that could have an anti-takeover effect, including:

- only one of our three classes of directors is elected each year;
- stockholders are not entitled to remove directors other than by a 66 ²/₃% vote and only for cause;
- stockholders are not permitted to take actions by written consent;
- stockholders are not permitted to call a special meeting of stockholders;
- our board of directors is allowed to adopt, amend or repeal our bylaws; and
- stockholders are required to give us advance notice of their intention to nominate directors or submit proposals for consideration at stockholder meetings.

In addition, we are subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which regulates corporate acquisitions by prohibiting Delaware corporations from engaging in specified business combinations with particular stockholders of those companies. These provisions could discourage potential acquisition proposals and could delay or prevent a change in control transaction. They could also have the effect of discouraging others from making tender offers for our common stock, including transactions that may be in your best interests. These provisions may also prevent changes in our management or limit the price that investors are willing to pay for our stock.

Concentration of ownership of our common stock among our existing executive officers, directors and large stockholders may prevent smaller stockholders from influencing significant corporate decisions.

Our executive officers, directors and current beneficial owners of 5% or more of our common stock and their respective affiliates, in the aggregate, beneficially own a substantial percentage of our outstanding common stock. These persons, acting together, are able to significantly influence all matters requiring stockholder approval, including the election and removal of directors, any merger, consolidation, sale of all or substantially all of our assets, or other significant corporate transaction. The interests of this group of stockholders may not coincide with our interests or the interests of other stockholders.

If we fail to maintain proper and effective internal controls, our ability to produce accurate financial statements on a timely basis could be impaired.

We are subject to the reporting requirements of the Securities Exchange Act of 1934, the Sarbanes-Oxley Act and the rules and regulations of the Nasdaq Global Select Market. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are required to perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting in our Form 10-K filing for that year, as required by Section 404 of the Sarbanes-Oxley Act. This may require us to incur substantial additional professional fees and internal costs to further expand our accounting and finance functions and expend significant management efforts.

We may in the future discover material weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. In addition, our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to errors or fraud will not occur or that all control issues and instances of fraud will be detected.

If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls, we may not be able to produce timely and accurate financial statements. If that were to happen, the market price of our stock could decline and we could be subject to sanctions or investigations by the stock exchange on which our common stock is listed, the Securities and Exchange Commission, or SEC, or other regulatory authorities.

Because we do not anticipate paying any cash dividends on our common stock in the foreseeable future, capital appreciation, if any, will be your sole source of gains and you may never receive a return on your investment.

You should not rely on an investment in our common stock to provide dividend income. We have not declared or paid cash dividends on our common stock to date. We currently intend to retain our future earnings, if any, to fund the development and growth of our business. In addition, the terms of our existing credit facility preclude, and the terms of any future debt agreements are likely to similarly preclude, us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future. Investors seeking cash dividends should not purchase our common stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our headquarters are located in Lanham, Maryland, where we occupy approximately 281,000 square feet under a lease that expires in 2028. Our other material properties are 121,000 square feet of leased office space in Denver, Colorado, 59,000 square feet of leased office space in Brooklyn, New York and 98,000 square feet of leased office space in Cape Town, South Africa. All of our material properties are used to support both of our business segments.

We intend to adjust our facility occupancy commensurate with our employee base and believe that we will be able to do so on commercially reasonable terms.

Item 3. Legal Proceedings

We are involved in various claims and legal proceedings arising in the ordinary course of business. We accrue a liability when a loss is considered probable and the amount can be reasonably estimated. See "Note 7. Commitments and Contingencies—Legal Contingencies" to our financial statements included elsewhere in this Annual Report on Form 10-K. While we do not expect that the ultimate resolution of any existing claims and proceedings (other than the specific matter described below, if decided adversely), individually or in the aggregate, will have a material adverse effect on our financial position, an unfavorable outcome in some or all of these proceedings could have a material adverse impact on the results of operations or cash flows for a particular period. This assessment is based on our current understanding of relevant facts and circumstances. As such, our view of these matters is subject to inherent uncertainties and may change in the future.

In re 2U, Inc., Securities Class Action

On August 7 and 9, 2019, Aaron Harper and Anne M. Chinn filed putative class action complaints against us, Christopher J. Paucek, our CEO, and Catherine A. Graham, our former CFO, in the United States District Court for the Southern District of New York. The district court consolidated the two actions on August 27, 2019, under the caption *In re 2U, Inc., Securities Class Action*, No. 1:19-cv-7390 (S.D.N.Y.). On November 26, 2019, the court transferred the case to the United States District Court for the District of Maryland, and the docket number is now 8:19-cv-345. The complaints allege violations of Section 10(b) and 20(a) of the Securities Exchange Act of 1934, and SEC Rule 10b-5 promulgated thereunder, based upon allegedly false and misleading statements regarding our company's business prospects and financial projections. The proposed class consists of all persons who acquired our company's securities between February 26, 2018 and July 30, 2019.

We believe that the claims are without merit and we intend to vigorously defend against these claims. However, due to the complex nature of the legal and factual issues involved, the outcome of this matter is not presently determinable.

Item 4. Mine Safety Disclosures

None.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock has been listed on the Nasdaq Global Select Market since March 28, 2014, under the symbol “TWOU.”

As of February 24, 2020, there were 81 registered stockholders of record for our common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include stockholders whose shares may be held in trust by other entities.

Stock Performance Graph

The graph set forth below compares the cumulative total stockholder return on our common stock with that of the Nasdaq Composite Index, the Russell 3000 Index and the S&P North American Technology Software Index for the five years ended December 31, 2019. The graph assumes that \$100 was invested at the close of market on the last trading day of the fiscal year ended December 31, 2014 in the common stock of 2U, Inc., the Nasdaq Composite Index, the Russell 3000 Index and the S&P North American Technology Software Index. We have not paid any cash dividends and, therefore, the cumulative total return calculation on our common stock is based solely upon our stock price appreciation or depreciation and does not include any reinvestment of cash dividends. The data for the Nasdaq Composite Index, the Russell 3000 Index and the S&P North American Technology Software Index assumes reinvestments of gross dividends. The comparisons shown in the graph below are based upon historical data, and are not necessarily indicative of, nor intended to forecast, the potential future stock performance of our common stock.

**Comparison of Cumulative Total Return
Through December 31, 2019
Assumes Initial Investment of \$100**



The information presented above in the stock performance graph shall not be deemed to be “soliciting material” or to be “filed” with the SEC or subject to Regulation 14A or 14C, except to the extent that we subsequently specifically request that such information be treated as soliciting material or specifically incorporate it by reference into a filing under the Securities Act of 1933, as amended, or a filing under the Securities Exchange Act of 1934, as amended.

Item 6. Selected Financial Data

The following selected consolidated statements of operations data for the years ended December 31, 2019, 2018 and 2017, and the selected consolidated balance sheets data as of December 31, 2019 and 2018 are derived from our audited consolidated financial statements in "Financial Statements and Supplementary Data" included in Part II, Item 8 of this Annual Report on Form 10-K. The selected consolidated statements of operations data for the years ended December 31, 2016 and 2015, and the selected consolidated balance sheets data as of December 31, 2017, 2016 and 2015 are derived from our audited consolidated financial statements that are not included in this Annual Report on Form 10-K, except as otherwise noted. Our historical results are not necessarily indicative of the results to be expected in the future. The selected consolidated financial data should be read together with Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" and in conjunction with the consolidated financial statements, related notes, and other financial information included elsewhere in this Annual Report on Form 10-K.

	Year Ended December 31,				
	2019	2018	2017	2016	2015
	(in thousands, except share and per share amounts)				
Consolidated Statements of Operations Data:					
Revenue	\$ 574,671	\$ 411,769	\$ 286,752	\$ 205,864	\$ 150,194
Costs and expenses					
Curriculum and teaching	63,270	23,290	6,609	—	—
Servicing and support	98,890	67,203	50,767	40,982	32,047
Technology and content development	115,473	63,812	45,926	33,283	27,211
Marketing and sales	342,395	221,015	150,923	106,610	82,911
General and administrative	131,020	82,989	62,665	46,021	34,123
Impairment charge	70,379	—	—	—	—
Total costs and expenses	821,427	458,309	316,890	226,896	176,292
Loss from operations	(246,756)	(46,540)	(30,138)	(21,032)	(26,098)
Interest income	5,800	5,173	371	383	167
Interest expense	(13,419)	(108)	(87)	(35)	(552)
Other expense, net	(707)	(1,722)	(866)	—	(250)
Loss before income taxes	(255,082)	(43,197)	(30,720)	(20,684)	(26,733)
Income tax benefit	19,860	4,867	1,297	—	—
Net loss	\$ (235,222)	\$ (38,330)	\$ (29,423)	\$ (20,684)	\$ (26,733)
Net loss per share, basic and diluted	\$ (3.83)	\$ (0.69)	\$ (0.60)	\$ (0.44)	\$ (0.63)
Weighted-average common shares outstanding used in computing net loss per share, basic and diluted	61,393,666	55,833,492	49,062,611	46,609,751	42,420,356

	As of December 31,				
	2019	2018	2017	2016	2015
	(in thousands)				
Consolidated Balance Sheets Data:					
Cash and cash equivalents	\$ 170,593	\$ 449,772	\$ 223,370	\$ 168,730	\$ 183,729
Working capital*	104,994	453,200	190,053	143,629	160,310
Goodwill and amortizable intangible assets, net	751,425	198,457	162,749	34,131	25,024
Total assets	1,186,830	807,354	482,062	244,320	231,041
Total liabilities	475,580	102,345	94,230	49,083	35,252
Additional paid-in capital	1,197,379	957,631	588,289	371,455	351,324
Total stockholders' equity	\$ 711,250	\$ 705,009	\$ 387,832	\$ 195,237	\$ 195,789

* We define working capital as current assets minus current liabilities.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our consolidated financial statements and the related notes and other financial information included elsewhere in this Annual Report on Form 10-K. Some of the information contained in this discussion and analysis or set forth elsewhere in this report, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. You should review "Special Note Regarding Forward-Looking Statements" and Item 1A "Risk Factors" in this report for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

This section of this Form 10-K does not address certain items regarding the year ended December 31, 2017. For a discussion of our results of operations and liquidity and capital resources for the year ended December 31, 2017, including a year-over-year comparison between the years ended December 31, 2018 and 2017, refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2018.

Overview

We are a leading provider of education technology for nonprofit colleges and universities. We build, deliver, and support more than 400 digital and in-person educational offerings, including graduate degrees, undergraduate degrees, professional certificates, boot camps, and short courses, across the career curriculum continuum. Together with our university clients, we have positively transformed the lives of more than 200,000 students.

Our comprehensive platform of tightly integrated technology and services provides the digital infrastructure that universities need to attract, enroll, educate and support students at scale. With our platform, students can pursue their education anytime, anywhere, without quitting their jobs or moving; and university clients can provide broader access to their educational offerings, thereby improving outcomes, skills attainment and career prospects for a greater number of students.

We have two reportable segments: the Graduate Program Segment and the Alternative Credential Segment.

- In our Graduate Program Segment, we provide the technology and services to nonprofit colleges and universities to enable the online delivery of degree programs. Students enrolled in these programs are generally seeking an undergraduate or graduate degree of the same quality they would receive on campus.
- In our Alternative Credential Segment, we provide premium online short courses and technical, skills-based boot camps through relationships with nonprofit colleges and universities. Students enrolled in these offerings are generally working professionals seeking career advancement through skills attainment.

Certain Trends and Uncertainties

The following represents a summary of certain trends and uncertainties, which could have a significant impact on our financial condition and results of operations. This summary is not intended to be a complete list of potential trends and uncertainties and should be considered along with the factors identified in the section titled "Risk Factors" of this Annual Report on Form 10-K and elsewhere in this report.

- The risk of a data security breach or service disruption has increased as the frequency, intensity and sophistication of attempted attacks and intrusions from around the world have increased. While we make significant efforts to maintain the security and integrity of our services and computer systems, our cybersecurity measures and the cybersecurity measures taken by our third-party data center facilities may be unable to anticipate, detect or prevent all attempts to compromise our systems.
 - We and our university clients are subject to certain education regulations, such as the HEA, which are frequently revised, repealed or expanded. The re-authorization of the HEA is currently in process and the outcome could alter the regulatory landscape of the higher education industry, and thereby impact the manner in which we conduct business and serve our university clients.
 - Our university clients have regular turnover in leadership positions. These changes can have a positive or negative impact on our business. If new leaders do not support online delivery of educational offerings, we may not be able to add additional offerings with the university client or the university client may not renew their relationship with us. New leaders may also make changes in university policies, which could result in changes to admissions standards or
-

application of admissions standards and negatively impact student enrollment in a university client's 2U-powered degree programs.

Our Business Model and Components of Operating Results

The key elements of our business model and components of our operating results are described below.

Revenue Drivers

In our Graduate Program Segment, we derive substantially all of our revenue from revenue-share arrangements with our university clients under which we receive a contractually specified percentage of the amounts students pay them to enroll in degree programs. In our Alternative Credential Segment, we derive substantially all of our revenue from tuition and fees that students pay to take our short courses and boot camps. Accordingly, the primary driver of our revenue growth is the number of student enrollments in the offerings we enable. This in turn is influenced primarily by three factors:

- our ability to increase the number of degree programs and other offerings, either by adding new university clients or by expanding the number of offerings we provide with current university clients;
- our ability to identify and attract prospective students to our degree programs and other offerings; and
- our ability, and that of our university clients, to retain students.

Marketing and Sales Expense

Our most significant expense relates to marketing and sales activities to attract students to our offerings across both of our segments. This includes the cost of Search Engine Optimization, Search Engine Marketing and Social Media Optimization, as well as personnel and personnel-related expense for our marketing and recruiting teams.

Graduate Program Segment

Our marketing and sales expense in any period generates student enrollments eight months later, on average. We then generate revenue as students progress through their programs, which generally occurs over a two-year period following initial enrollment. Accordingly, our marketing and sales expense in any period is an investment to generate revenue in future periods. Therefore, we do not believe it is meaningful to directly compare current period revenue to current period marketing and sales expense. Further, we believe that our marketing and sales expense in future periods will generally decline as a percentage of the revenue reported in those same periods as our revenue base from returning students in existing programs increases.

Alternative Credential Segment

Our marketing and sales expense in any period generates student enrollments as much as 24 weeks later, on average. We then generate revenue as students progress through their courses, which typically occurs over a two to six month period following initial enrollment.

Other Operating Expense

Our other operating expense consist of the following:

Curriculum and teaching. Curriculum and teaching expense consists primarily of amounts due to universities for licenses to use their brand names and other trademarks in connection with our short course and boot camp offerings. The payments are based on contractually specified percentages of the tuition and fees we receive from students in those offerings. Curriculum and teaching expense also includes personnel and personnel-related expense for our short course and boot camp instructional staff.

Servicing and support. Servicing and support expense consists primarily of personnel and personnel-related expense associated with the management and operations of our educational offerings, as well as supporting students and faculty members. Servicing and support expense also includes costs to support our platform, facilitate in-program field placements and student immersions, and assist with compliance requirements.

Technology and content development. Technology and content development expense consists primarily of personnel and personnel-related expense associated with the ongoing improvement and maintenance of our platform, as well as hosting and licensing costs. Technology and content expense also includes the amortization of capitalized technology and content.

General and administrative. General and administrative expense consists primarily of personnel and personnel-related expense for our corporate departments, including executive management, legal, finance, human resources, and other departments that do not provide direct operational services. General and administrative expense also includes professional fees and other corporate expense.

Net Interest Income (Expense)

Net interest income (expense) consists primarily of interest expense from our long-term debt and interest income from our cash and cash equivalents. Interest expense also includes the amortization of debt issuance costs.

Other Expense, Net

Other expense, net primarily consists of foreign currency gains and losses.

Income Taxes

Our income tax provisions for all periods consist of U.S. federal, state and foreign income taxes. Our effective tax rate for the period is based on a mix of higher-taxed and lower-taxed jurisdictions. Due to our current and accumulated net operating losses, we have not been required to pay U.S. federal income taxes to date.

Results of Operations

Consolidated Operating Results

Comparison of Years Ended December 31, 2019 and 2018

The following table sets forth selected consolidated statement of operations data for each of the periods indicated.

	Year Ended December 31,				Period-to-Period Change	
	2019		2018		Amount	Percentage
	Amount	Percentage of Revenue	Amount	Percentage of Revenue		
	(dollars in thousands)					
Revenue	\$ 574,671	100.0 %	\$ 411,769	100.0 %	\$ 162,902	39.6 %
Costs and expenses						
Curriculum and teaching	63,270	11.0	23,290	5.7	39,980	171.7
Servicing and support	98,890	17.2	67,203	16.3	31,687	47.2
Technology and content development	115,473	20.1	63,812	15.5	51,661	81.0
Marketing and sales	342,395	59.6	221,015	53.7	121,380	54.9
General and administrative	131,020	22.8	82,989	20.2	48,031	57.9
Impairment charge	70,379	12.2	—	—	70,379	*
Total costs and expenses	821,427	142.9	458,309	111.4	363,118	79.2
Loss from operations	(246,756)	(42.9)	(46,540)	(11.4)	(200,216)	430.2
Interest income	5,800	1.0	5,173	1.3	627	12.1
Interest expense	(13,419)	(2.3)	(108)	—	(13,311)	*
Other expense, net	(707)	(0.1)	(1,722)	(0.4)	1,015	(58.9)
Loss before income taxes	(255,082)	(44.3)	(43,197)	(10.5)	(211,885)	490.5
Income tax benefit	19,860	3.5	4,867	1.2	14,993	308.1
Net loss	\$ (235,222)	(40.8)%	\$ (38,330)	(9.3)%	\$ (196,892)	513.7 %

* Not meaningful for comparative purposes.

Revenue. Revenue for the year increased \$162.9 million, or 39.6%, to \$574.7 million as compared to \$411.8 million in 2018. This increase in revenue was driven by a 19.8% increase in Graduate Program Segment revenue to \$417.2 million as

compared to \$348.4 million in 2018 and a 148.3% increase in Alternative Credential Segment revenue to \$157.5 million as compared to \$63.4 million in 2018. The increase in revenue from the Alternative Credential Segment includes incremental revenue of \$74.3 million from Trilogy, which we acquired in May 2019.

Revenue from our Graduate Program Segment increased \$68.8 million, or 19.8%, primarily due to growth in full course equivalent enrollments of 33,628, or 26.3%.

Revenue from our Alternative Credential Segment increased \$94.1 million, or 148.3%, primarily due to growth in full course equivalent enrollments of 18,956, or 58.9%, as well as an increase in the average revenue per full course equivalent enrollment, from \$1,969 to \$3,296. These increases were primarily due to the addition of incremental full course equivalent enrollments from Trilogy.

Curriculum and Teaching. Curriculum and teaching expense increased \$40.0 million, or 171.7%, to \$63.3 million as compared to \$23.3 million in 2018. This increase was primarily due to the addition of incremental curriculum and teaching expense from Trilogy and an increase in short course enrollment in our Alternative Credential Segment.

Servicing and Support. Servicing and support expense increased \$31.7 million, or 47.2%, to \$98.9 million as compared to \$67.2 million in 2018. This increase was primarily due to a \$27.7 million increase in personnel and personnel-related expense to serve a greater number of students and faculty in existing and new offerings, including the incremental addition of Trilogy boot camps. The remaining \$4.0 million of the increase was primarily due to travel, rent and other servicing and support expense.

Technology and Content Development. Technology and content development expense increased \$51.7 million, or 81.0%, to \$115.5 million as compared to \$63.8 million in 2018. This increase was due in part to a \$29.3 million increase in amortization expense and a \$14.4 million increase in personnel and personnel-related expense (net of amounts capitalized for technology and content development), including the addition of incremental technology and content development expense from Trilogy. In addition, \$6.5 million of the increase was due to non-capitalized curriculum expense and hosting and licensing expense to support the launch of new programs, including the incremental addition of Trilogy boot camps. The remaining \$1.5 million of the increase was primarily due to costs to support and maintain our internal software applications.

Marketing and Sales. Marketing and sales expense increased \$121.4 million, or 54.9%, to \$342.4 million as compared to \$221.0 million in 2018. This increase was primarily due to a \$72.7 million increase in marketing and sales expense to attract prospective students to new and existing offerings, including the addition of incremental marketing and sales expense from Trilogy. In addition, \$34.1 million of the increase was due to personnel and personnel-related expense, primarily related to the addition of incremental personnel and personnel-related expense from Trilogy. Amortization and marketing infrastructure expense increased \$10.8 million to support an increased number of offerings, including the incremental addition of Trilogy boot camps. The remaining \$3.8 million related to other marketing and sales expense.

General and Administrative. General and administrative expense increased \$48.0 million, or 57.9%, to \$131.0 million as compared to \$83.0 million in 2018. This increase was primarily due to an \$18.7 million increase in personnel and personnel-related expense, including the addition of incremental personnel and personnel-related expense from Trilogy. In addition, \$10.8 million of the increase was due to a restructuring-related charge associated with our September 2019 organizational restructuring. There was no corresponding restructuring-related charge in 2018. Lastly, \$9.1 million of this increase was attributable to one-time transaction and integration-related expense from our acquisition of Trilogy and other expense related to shareholder activism.

Impairment charge. For the year ended December 31, 2019, we recorded an impairment charge of \$70.4 million. Refer to Note 5 in the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K for more information regarding this impairment charge.

Net Interest Income (Expense). Net interest income (expense) was \$(7.6) million and \$5.1 million for the years ended December 31, 2019 and 2018, respectively. This change was primarily due to interest expense of \$13.2 million related to our Term Loan.

Other Expense, Net. Other expense, net was \$0.7 million and \$1.7 million for the years ended December 31, 2019 and 2018, respectively. This decrease was primarily due to fluctuations in foreign currency rates impacting our operations in the Alternative Credential Segment.

Income Tax Benefit. For the year ended December 31, 2019, we recognized a tax benefit of \$19.9 million, and our effective tax rate was approximately 8%. This tax benefit was primarily due to a discrete tax benefit of approximately \$17.5 million related to the acquisition of Trilogy. The acquisition of Trilogy triggered a release of our tax valuation allowance as a result of recognizing an additional net deferred tax liability. The remaining tax benefit of \$2.4 million was due to net operating

loss and the reversal of taxable temporary differences of the acquired intangibles in our Alternative Credential Segment. We expect to continue to recognize a tax benefit for our Alternative Credential Segment to the extent that this segment continues to generate pre-tax losses while carrying a net deferred tax liability. To date, we have not been required to pay U.S. federal income taxes because of our current and accumulated net operating losses.

Business Segment Operating Results

We define segment profitability as net income or net loss, as applicable, before net interest income (expense), taxes, depreciation and amortization expense, foreign currency gains or losses, deferred revenue fair value adjustments, transaction costs, integration costs, restructuring-related costs, shareholder activism costs, impairment charges, and stock-based compensation expense. Some or all of these items may not be applicable in any given reporting period.

The following table reconciles net loss to total segment profitability:

	Year Ended December 31,	
	2019	2018
	(in thousands)	
Net loss	\$ (235,222)	\$ (38,330)
Adjustments:		
Interest income	(5,800)	(5,173)
Interest expense	13,419	108
Foreign currency loss	707	1,722
Income tax benefit	(19,860)	(4,867)
Depreciation and amortization expense	69,843	32,785
Deferred revenue fair value adjustment	11,175	—
Transaction costs	4,786	—
Integration costs	3,255	—
Restructuring-related costs	10,826	—
Shareholder activism costs	1,042	—
Impairment charge	70,379	—
Stock-based compensation expense	51,504	31,410
Total adjustments	211,276	55,985
Total segment profitability	\$ (23,946)	\$ 17,655

Years Ended December 31, 2019 and 2018

Revenue by segment and segment profitability for the years ended December 31, 2019 and 2018 were as follows:

	Year Ended December 31,		Period-to-Period Change	
	2019	2018	Amount	Percentage
	(dollars in thousands)			
Revenue by segment*				
Graduate Program Segment	\$ 417,206	\$ 348,361	\$ 68,845	19.8 %
Alternative Credential Segment	157,465	63,408	94,057	148.3
Total revenue	\$ 574,671	\$ 411,769	\$ 162,902	39.6 %
Segment profitability				
Graduate Program Segment	\$ 5,770	\$ 16,839	\$ (11,069)	(65.7)%
Alternative Credential Segment	(29,716)	816	(30,532)	**
Total segment profitability	\$ (23,946)	\$ 17,655	\$ (41,601)	(235.6)%

* Immaterial amounts of intersegment revenue have been excluded from the above results for the years ended December 31, 2019 and 2018.

** Not meaningful for comparative purposes.

Graduate Program Segment profitability decreased \$11.1 million, or 66%, to \$5.8 million as compared to \$16.8 million in 2018. This decrease was primarily due to an increase in marketing and sales expense incurred to support the launch of new degree programs.

Alternative Credential Segment profitability decreased \$30.5 million to \$(29.7) million as compared to \$0.8 million in 2018. This decrease was primarily due to the addition of Trilogy's results of operations since the acquisition date.

Key Business and Financial Performance Metrics

We use a number of key metrics to evaluate our business, measure our performance, identify trends affecting our business, formulate financial projections and make strategic decisions. In addition to adjusted EBITDA (loss), which we discuss below, and revenue and the components of loss from operations in the section above entitled "Our Business Model and Components of Operating Results," we utilize full course equivalent enrollments as a key metric to evaluate the success of our business.

Full Course Equivalent Enrollments

We measure full course equivalent enrollments for each of the courses offered during a particular period by taking the number of students enrolled in that course and multiplying it by the percentage of the course completed during that period. We add the full course equivalent enrollments for each course within each segment to calculate the total full course equivalent enrollments per segment. This metric allows us to consistently view period over period changes in enrollments by accounting for the fact that many courses we enable straddle multiple fiscal quarters. For example, if a course had 25 enrolled students and 40% of the course was completed during a particular period, we would count the course as having 10 full course equivalent enrollments for that period. Any individual student may be enrolled in more than one course during a period.

Average revenue per full course equivalent enrollment represents our weighted-average revenue per course across the mix of courses being offered during a period in each of our operating segments. This number is derived by dividing the total revenue for a period for each of our operating segments by the number of full course equivalent enrollments within the applicable segment during that same period. This amount may vary from period to period depending on the academic calendars of our university clients, the relative growth rates of our degree programs, short courses, and boot camps, as applicable, and varying tuition levels, among other factors.

The following table sets forth the full course equivalent enrollments and average revenue per full course equivalent enrollment in our Graduate Program Segment and Alternative Credential Segment for the periods presented.

	Year Ended December 31,	
	2019	2018
Graduate Program Segment		
Full course equivalent enrollments	161,306	127,678
Average revenue per full course equivalent enrollment	\$ 2,586	\$ 2,728
Alternative Credential Segment*		
Full course equivalent enrollments	51,158	32,202
Average revenue per full course equivalent enrollment	\$ 3,296 **	\$ 1,969

* Trilogy's results of operations are included in our results of operations since the acquisition date.

** The calculation of the Alternative Credential Segment's average revenue per full course equivalent enrollment includes \$11.2 million of revenue that was excluded from the results of operations in the year ended December 31, 2019, due to a deferred revenue fair value purchase accounting adjustment recorded in connection with the acquisition of Trilogy.

Of the increase in full course equivalent enrollments in our Graduate Program Segment for the years ended December 31, 2019 and 2018, 4,354 or 12.9% and 7,899 or 27.5%, respectively, were attributable to degree programs launched during the preceding 12 months. Of the increase in full course equivalent enrollments in our Alternative Credential Segment for the years ended December 31, 2019 and 2018, 7,106 or 37.5% and 7,266 or 34.0%, respectively, were attributable to short courses launched during the preceding 12 months.

Adjusted EBITDA (Loss)

We define adjusted EBITDA (loss) as net income or net loss, as applicable, before net interest income (expense), taxes, depreciation and amortization expense, foreign currency gains or losses, deferred revenue fair value adjustments, transaction costs, integration costs, restructuring-related costs, shareholder activism costs, impairment charges, and stock-based compensation expense.

In 2019, we revised our definition of adjusted EBITDA (loss) to exclude the impact of (i) transaction costs, deferred revenue fair value adjustments, integration and restructuring-related costs and impairment charges, in each case, in connection with the acquisition of Trilogy and (ii) shareholder activism costs. We believe these changes are meaningful to investors because we did not have these costs in prior periods, and as a result, excluding the impact of such costs in 2019 facilitates a period-to-period comparison of our business. The revision to the definition of adjusted EBITDA (loss) had no material impact on our reported adjusted EBITDA (loss) for the years ended December 31, 2018.

Adjusted EBITDA (loss) is a key measure used by our management and board of directors to understand and evaluate our operating performance and trends, to develop short- and long-term operational plans and to compare our performance against that of other peer companies using similar measures. In particular, the exclusion of certain expenses in calculating adjusted EBITDA (loss) can provide a useful measure for period-to-period comparisons of our business. Accordingly, we believe that adjusted EBITDA (loss) provides useful information to investors and others in understanding and evaluating our operating results in the same manner as our management and board of directors.

Adjusted EBITDA (loss) is not a measure calculated in accordance with U.S. GAAP, and should not be considered as an alternative to any measure of financial performance calculated and presented in accordance with U.S. GAAP. Our use of adjusted EBITDA (loss) has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our financial results as reported under U.S. GAAP. Some of these are:

- although depreciation and amortization expense are non-cash charges, the assets being depreciated and amortized may have to be replaced in the future, and adjusted EBITDA (loss) does not reflect cash capital expenditure requirements for such replacements or for new capital expenditure requirements;
- adjusted EBITDA (loss) does not reflect changes in, or cash requirements for, our working capital needs;
- adjusted EBITDA (loss) does not reflect the impact of changes in foreign currency exchange rates;
- adjusted EBITDA (loss) does not reflect acquisition related gains or losses such as, but not limited to, post-acquisition changes in the value of contingent consideration reflected in operations;
- adjusted EBITDA (loss) does not reflect transaction costs, integration costs, restructuring-related costs, impairment charges, or shareholder activism costs;
- adjusted EBITDA (loss) does not reflect the impact of deferred revenue fair value adjustments;
- adjusted EBITDA (loss) does not reflect the potentially dilutive impact of equity-based compensation;
- adjusted EBITDA (loss) does not reflect interest or tax payments that may represent a reduction in cash available to us; and
- other companies, including companies in our industry, may calculate adjusted EBITDA (loss) differently, which reduces its usefulness as a comparative measure.

Because of these and other limitations, you should consider adjusted EBITDA (loss) alongside other U.S. GAAP-based financial performance measures, including various cash flow metrics, net income (loss) and our other U.S. GAAP results. The following table presents a reconciliation of net loss to adjusted EBITDA (loss) for each of the periods indicated:

	Year Ended December 31,	
	2019	2018
	(in thousands)	
Net loss	\$ (235,222)	\$ (38,330)
Adjustments:		
Interest income	(5,800)	(5,173)
Interest expense	13,419	108
Foreign currency loss	707	1,722
Income tax benefit	(19,860)	(4,867)
Depreciation and amortization expense	69,843	32,785
Deferred revenue fair value adjustment	11,175	—
Transaction costs	4,786	—
Integration costs	3,255	—
Restructuring-related costs	10,826	—
Shareholder activism costs	1,042	—
Impairment charge	70,379	—
Stock-based compensation expense	51,504	31,410
Total adjustments	211,276	55,985
Adjusted EBITDA (loss)	\$ (23,946)	\$ 17,655

Liquidity and Capital Resources

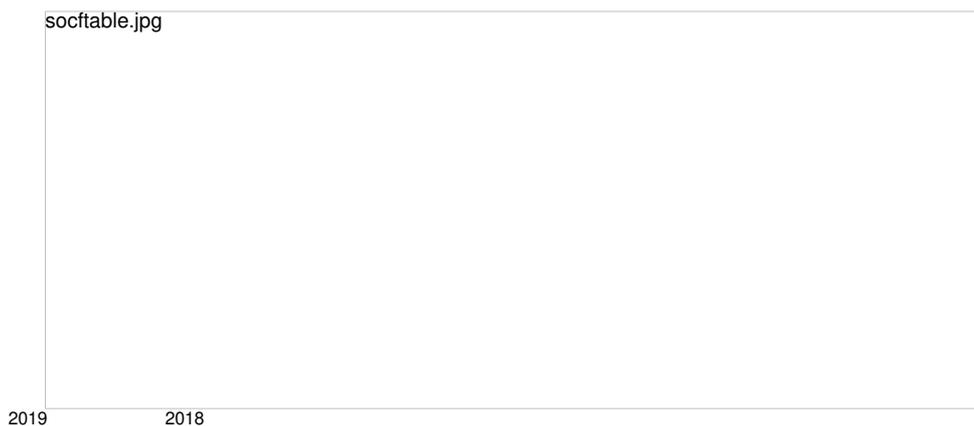
As of December 31, 2019, our principal sources of liquidity were cash and cash equivalents totaling \$170.6 million, which were held for working capital and general corporate purposes.

On May 22, 2019, we entered into a credit agreement with Owl Rock Capital Corporation, as administrative agent and collateral agent, for a \$250 million senior secured Term Loan, which matures on May 22, 2024 (refer to Note 9 of the notes to our consolidated financial statements for more information).

To date, we have financed our operations primarily through payments from university clients and students for our technology and services, the Term Loan, and public and private equity financings. We believe that our existing cash and cash equivalents, together with cash generated from operations, will be sufficient to meet our working capital and capital expenditure requirements for the next 12 months.

Capital asset additions during the year ended December 31, 2019 were \$81.4 million, primarily due to \$66.2 million of capitalized technology and content development, \$8.1 million of leasehold improvements, \$3.7 million of furniture and equipment and \$2.9 million of other property and equipment. The \$81.4 million of capital asset additions consisted of \$78.3 million in cash capital expenditures and \$3.1 million of non-cash capital expenditures, primarily related to the acquisition of certain long-lived assets for which we have an accrued liability. Due to extended payment terms associated with the timing of cash capital expenditures made more than 90 days after the date of purchase, an additional \$2.2 million was classified as cash flows from financing activities in the consolidated statement of cash flows for the year ended December 31, 2019. In 2020, we expect new capital asset additions of approximately \$93 to \$97 million, of which approximately \$2.5 to \$4.5 million will be funded from landlord leasehold improvement allowances.

Sources and Uses of Cash



Operating Activities

Cash flows from operating activities have typically been generated from our net income (loss) and by changes in our operating assets and liabilities, particularly from accounts receivable, adjusted for non-cash expense items such as amortization and depreciation expense and stock-based compensation expense.

Cash used in operating activities for the year ended December 31, 2019 consisted primarily of our net loss of \$235.2 million, adjusted for non-cash items including a \$70.4 million impairment charge, \$69.8 million of depreciation and amortization expense, \$51.5 million of stock-based compensation expense, and \$11.7 million of amortization of our right-of-use assets. The net change in operating assets and liabilities of \$21.6 million was unfavorable to cash flows from operations primarily due to a \$28.6 million decrease in other liabilities, net, as a result of a \$17.5 million release of our tax valuation allowance and a \$21.7 million increase in payments to university clients, partially offset by \$22.0 million of cumulative favorable changes in accounts receivable and deferred revenue, and a \$17.1 million increase in accounts payable and accrued expenses due to growth in our business.

Cash used in operating activities for the year ended December 31, 2018 consisted primarily of our net loss of \$38.3 million, adjusted for non-cash items including \$32.8 million of depreciation and amortization expense and \$31.4 million of stock-based compensation expense. The net change in operating assets and liabilities of \$29.0 million was unfavorable to cash flows from operations primarily due to a \$18.5 million increase in accounts receivable due to the delay in the fall term payments of two university clients and an \$11.3 million increase in payments to university clients.

Investing Activities

Cash used in investing activities for the year ended December 31, 2019 was \$451.4 million, primarily consisting of \$388.0 million to acquire Trilogy, net of cash acquired, \$64.9 million of additions of amortizable intangible assets, \$13.4 million of purchases of property, plant and equipment, partially offset by \$15.0 million of proceeds from net investment activity.

Cash used in investing activities for the year ended December 31, 2018 was \$102.5 million, primarily consisting of \$65.2 million of additions of amortizable intangible assets, \$12.0 million of purchases of property, plant and equipment and \$25.0 million related to investing activities.

Financing Activities

Cash provided by financing activities for the year ended December 31, 2019 was \$244.5 million, primarily consisting of \$242.7 million in proceeds, net of issuance costs, from our Term Loan.

Cash provided by financing activities for the year ended December 31, 2018 was \$333.0 million, primarily consisting of \$330.9 million in proceeds received from our public offering of common stock in May 2018.

Contractual Obligations and Commitments

The following table summarizes our obligations under our Term Loan, deferred government grant obligations, non-cancelable operating leases, commitments to certain of our university clients in exchange for contract extensions and various marketing and other rights, and purchase obligations as of December 31, 2019. Future events could cause actual payments to differ from these amounts.

Contractual Obligations	Payment due by period				Total
	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years	
	(in thousands)				
Senior secured term loan facility	\$ —	\$ —	\$ 250,000	\$ —	\$ 250,000
Deferred government grant obligations	—	—	—	3,500	3,500
Operating lease obligations	15,956	28,977	26,947	45,952	117,832
Future minimum payments to university clients	2,625	2,250	1,250	3,150	9,275
Purchase obligations	8,434	2,305	—	—	10,739
Total	\$ 27,015	\$ 33,532	\$ 278,197	\$ 52,602	\$ 391,346

Other purchase orders made in the ordinary course of business are excluded from the table above. Any amounts for which we are liable under purchase orders are reflected on our consolidated balance sheets as accounts payable and accrued liabilities.

We have entered into agreements with certain of our university clients in our Graduate Program Segment under which we would be obligated to make future minimum payments in the event that certain program metrics are not achieved on an annual basis. We recognize any estimated contingent payments under these agreements as contra revenue over the period in which they relate, and record a liability in other current liabilities on the consolidated balance sheets.

See Note 7 in the "Notes to Consolidated Financial Statements" included in Part II, Item 8 and "Legal Proceedings" contained in Part I, Item 3 of this Annual Report on Form 10-K for additional information regarding contingencies.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K, such as the use of unconsolidated subsidiaries, structured finance, special purpose entities or variable interest entities.

Critical Accounting Policies and Significant Judgments and Estimates

This management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenue and expenses during the reported period. In accordance with U.S. GAAP, we base our estimates on historical experience and on various other assumptions we believe to be reasonable under the circumstances. Actual results may differ from these estimates if conditions differ from our assumptions.

While our significant accounting policies are more fully described in Note 2 in the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K, we believe the following accounting policies are critical to the process of making significant judgments and estimates in preparation of our consolidated financial statements.

Revenue Recognition, Accounts Receivable and Allowance for Doubtful Accounts

On January 1, 2018, we adopted Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* and the related amendments using the modified retrospective transition method and have concluded that doing so did not have a material impact on the amount and timing of either our revenue or costs. As part of our assessment, we completed reviews of our contracts and evaluated our costs, including costs of obtaining contracts with our university clients and costs associated with content development. Certain of these contract and content costs are capitalized under the new standard. The adoption of ASU 2014-09 did not have a material impact as of January 1, 2018, and no cumulative adjustment was recorded. Further, the amounts reported as of December 31, 2018 on our consolidated balance sheets and our results of operations for the year ended December 31, 2018 reported on our consolidated statements of operations and comprehensive loss would not have been materially different than under legacy U.S. GAAP (i.e., Topic 605).

We generate substantially all of our revenue from contractual arrangements, with either our university clients or students, to provide a comprehensive platform of tightly integrated technology and technology-enabled services that support our offerings.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The transaction price is determined based on the consideration to which we will be entitled in exchange for transferring services to the customer. To the extent the transaction price includes variable consideration, we estimate the amount of variable consideration that should be included in the transaction price utilizing the expected value method. Variable consideration is included in the transaction price if, in our judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Any estimates, including the effect of the constraint on variable consideration, are evaluated at each reporting period, and if necessary, we adjust our estimate of the overall transaction price. Revenue is then recognized over the remaining estimated period of performance using the cumulative catch-up method.

Our Graduate Program Segment derives revenue primarily from contractually specified percentages of the amounts our university clients receive from their students in 2U-enabled degree programs for tuition and fees, less credit card fees and other specified charges we have agreed to exclude in certain university contracts. Our contracts with university clients in this segment typically have terms of 10 to 15 years and have a single performance obligation, as the promises to provide a platform of tightly integrated technology and services that university clients need to attract, enroll, educate and support students are not distinct within the context of the contracts. The single performance obligation is delivered as the university clients receive and consume benefits, which occurs ratably over a series of academic terms. The amounts received from university clients over the term of the arrangement are variable in nature in that they are dependent upon the number of students that are enrolled in the program within each academic term. These amounts are allocated to and are recognized ratably over the related academic term, defined as the period beginning on the first day of classes through the last. Revenue is recognized net of an allowance, which is established for our expected obligation to refund tuition and fees to university clients.

Our Alternative Credential Segment derives revenue primarily from contracts with students for the tuition and fees paid to enroll in, and progress through, our short courses and boot camps. Our short courses run between six and 16 weeks, while boot camps run between 12 and 24 weeks. In this segment, our contracts with students include the delivery of the educational and related student support services and are treated as either a single performance obligation or multiple performance obligations, depending upon the offering being delivered. All performance obligations are satisfied ratably over the same presentation period, which is defined as the period beginning on the first day of the course through the last. We recognize the proceeds received, net of any applicable pricing concessions, from the students enrolled and share contractually specified amounts received from students with the associated university client, in exchange for licenses to use the university brand name and other university trademarks. These amounts are recognized as curriculum and teaching costs on our consolidated statements of operations and comprehensive loss. Our contracts with university clients in this segment are typically shorter and less restrictive than our contracts with university clients in our Graduate Program Segment.

We do not disclose the value of unsatisfied performance obligations for our Graduate Program Segment because the variable consideration is allocated entirely to a wholly unsatisfied promise to transfer a service that forms part of a single performance obligation. We do not disclose the value of unsatisfied performance obligations for our Alternative Credential Segment because the performance obligations are part of contracts that have original durations of less than one year.

Contract Acquisition Costs

We pay commissions to certain of our employees to obtain contracts with university clients in our Graduate Program Segment. These costs are capitalized and recorded on a contract-by-contract basis and amortized using the straight-line method over the expected life, which is generally the length of the contract.

With respect to contract acquisition costs in our Alternative Credential Segment, we have elected to apply the practical expedient in ASC Topic 606 to expense these costs as incurred, as the terms of contracts with students in this segment are less than one year.

Payments to University Clients

Pursuant to certain of our contracts in the Graduate Program Segment, we have made, or are obligated to make, payments to university clients at either execution of a contract or at the extension of a contract in exchange for various marketing and other rights. Generally, these amounts are capitalized and amortized as contra revenue over the life of the contract, commencing on the later of when payment is due or when contract revenue recognition begins.

Accounts Receivable, Contract Assets and Liabilities

Balance sheet items related to contracts consist of accounts receivable, net and deferred revenue on our consolidated balance sheets. Included in accounts receivable, net are trade accounts receivable, which are comprised of billed and unbilled revenue. Accounts receivable, net is stated at net realizable value, and we utilize the allowance method to provide for doubtful accounts based on management's evaluation of the collectability of the amounts due. Our estimates are reviewed and revised periodically based on historical collection experience and a review of the current status of accounts receivable, net. Historically, actual write-offs for uncollectible accounts have not significantly differed from prior estimates. We recognize unbilled revenue when revenue recognition occurs in advance of billings. Unbilled revenue is recognized in our Graduate Program Segment because billings to university clients do not occur until after the academic term has commenced and final enrollment information is available. Unbilled accounts receivable is recognized in the Alternative Credential Segment once the presentation period commences for amounts to be invoiced to students under installment plans that are paid over the same presentation period. Our company's unbilled revenue and accounts receivable represent contract assets.

Deferred revenue represents the excess of amounts billed or received as compared to amounts recognized in revenue on our consolidated statements of operations and comprehensive loss as of the end of the reporting period, and such amounts are reflected as a current liability on our consolidated balance sheets. We generally receive payments for our share of tuition and fees from degree program university clients early in each academic term and from short course and boot camp students, either in full upon registration for the course or in full before the end of the course based on a payment plan, prior to completion of the service period. These payments are recorded as deferred revenue until the services are delivered or until our obligations are otherwise met, at which time revenue is recognized.

Long-Lived Assets

Amortizable Intangible Assets

Acquired Intangible Assets. We capitalize purchased intangible assets, such as software, websites and domains, and amortize them on a straight-line basis over their estimated useful life. Historically, we have assessed the useful lives of these acquired intangible assets to be between three and ten years.

Capitalized Technology. Capitalized technology includes certain purchased software and technology licenses, direct third-party costs, and internal payroll and payroll-related costs used in the creation of our internal-use software. Software development projects generally include three stages: the preliminary project stage (all costs are expensed as incurred), the application development stage (certain costs are capitalized and certain costs are expensed as incurred) and the post-implementation/operation stage (all costs are expensed as incurred). Costs capitalized in the application development stage include costs of designing the application, coding, integrating our and the university's networks and systems, and the testing of the software. Capitalization of costs requires judgment in determining when a project has reached the application development stage and the period over which we expect to benefit from the use of that software. Once the software is placed in service, these costs are amortized using the straight-line method over the estimated useful life of the software, which is generally three to five years.

Capitalized Content Development. We develop content for each offering on a course-by-course basis in collaboration with university client faculty and industry experts. Depending upon the offering, we may use materials provided by university clients and their faculty, including curricula, case studies, presentations and other reading materials. We are responsible for the creation of materials suitable for delivery through our learning platform, including all expenses associated with this effort. With respect to the Graduate Program Segment, the development of content is part of our single performance obligation and is considered a contract fulfillment cost.

The content development costs that qualify for capitalization are third-party direct costs, such as videography, editing and other services associated with creating digital content. Additionally, we capitalize internal payroll and payroll-related costs incurred to create and produce videos and other digital content utilized in the university clients' offerings for delivery via our online learning platform. Capitalization ends when content has been fully developed by both us and the university client, at which time amortization of the capitalized content development costs begins. The capitalized costs for each offering are recorded on a course-by-course basis and included in capitalized content costs in amortizable intangible assets, net on our consolidated balance sheets. These costs are amortized using the straight-line method over the estimated useful life of the respective course, which is generally four to five years. The estimated useful life corresponds with the planned curriculum refresh rate. This refresh rate is consistent with expected curriculum refresh rates as cited by faculty members for similar on-campus offerings.

Evaluation of Long-Lived Assets

We review long-lived assets, which consist of property and equipment, capitalized technology costs, capitalized content development costs and acquired finite-lived intangible assets, for impairment whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. In order to assess the recoverability of the capitalized technology and content development costs, the costs are grouped by the lowest level of independent cash flows. Recoverability of a long-lived asset is measured by a comparison of the carrying value of an asset or asset group to the future undiscounted net cash flows expected to be generated by that asset or asset group. If such assets are not recoverable, the impairment to be recognized is measured by the amount by which the carrying value of an asset exceeds the estimated fair value (discounted cash flow) of the asset or asset group. Our impairment analysis is based upon cumulative results and forecasted performance.

Goodwill

Goodwill is the excess of purchase price over the fair value of identified net assets of businesses acquired. Our goodwill balance relates to the acquisitions of GetSmarter in July 2017 and Trilogy in May 2019. We review goodwill at least annually, as of October 1. Between annual tests, goodwill is reviewed for possible impairment if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value. We test our goodwill at the reporting unit level, which is an operating segment or one level below an operating segment. We initially assess qualitative factors to determine if it is necessary to perform a quantitative goodwill impairment review. We review goodwill for impairment using a quantitative approach if we decide to bypass the qualitative assessment or determine that it is more likely than not that the fair value of a reporting unit is less than its carrying value based on a qualitative assessment. Upon completion of a quantitative assessment, we may be required to recognize an impairment based on the difference between the carrying value and the fair value of the reporting unit.

We determine the fair value of a reporting unit by utilizing a weighted combination of the income-based and market-based approaches.

The income-based approach requires us to make significant assumptions and estimates. These assumptions and estimates primarily include, but are not limited to, the selection of appropriate peer group companies, discount rates, terminal growth rates, and forecasts of revenue, operating income, depreciation and amortization expense, capital expenditures and future working capital requirements. When determining these assumptions and preparing these estimates, we consider each reporting unit's historical results and current operating trends, revenue, profitability, cash flow results and forecasts, and industry trends. These estimates can be affected by a number of factors including, but not limited to, general economic and regulatory conditions, market capitalization, the continued efforts of competitors to gain market share and prospective student enrollment patterns.

In addition, the value of a reporting unit using the market-based approach is estimated by comparing the reporting unit to other publicly-traded companies and/or to publicly-disclosed business mergers and acquisitions in similar lines of business. The value of a reporting unit is based on pricing multiples of certain financial parameters observed in the comparable companies. We also make estimates and assumptions for market values to determine a reporting unit's estimated fair value.

In the third quarter of 2019, we recorded an impairment charge of \$70.4 million on the consolidated statement of operations and comprehensive loss. Other than the reporting unit impaired in the third quarter of 2019, we had no reporting units whose estimated fair value exceeded their carrying value by less than 10% as of October 1, 2019, the date of our annual goodwill impairment assessment. It is possible that future changes in our circumstances, or in the variables associated with the judgments, assumptions and estimates used in assessing the fair value of our reporting units, could require us to record additional impairment charges in the future.

Recent Accounting Pronouncements

Refer to Note 2 in the "Notes to Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K for a discussion of FASB's recent accounting pronouncements and their effect on us.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market risk is the risk of loss to future earnings, values or future cash flows that may result from changes in the price of a financial instrument. The value of a financial instrument may change as a result of changes in interest rates, exchange rates, commodity prices, equity prices and other market changes. Our exposure to market risk related to changes in foreign currency exchange rates is deemed moderate as further described below. In addition, we do not use derivative financial instruments for speculative, hedging or trading purposes, although in the future we may enter into exchange rate hedging arrangements to manage the risks described in the succeeding paragraphs.

Interest Rate Risk

We are subject to interest rate risk in connection with borrowings under our Credit Agreement that provides for a \$250 million Term Loan that matures in May 2024. The Term Loan currently bears interest, at our option, at variable rates based on (i) a customary alternative base rate (with a floor of 2.00%) plus an applicable margin of 5.75% or (ii) an adjusted LIBOR rate (with a floor of 1.00%) for the interest period relevant to such borrowing plus an applicable margin of 6.75%. Increases in our lender's customary alternative base rate or LIBOR would increase the amount of interest payable on any borrowings outstanding under this Term Loan. As of December 31, 2019, the Term Loan had an outstanding balance of \$250 million.

Foreign Currency Exchange Risk

We transact material business in foreign currencies and are exposed to risks resulting from fluctuations in foreign currency exchange rates. Our primary exposures are related to non-U.S. dollar denominated revenue and operating expenses in South Africa and the United Kingdom. Accounts relating to foreign operations are translated into U.S. dollars using prevailing exchange rates at the relevant period end. As a result, we would experience increased revenue and operating expenses in our non-U.S. operations if there were a decline in the value of the U.S. dollar relative to these foreign currencies. Conversely, we would experience decreased revenue and operating expenses in our non-U.S. operations if there were an increase in the value of the U.S. dollar relative to these foreign currencies. Translation adjustments are included as a separate component of stockholders' equity.

For the years ended December 31, 2019 and 2018, our foreign currency translation adjustment was a gain of \$1.7 million and a loss of \$13.8 million, respectively. For the years ended December 31, 2019 and 2018, we recognized foreign currency exchange losses of \$0.7 million and \$1.7 million respectively, included on our consolidated statements of operations and comprehensive loss.

The foreign exchange rate volatility of the trailing 12 months ended December 31, 2019 was 10% and 7% for the South African rand and British pound, respectively. The foreign exchange rate volatility of the trailing 12 months ended December 31, 2018 was 13% and 6% for the South African rand and British pound, respectively. A 10% fluctuation of foreign currency exchange rates would have had an immaterial effect on our results of operations and cash flows for all periods presented. The fluctuations of currencies in which we conduct business can both increase and decrease our overall revenue and expenses for any given fiscal period. Such volatility, even when it increases our revenue or decreases our expense, impacts our ability to accurately predict our future results and earnings.

Inflation

We do not currently believe that inflation has had a material effect on our business, financial condition or results of operations, though we continue to monitor costs we incur in higher inflationary economies. Additionally, we continue to monitor all inflation-driven costs, regardless of where they are incurred. If our costs were to become subject to significant inflationary pressures, the price increases implemented by our university clients and our own pricing strategies might not fully offset the higher costs, which could harm our business, financial condition and results of operations.

Item 8. Financial Statements and Supplementary Data

**2U, Inc.
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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
2U, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of 2U, Inc. and subsidiaries (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations and comprehensive loss, changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes and financial statement Schedule II —Valuation and Qualifying Accounts (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 27, 2020 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Changes in Accounting Principles

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for revenue as of January 1, 2018 due to the adoption of Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 606, *Revenue from Contracts with Customers*.

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for leases as of January 1, 2019 due to the adoption of Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 842, *Leases*.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of capitalized technology costs incurred on software development projects

As discussed in Notes 2 and 5 to the consolidated financial statements, the Company's capitalized technology includes certain purchased software and technology licenses, direct third party costs, and internal payroll and payroll-related costs used in the creation of internal-use software. The Company's capitalized technology costs, net of

accumulated amortization, was \$101.6 million as of December 31, 2019. The Company invested \$64.9 million in additions to amortizable intangible assets during the year ended December 31, 2019, a portion of which related to internal-use software development projects.

We identified the assessment of capitalized technology costs incurred on software development projects as a critical audit matter. Specifically, assessing if the costs incurred on the software development project have met the capitalization criteria required a higher degree of auditor judgment. This included applying procedures to determine that the costs related to a project that had entered the application development stage, resulted in additional functionality, and for which it was probable that the project would be completed and used to perform the function intended. Evaluating these criteria required the assessment of the technical aspects of each individual project to which the capitalized costs are related.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's capitalized technology process, including those that address the determination that a software development project has reached the application development stage, results in additional functionality, and it was probable that the project would be completed and used for the function intended. For certain software development projects, we inspected the Company's documentation to support the determination that the project had reached the application development stage, resulted in additional functionality, and it was probable that the project would be completed and used for the function intended. For those projects, we evaluated the Company's documentation through direct inquiry with certain of the Company's technology developers responsible for performing the software development activities.

Evaluation of acquisition-date fair value of acquired intangible asset

As discussed in Notes 2 and 3 to the consolidated financial statements, on May 22, 2019, the Company acquired Trilogy Education Services, Inc. (Trilogy) in a business combination. As a result of the transaction, the Company acquired a university client relationships intangible asset. The acquisition-date fair value for the intangible asset was \$84.2 million.

We identified the evaluation of the initial measurement of the university client relationships intangible asset acquired in the Trilogy transaction as a critical audit matter. There was a high degree of subjectivity in evaluating the discounted cash flows used to measure the acquisition-date fair value of the intangible asset. In addition, the discounted cash flow model included the following internally-developed assumptions for which there was limited observable market information, and the measurement of the fair value of the intangible asset was sensitive to possible changes to these assumptions:

- forecasted revenue growth attributable to university client contracts;
- forecasted margins on earnings before interest, taxes, depreciation, and amortization (EBITDA margins); and
- estimated discount rate.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's acquisition-date valuation process to develop the assumptions, as listed above. We evaluated the Company's forecasted revenue growth rates relating to existing university client relationships by comparing forecasted revenue growth assumptions to those of the Company's peers. We compared the Company's estimate of forecasted revenue growth and EBITDA margins to Trilogy's historical actual results. In addition, we involved valuation professionals with specialized skills and knowledge, who assisted in:

- evaluating the Company's discount rate by comparing it against a discount rate that was independently developed using publicly available third-party market data for comparable entities; and
- developing an estimate of the university client relationships intangible asset fair value using the forecasted cash flows and the independently developed discount rate, and comparing the results of our estimate of fair value to the Company's fair value estimate.

Evaluation of goodwill impairment analysis of the boot camp reporting unit

As discussed in Notes 2 and 5 to the consolidated financial statements, the goodwill balance as of December 31, 2019 was \$418 million, a substantial portion of which relates to the Company's boot camp reporting unit. The Company determined that the carrying value of its boot camp reporting unit exceeded its fair value, resulting in an

impairment charge of \$70.4 million. The Company used a weighted combination of the income-based and market-based approaches to determine the fair value of the boot camp reporting unit.

We identified the evaluation of the goodwill impairment analysis of the boot camp reporting unit as a critical audit matter. A high degree of subjectivity was required to evaluate the forecasted reporting unit cash flow and discount rate assumptions used in the income-based estimation methodology. Changes to these assumptions could have a substantial impact on the fair value of the boot camp reporting unit and the amount of the impairment charge.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's goodwill impairment analysis process, including controls related to the forecasted reporting unit cash flow and the development of the discount rate assumptions. We performed sensitivity analyses to assess the impact of reasonably possible changes to forecasted cash flow and discount rate assumptions on the reporting unit fair value. We evaluated the Company's forecasted revenue growth rates included in the forecasted reporting unit cash flows by comparing to those of the Company's peers. We compared the Company's forecasted reporting unit cash flows to historical actual results. In addition, we involved a valuation professional with specialized skills and knowledge, who assisted in:

- evaluating the Company's discount rate by comparing it against a discount rate that was independently developed using publicly available third-party market data for comparable entities; and
- developing an estimate of the boot camp reporting unit's fair value using the reporting unit's cash flow forecast and the independently developed discount rate, and comparing the results of our estimate of fair value to the Company's fair value estimate.

/s/ KPMG LLP

We have served as the Company's auditor since 2013.

McLean, Virginia
February 27, 2020

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
2U, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited 2U, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, and the related consolidated statements of operations and comprehensive loss, changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and related notes and financial statement Schedule II—Valuation and Qualifying Accounts (collectively, the consolidated financial statements), and our report dated February 27, 2020 expressed an unqualified opinion on those consolidated financial statements.

The Company acquired Trilogy Education Services, Inc. (Trilogy) on May 22, 2019, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, Trilogy's internal control over financial reporting associated with 4.1% of total assets and 12.9% of total revenues included in the consolidated financial statements of the Company as of and for the year ended December 31, 2019. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of Trilogy.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

McLean, Virginia
February 27, 2020

2U, Inc.
Consolidated Balance Sheets
(in thousands, except share and per share amounts)

	December 31, 2019	December 31, 2018
Assets		
Current assets		
Cash and cash equivalents	\$ 170,593	\$ 449,772
Restricted cash	19,276	—
Investments	—	25,000
Accounts receivable, net	33,655	32,636
Prepaid expenses and other assets	37,424	14,272
Total current assets	260,948	521,680
Property and equipment, net	57,643	52,299
Right-of-use assets	43,401	—
Goodwill	418,350	61,852
Amortizable intangible assets, net	333,075	136,605
University payments and other assets, non-current	73,413	34,918
Total assets	<u>\$ 1,186,830</u>	<u>\$ 807,354</u>
Liabilities and stockholders' equity		
Current liabilities		
Accounts payable and accrued expenses	\$ 65,381	\$ 27,647
Accrued compensation and related benefits	21,885	23,001
Deferred revenue	48,833	8,345
Lease liability	7,320	—
Other current liabilities	12,535	9,487
Total current liabilities	155,954	68,480
Long-term debt	246,620	3,500
Deferred tax liabilities, net	5,133	6,949
Lease liability, non-current	66,974	—
Other liabilities, non-current	899	23,416
Total liabilities	<u>475,580</u>	<u>102,345</u>
Commitments and contingencies (Note 7)		
Stockholders' equity		
Preferred stock, \$0.001 par value, 5,000,000 shares authorized, none issued	—	—
Common stock, \$0.001 par value, 200,000,000 shares authorized, 63,569,109 shares issued and outstanding as of December 31, 2019; 57,968,493 shares issued and outstanding as of December 31, 2018	63	58
Additional paid-in capital	1,197,379	957,631
Accumulated deficit	(479,388)	(244,166)
Accumulated other comprehensive loss	(6,804)	(8,514)
Total stockholders' equity	<u>711,250</u>	<u>705,009</u>
Total liabilities and stockholders' equity	<u>\$ 1,186,830</u>	<u>\$ 807,354</u>

See accompanying notes to consolidated financial statements.

2U, Inc.
Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except share and per share amounts)

	Year Ended December 31,		
	2019	2018	2017
Revenue	\$ 574,671	\$ 411,769	\$ 286,752
Costs and expenses			
Curriculum and teaching	63,270	23,290	6,609
Servicing and support	98,890	67,203	50,767
Technology and content development	115,473	63,812	45,926
Marketing and sales	342,395	221,015	150,923
General and administrative	131,020	82,989	62,665
Impairment charge	70,379	—	—
Total costs and expenses	<u>821,427</u>	<u>458,309</u>	<u>316,890</u>
Loss from operations	(246,756)	(46,540)	(30,138)
Interest income	5,800	5,173	371
Interest expense	(13,419)	(108)	(87)
Other expense, net	(707)	(1,722)	(866)
Loss before income taxes	(255,082)	(43,197)	(30,720)
Income tax benefit	19,860	4,867	1,297
Net loss	\$ (235,222)	\$ (38,330)	\$ (29,423)
Net loss per share, basic and diluted	\$ (3.83)	\$ (0.69)	\$ (0.60)
Weighted-average shares of common stock outstanding, basic and diluted	<u>61,393,666</u>	<u>55,833,492</u>	<u>49,062,611</u>
Other comprehensive income (loss)			
Foreign currency translation adjustments, net of tax of \$0 for all periods presented	1,710	(13,840)	5,326
Comprehensive loss	<u>\$ (233,512)</u>	<u>\$ (52,170)</u>	<u>\$ (24,097)</u>

See accompanying notes to consolidated financial statements.

2U, Inc.
Consolidated Statements of Changes in Stockholders' Equity
(in thousands, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Amount				
Balance, December 31, 2016	47,151,635	\$ 47	\$ 371,455	\$ (176,265)	\$ —	\$ 195,237
Cumulative-effect of accounting change	—	—	148	(148)	—	—
Balance, December 31, 2016, adjusted	47,151,635	47	371,603	(176,413)	—	195,237
Issuance of common stock in connection with a public offering of common stock, net of offering costs	4,047,500	4	189,452	—	—	189,456
Issuance of common stock in connection with settlement of restricted stock units, net of withholdings	459,900	1	(1,310)	—	—	(1,309)
Exercise of stock options	846,821	1	6,614	—	—	6,615
Stock-based compensation expense	—	—	21,930	—	—	21,930
Net loss	—	—	—	(29,423)	—	(29,423)
Foreign currency translation adjustment	—	—	—	—	5,326	5,326
Balance, December 31, 2017	<u>52,505,856</u>	<u>53</u>	<u>588,289</u>	<u>(205,836)</u>	<u>5,326</u>	<u>387,832</u>
Issuance of common stock in connection with a public offering of common stock, net of offering costs	3,833,334	4	330,897	—	—	330,901
Issuance of common stock in connection with settlement of restricted stock units, net of withholdings	553,159	—	(3,451)	—	—	(3,451)
Exercise of stock options	1,012,473	1	7,365	—	—	7,366
Issuance of common stock in connection with employee stock purchase plan	63,671	—	3,121	—	—	3,121
Stock-based compensation expense	—	—	31,410	—	—	31,410
Net loss	—	—	—	(38,330)	—	(38,330)
Foreign currency translation adjustment	—	—	—	—	(13,840)	(13,840)
Balance, December 31, 2018	<u>57,968,493</u>	<u>58</u>	<u>957,631</u>	<u>(244,166)</u>	<u>(8,514)</u>	<u>705,009</u>
Issuance of common stock in connection with business combination, net of offering costs	4,608,101	5	184,317	—	—	184,322
Issuance of common stock in connection with settlement of restricted stock units, net of withholdings	502,795	—	(2,574)	—	—	(2,574)
Exercise of stock options	361,134	—	3,119	—	—	3,119
Issuance of common stock in connection with employee stock purchase plan	123,365	—	3,382	—	—	3,382
Issuance of common stock award	5,221	—	—	—	—	—
Stock-based compensation expense	—	—	51,504	—	—	51,504
Net loss	—	—	—	(235,222)	—	(235,222)
Foreign currency translation adjustment	—	—	—	—	1,710	1,710
Balance, December 31, 2019	<u>63,569,109</u>	<u>\$ 63</u>	<u>\$ 1,197,379</u>	<u>\$ (479,388)</u>	<u>\$ (6,804)</u>	<u>\$ 711,250</u>

See accompanying notes to consolidated financial statements.

2U, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities			
Net loss	\$ (235,222)	\$ (38,330)	\$ (29,423)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:			
Depreciation and amortization expense	69,843	32,785	19,624
Stock-based compensation expense	51,504	31,410	21,930
Non-cash lease expense	11,725	—	—
Bad debt expense	1,425	—	—
Impairment charge	70,379	—	—
Changes in operating assets and liabilities, net of assets and liabilities acquired:			
Accounts receivable, net	11,949	(18,497)	(5,634)
Payments to university clients	(21,675)	(11,322)	(13,239)
Prepaid expenses and other assets	(6,845)	(4,932)	1,549
Accounts payable and accrued expenses	17,081	4,724	3,504
Accrued compensation and related benefits	(5,539)	4,046	2,504
Deferred revenue	10,014	1,527	1,661
Other liabilities, net	(28,595)	(6,243)	4,763
Other	1,982	1,712	867
Net cash (used in) provided by operating activities	(51,974)	(3,120)	8,106
Cash flows from investing activities			
Purchase of a business, net of cash acquired	(388,004)	—	(97,102)
Additions of amortizable intangible assets	(64,923)	(65,190)	(23,823)
Purchases of property and equipment	(13,421)	(11,996)	(27,316)
Purchase of investments	(10,000)	(25,000)	—
Proceeds from maturities of investments	25,000	—	—
Advances made to university clients	(400)	(300)	(1,950)
Advances repaid by university clients	350	25	817
Net cash used in investing activities	(451,398)	(102,461)	(149,374)
Cash flows from financing activities			
Proceeds from issuance of common stock, net of offering costs	—	330,901	189,463
Proceeds from debt	244,724	—	3,500
Payments on debt	—	—	(1,517)
Payment of debt issuance costs	(1,953)	—	—
Tax withholding payments associated with settlement of restricted stock units	(2,574)	(3,451)	(1,309)
Proceeds from exercise of stock options	3,119	7,366	6,615
Proceeds from employee stock purchase plan share purchases	3,382	3,121	—
Payments for acquisition of amortizable intangible assets	(2,180)	(4,900)	—
Net cash provided by financing activities	244,518	333,037	196,752
Effect of exchange rate changes on cash	(1,049)	(1,054)	(844)
Net (decrease) increase in cash, cash equivalents and restricted cash	(259,903)	226,402	54,640
Cash, cash equivalents and restricted cash, beginning of period	449,772	223,370	168,730
Cash, cash equivalents and restricted cash, end of period	\$ 189,869	\$ 449,772	\$ 223,370

See accompanying notes to consolidated financial statements.

2U, Inc.
Notes to Consolidated Financial Statements

1. Organization

2U, Inc. (together with its subsidiaries, the “Company”) is a leading provider of education technology for nonprofit colleges and universities. The Company builds, delivers, and supports more than 400 digital and in-person educational offerings, including graduate degrees, undergraduate degrees, professional certificates, boot camps, and short courses, across the career curriculum continuum.

The Company has two reportable segments: the Graduate Program Segment and the Alternative Credential Segment (formerly known as the Short Course Segment). The Company’s Graduate Program Segment includes the technology and services provided to nonprofit colleges and universities to enable the online delivery of degree programs. Students enrolled in these programs are generally seeking an undergraduate or graduate degree of the same quality they would receive on campus. The Company’s Alternative Credential Segment includes the premium online short courses and technical, skills-based boot camps provided through relationships with nonprofit colleges and universities. Students enrolled in these offerings are generally working professionals seeking career advancement through skills attainment.

On May 22, 2019, the Company completed its acquisition of Trilogy Education Services, Inc. (“Trilogy”), a workforce accelerator that prepares adult learners for high-growth careers in the digital economy through its boot camp offerings. The acquisition expanded the Company’s university client portfolio and added another offering on the career curriculum continuum to make education more accessible for lifelong learners. The results of Trilogy’s operations are included in the Alternative Credential Segment. Refer to Note 3 for further information about the acquisition of Trilogy.

2. Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries and have been prepared in accordance with United States generally accepted accounting principles (“U.S. GAAP”) and include the assets, liabilities, results of operations and cash flows of the Company. All significant intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in accordance with U.S. GAAP requires management to make certain estimates and assumptions that affect the amounts reported herein. The Company bases its estimates and assumptions on historical experience and on various other factors that it believes to be reasonable under the circumstances. Significant estimates and assumptions are inherent in the analysis and the measurement of acquired intangible assets, the recoverability of goodwill and deferred tax assets. Due to the inherent uncertainty involved in making estimates, actual results reported in future periods may be affected by changes in those estimates. The Company evaluates its estimates and assumptions on an ongoing basis.

Revenue Recognition, Accounts Receivable and Allowance for Doubtful Accounts

On January 1, 2018, the Company adopted Accounting Standards Update (“ASU”) No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* and the related amendments using the modified retrospective transition method and has concluded that doing so did not have a material impact on the amount and timing of either its revenue or costs. As part of its assessment, the Company completed reviews of its contracts and evaluated its costs, including costs of obtaining contracts with its university clients and costs associated with content development. Certain of these contract and content costs are capitalized under the new standard. The adoption of ASU 2014-09 did not have a material impact as of January 1, 2018, and no cumulative adjustment was recorded. Further, the amounts reported as of December 31, 2018 on the consolidated balance sheets and the results of operations for the year ended December 31, 2018 reported on the consolidated statements of operations and comprehensive loss would not have been materially different than under legacy U.S. GAAP (i.e., Topic 605).

The Company generates substantially all of its revenue from contractual arrangements, with either its university clients or students, to provide a comprehensive platform of tightly integrated technology and technology-enabled services that support its offerings.

Performance Obligations

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The transaction price is determined based on the consideration to which the Company will be entitled in exchange for transferring services to the customer. To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price utilizing the expected value method. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Any estimates, including the effect of the constraint on variable consideration, are evaluated at each reporting period, and if necessary, the Company adjusts its estimate of the overall transaction price. Revenue is then recognized over the remaining estimated period of performance using the cumulative catch-up method.

The Graduate Program Segment derives revenue primarily from contractually specified percentages of the amounts the Company's university clients receive from their students in 2U-enabled degree programs for tuition and fees, less credit card fees and other specified charges the Company has agreed to exclude in certain university contracts. The Company's contracts with university clients in this segment typically have terms of 10 to 15 years and have a single performance obligation, as the promises to provide a platform of tightly integrated technology and services that university clients need to attract, enroll, educate and support students are not distinct within the context of the contracts. The single performance obligation is delivered as the university clients receive and consume benefits, which occurs ratably over a series of academic terms. The amounts received from university clients over the term of the arrangement are variable in nature in that they are dependent upon the number of students that are enrolled in the program within each academic term. These amounts are allocated to and are recognized ratably over the related academic term, defined as the period beginning on the first day of classes through the last. Revenue is recognized net of an allowance, which is established for the Company's expected obligation to refund tuition and fees to university clients.

The Alternative Credential Segment derives revenue primarily from contracts with students for the tuition and fees paid to enroll in, and progress through, the Company's short courses and boot camps. The Company's short courses run between six and 16 weeks, while boot camps run between 12 and 24 weeks. In this segment, the Company's contracts with students include the delivery of the educational and related student support services and are treated as either a single performance obligation or multiple performance obligations, depending upon the offering being delivered. All performance obligations are satisfied ratably over the same presentation period, which is defined as the period beginning on the first day of the course through the last. The Company recognizes the proceeds received, net of any applicable pricing concessions, from the students enrolled and shares contractually specified amounts received from students with the associated university client, in exchange for licenses to use the university brand name and other university trademarks. These amounts are recognized as curriculum and teaching costs on the Company's consolidated statements of operations and comprehensive loss. The Company's contracts with university clients in this segment are typically shorter and less restrictive than the Company's contracts with university clients in the Graduate Program Segment.

The Company does not disclose the value of unsatisfied performance obligations for the Graduate Program Segment because the variable consideration is allocated entirely to a wholly unsatisfied promise to transfer a service that forms part of a single performance obligation. The Company does not disclose the value of unsatisfied performance obligations for the Alternative Credential Segment because the performance obligations are part of contracts that have original durations of less than one year.

Contract Acquisition Costs

The Company pays commissions to certain of its employees to obtain contracts with university clients in the Graduate Program Segment. These costs are capitalized and recorded on a contract-by-contract basis and amortized using the straight-line method over the expected life, which is generally the length of the contract.

With respect to contract acquisition costs in the Alternative Credential Segment, the Company has elected to apply the practical expedient in ASC Topic 606 to expense these costs as incurred, as the terms of contracts with students in this segment are less than one year.

Payments to University Clients

Pursuant to certain of the Company's contracts in the Graduate Program Segment, the Company has made, or is obligated to make, payments to university clients at either execution of a contract or at the extension of a contract in exchange

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

for various marketing and other rights. Generally, these amounts are capitalized and amortized as contra revenue over the life of the contract, commencing on the later of when payment is due or when contract revenue recognition begins.

Accounts Receivable, Contract Assets and Liabilities

Balance sheet items related to contracts consist of accounts receivable, net and deferred revenue on the Company's consolidated balance sheets. Included in accounts receivable, net are trade accounts receivable, which are comprised of billed and unbilled revenue. Accounts receivable, net is stated at net realizable value, and the Company utilizes the allowance method to provide for doubtful accounts based on management's evaluation of the collectability of the amounts due. The Company's estimates are reviewed and revised periodically based on historical collection experience and a review of the current status of accounts receivable, net. Historically, actual write-offs for uncollectible accounts have not significantly differed from prior estimates. The Company recognizes unbilled revenue when revenue recognition occurs in advance of billings. Unbilled revenue is recognized in the Graduate Program Segment because billings to university clients do not occur until after the academic term has commenced and final enrollment information is available. Unbilled accounts receivable is recognized in the Alternative Credential segment once the presentation period commences for accounts to be invoiced to students under installment plans that are paid over the same presentation period. The Company's unbilled revenue and accounts receivable represent contract assets.

Deferred revenue represents the excess of amounts billed or received as compared to amounts recognized in revenue on the consolidated statements of operations and comprehensive loss as of the end of the reporting period, and such amounts are reflected as a current liability on the Company's consolidated balance sheets. The Company generally receives payments for its share of tuition and fees from degree program university clients early in each academic term and from short course and boot camp students, either in full upon registration for the course or in full before the end of the course based on a payment plan, prior to completion of the service period. These payments are recorded as deferred revenue until the services are delivered or until the Company's obligations are otherwise met, at which time revenue is recognized.

Marketing and Sales Costs

The majority of the marketing and sales costs incurred by the Company are directly related to recruiting students for its university clients' degree programs, with lesser amounts related to recruiting students for its short courses and boot camps and marketing and advertising efforts related to the Company's own brand. For the years ended December 31, 2019, 2018 and 2017, costs related to the Company's marketing and advertising efforts of its own brand were not material. All such costs are expensed as incurred and reported in marketing and sales expense on the Company's consolidated statements of operations and comprehensive loss.

Stock-Based Compensation

The Company provides stock-based compensation awards consisting of restricted stock units ("RSUs"), performance restricted stock units ("PRSUs") and stock options to employees, independent contractors and directors. The Company measures all stock-based compensation awards at fair value as of the grant date. The fair values of RSUs and PRSUs containing performance-based vesting conditions are based on the fair value of the Company's stock. The Company uses a Monte Carlo model to estimate the fair value of PRSUs containing market-based vesting conditions and uses a Black-Scholes option pricing model to measure the fair value of stock option grants. The Company also provides for an employee stock purchase plan ("ESPP") and estimates the fair value of each purchase right thereunder as of the grant date using a Black-Scholes option pricing model.

For awards subject only to service-based vesting conditions, the Company recognizes stock-based compensation expense on a straight-line basis over the awards' requisite service period. For awards subject to both service and performance-based vesting conditions, the Company recognizes stock-based compensation expense using an accelerated recognition method when it is probable that the performance condition will be achieved. For awards subject to both service and market-based vesting conditions, the Company recognizes stock-based compensation expense using an accelerated recognition method over the requisite service period beginning with the date of the grant and ending upon completion of the service period, with stock-based compensation expense being recognized irrespective of the achievement of the market condition. For shares subject to the ESPP, the Company uses the straight-line method to record stock-based compensation expense over the respective offering period.

Prior to April 1, 2017, the Company estimated expected volatility based on the historical volatilities of comparable publicly-traded companies over the expected life of the award. Effective April 1, 2017, the Company began to estimate expected volatility based on the historical volatilities of the Company's common stock.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Refer to Note 12 for further information about the Company's stock-based compensation awards.

Income Taxes

Income taxes are accounted for under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that are included in the financial statements. Under this method, the deferred tax assets and liabilities are determined based on the differences between the financial statement and tax bases of the assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on the deferred tax assets and liabilities is recognized in earnings in the period when the new rate is enacted. Deferred tax assets are subject to periodic recoverability assessments. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount that more likely than not will be realized. The Company considers all positive and negative evidence relating to the realization of the deferred tax assets in assessing the need for a valuation allowance. The Company currently maintains a full valuation allowance against deferred tax assets in the U.S. and certain entities in the foreign jurisdictions.

The Company records a liability for unrecognized tax benefits resulting from uncertain tax positions taken or expected to be taken in a tax return. The Company accounts for uncertainty in income taxes using a two-step approach for evaluating tax positions. Step one, recognition, occurs when the Company concludes that a tax position, based solely on its technical merits, is more likely than not to be sustained upon examination. Step two, measurement, determines the amount of benefit that is more likely than not to be realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. De-recognition of a tax position that was previously recognized would occur if the Company subsequently determines that a tax position no longer meets the more likely than not threshold of being sustained. The Company recognizes interest and penalties, if any, related to unrecognized tax benefits as income tax expense on the consolidated statements of operations and comprehensive loss.

Cash and Cash Equivalents

Cash and cash equivalents consist of bank checking accounts, money market accounts, investments in certificates of deposit that have an original maturity of three months or less and highly liquid marketable securities with maturities at the time of purchase of three months or less.

Restricted Cash

The Company maintains restricted cash as collateral for standby letters of credit for the Company's leased facilities and in connection with the deferred government grant obligations.

Fair Value Measurements

The carrying amounts of certain assets and liabilities, including cash and cash equivalents, accounts receivable, advances to university clients, accounts payable and accrued expenses and other current liabilities, approximate their respective fair values due to their short-term nature.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, based on the Company's principal or, in the absence of a principal, most advantageous, market for the specific asset or liability.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

U.S. GAAP provides for a three-tier fair value hierarchy to classify and disclose all assets and liabilities measured at fair value on a recurring basis, as well as assets and liabilities measured at fair value on a non-recurring basis, in periods subsequent to their initial measurement. Generally, assets are recorded at fair value on a non-recurring basis as a result of impairment charges. The Company remeasures non-financial assets such as goodwill, intangible assets and other long-lived assets at fair value when there is an indicator of impairment, and records them at fair value only when recognizing an impairment loss. The fair value hierarchy requires the Company to use observable inputs when available, and to minimize the use of unobservable inputs when determining fair value. Refer to Notes 4 and 5 for further discussion of assets measured at fair value on a nonrecurring basis. The three tiers are defined as follows:

- *Level 1*—Observable inputs that reflect quoted market prices (unadjusted) for identical assets or liabilities in active markets;
- *Level 2*—Observable inputs, other than quoted prices in active markets, that are observable either directly or indirectly in the marketplace for identical or similar assets and liabilities; and
- *Level 3*—Unobservable inputs that are supported by little or no market data, which require the Company to develop its own assumptions about the assumptions market participants would use in pricing the asset or liability based on the best information available in the circumstances.

The Company has financial instruments, including cash deposits, accounts receivable, accounts payable and a senior secured term loan facility. The carrying values for such financial instruments, other than the senior secured term loan facility, each approximated their fair values as of December 31, 2019 and 2018.

Investments

The Company's investments within current assets on the consolidated balance sheets relate to certificates of deposit with original maturities between three months and one year. As of December 31, 2018, the Company had a \$25.0 million certificate of deposit included in investments that qualified as a Level 1 fair value measurement asset and was stated at cost, which approximated fair value. This certificate of deposit matured in the first quarter of 2019.

Advances to University Clients

The Company may periodically become contractually obligated to pay advances to certain of its university clients in order to fund start-up expenses of the program on behalf of the university client. Advances to university clients are stated at realizable value on the consolidated balance sheets, with the current portion recorded within prepaid expenses and other assets, and the non-current portion recorded within university payments and other assets, non-current. Advances are repaid to the Company on terms as required in the respective agreements. The Company recognizes imputed interest income on these advance payments when the related amount of imputed interest is deemed significant. For the years ended December 31, 2019, 2018 and 2017, the Company did not incur a material amount of imputed interest income.

Long-Lived Assets

Property and Equipment

Property and equipment is stated at cost less accumulated depreciation and amortization. Expenditures for major additions, construction and improvements are capitalized. Depreciation and amortization is expensed using the straight-line method over the estimated useful lives of the related assets, which range from three to five years for computer hardware and five to seven years for furniture and office equipment. Leasehold improvements are depreciated on a straight-line basis over the lesser of the remaining term of the leased facility or the estimated useful life of the improvement, which generally ranges from four to approximately 11 years. Useful lives of significant assets are periodically reviewed and adjusted prospectively to reflect the Company's current estimates of the respective assets' expected utility. Repair and maintenance costs are expensed as incurred.

Amortizable Intangible Assets

Acquired Intangible Assets. The Company capitalizes purchased intangible assets, such as software, websites and domains, and amortizes them on a straight-line basis over their estimated useful life. Historically, the Company has assessed the useful lives of these acquired intangible assets to be between three and ten years.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Capitalized Technology. Capitalized technology includes certain purchased software and technology licenses, direct third-party costs, and internal payroll and payroll-related costs used in the creation of our internal-use software. Software development projects generally include three stages: the preliminary project stage (all costs are expensed as incurred), the application development stage (certain costs are capitalized and certain costs are expensed as incurred) and the post-implementation/operation stage (all costs are expensed as incurred). Costs capitalized in the application development stage include costs of designing the application, coding, integrating the Company's and the university's networks and systems, and the testing of the software. Capitalization of costs requires judgment in determining when a project has reached the application development stage and the period over which the Company expects to benefit from the use of that software. Once the software is placed in service, these costs are amortized using the straight-line method over the estimated useful life of the software, which is generally three to five years.

Capitalized Content Development. The Company develops content for each offering on a course-by-course basis in collaboration with university client faculty and industry experts. Depending upon the offering, the Company may use materials provided by university clients and their faculty, including curricula, case studies, presentations and other reading materials. The Company is responsible for the creation of materials suitable for delivery through the Company's learning platform, including all expenses associated with this effort. With respect to the Graduate Program Segment, the development of content is part of the Company's single performance obligation and is considered a contract fulfillment cost.

The content development costs that qualify for capitalization are third-party direct costs, such as videography, editing and other services associated with creating digital content. Additionally, the Company capitalizes internal payroll and payroll-related costs incurred to create and produce videos and other digital content utilized in the university clients' offerings for delivery via the Company's online learning platform. Capitalization ends when content has been fully developed by both the Company and the university client, at which time amortization of the capitalized content development costs begins. The capitalized costs for each offering are recorded on a course-by-course basis and included in capitalized content costs in amortizable intangible assets, net on the Company's consolidated balance sheets. These costs are amortized using the straight-line method over the estimated useful life of the respective course, which is generally four to five years. The estimated useful life corresponds with the planned curriculum refresh rate. This refresh rate is consistent with expected curriculum refresh rates as cited by faculty members for similar on-campus offerings.

Evaluation of Long-Lived Assets

The Company reviews long-lived assets, which consist of property and equipment, capitalized technology costs, capitalized content development costs and acquired finite-lived intangible assets, for impairment whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. In order to assess the recoverability of the capitalized technology and content development costs, the costs are grouped by the lowest level of independent cash flows. Recoverability of a long-lived asset is measured by a comparison of the carrying value of an asset or asset group to the future undiscounted net cash flows expected to be generated by that asset or asset group. If such assets are not recoverable, the impairment to be recognized is measured by the amount by which the carrying value of an asset exceeds the estimated fair value (discounted cash flow) of the asset or asset group. The Company's impairment analysis is based upon cumulative results and forecasted performance.

Non-Cash Long-Lived Asset Additions

During the year ended December 31, 2019, the Company had capital asset additions of \$81.4 million in property and equipment and capitalized technology and content development, of which \$3.1 million consisted of non-cash capital expenditures, primarily related to landlord funded leasehold improvements. Due to extended payment terms associated with the timing of cash capital expenditures made more than 90 days after the date of purchase, an additional \$2.2 million was classified as cash flows from financing activities in the consolidated statement of cash flows for the year ended December 31, 2019.

During the year ended December 31, 2018, the Company had capital asset additions of \$87.4 million in property and equipment and capitalized technology and content development, of which \$5.3 million consisted of non-cash capital expenditures, primarily related to the acquisition of certain long-lived assets for which a liability was accrued. Due to extended payment terms associated with the timing of cash capital expenditures made more than 90 days after the date of purchase, an additional \$4.9 million was classified as cash flows from financing activities in the consolidated statement of cash flows for the year ended December 31, 2018.

Goodwill

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Goodwill is the excess of purchase price over the fair value of identified net assets of businesses acquired. The Company's goodwill balance relates to its acquisitions of GetSmarter in July 2017 and Trilogy in May 2019. The Company reviews goodwill at least annually, as of October 1. Between annual tests, goodwill is reviewed for possible impairment if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value. The Company tests goodwill at the reporting unit level, which is an operating segment or one level below an operating segment. The Company initially assesses qualitative factors to determine if it is necessary to perform a quantitative goodwill impairment review. The Company reviews goodwill for impairment using a quantitative approach if it decides to bypass the qualitative assessment or determines that it is more likely than not that the fair value of a reporting unit is less than its carrying value based on a qualitative assessment. Upon completion of a quantitative assessment, the Company may be required to recognize an impairment based on the difference between the carrying value and the fair value of the reporting unit.

The Company determines the fair value of a reporting unit by utilizing a weighted combination of the income-based and market-based approaches.

The income-based approach requires the Company to make significant assumptions and estimates. These assumptions and estimates primarily include, but are not limited to, the selection of appropriate peer group companies, discount rates, terminal growth rates, and forecasts of revenue, operating income, depreciation and amortization expense, capital expenditures and future working capital requirements. When determining these assumptions and preparing these estimates, the Company considers each reporting unit's historical results and current operating trends, revenue, profitability, cash flow results and forecasts, and industry trends. These estimates can be affected by a number of factors including, but not limited to, general economic and regulatory conditions, market capitalization, the continued efforts of competitors to gain market share and prospective student enrollment patterns.

In addition, the value of a reporting unit using the market-based approach is estimated by comparing the reporting unit to other publicly-traded companies and/or to publicly-disclosed business mergers and acquisitions in similar lines of business. The value of a reporting unit is based on pricing multiples of certain financial parameters observed in the comparable companies. The Company also makes estimates and assumptions for market values to determine a reporting unit's estimated fair value.

In the third quarter of 2019, the Company recorded an impairment charge of \$70.4 million on the consolidated statement of operations and comprehensive loss (see Note 5). Other than the reporting unit impaired in the third quarter of 2019, the Company had no reporting units whose estimated fair value exceeded their carrying value by less than 10% as of October 1, 2019, the date of the annual goodwill impairment assessment. It is possible that future changes in the Company's circumstances, or in the variables associated with the judgments, assumptions and estimates used in assessing the fair value of our reporting units, could require the Company to record additional impairment charges in the future.

Equity Interests

As of December 31, 2019, the Company had a \$10.0 million investment in an education technology company recorded within university payments and other assets, non-current on the consolidated balance sheet. This investment does not have a readily determinable fair value, and is accounted for as a cost method investment, which is subject to fair value remeasurement upon the occurrence of an observable event. As of December 31, 2019, there were no events that would require a change in the fair value of this investment.

Employee Benefits

The Company offers a variety of benefits to its employees (e.g., health care, gym memberships and tuition reimbursement). The Company accounts for costs related to providing employee benefits as incurred, unless there is a service requirement, in which case, such costs are recognized over the service commitment period.

Deferred Government Grant Obligations

Government grants awarded to the Company in the form of forgivable loans are recorded as "deferred government grant obligations" within long-term liabilities on the consolidated balance sheets until all contingencies are resolved and the grant is determined to be realized.

Debt Issuance Costs

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Debt issuance costs are incurred as a result of entering into certain borrowing transactions and are presented as a reduction from the carrying amount of the debt liability on the Company's consolidated balance sheets. Debt issuance costs are amortized over the term of the associated debt instrument. The amortization of debt issuance costs is included as a component of interest expense on the Company's consolidated statements of operations and comprehensive loss. If the Company extinguishes debt prior to the end of the underlying instrument's full term, some or all of the unamortized debt issuance costs may need to be written off, and a loss on extinguishment may need to be recognized. Refer to Note 9 for further information about the Company's debt.

Leases

For the Company's operating leases, an assessment is performed to determine if an arrangement is a lease at inception. Right-of-use ("ROU") assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease ROU assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As the information necessary to determine the rate implicit in the Company's leases is not readily available, the Company determines its incremental borrowing rate based on the information available at the lease commencement date in determining the present value of lease payments. The operating lease ROU asset also includes any prepaid lease payments made, less lease incentives. The Company's lease terms include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for lease payments is recognized on a straight-line basis over the lease term. The Company does not have any finance leases for any periods presented.

The Company has elected, as an accounting policy for its leases of real estate, to account for lease and non-lease components in a contract as a single lease component. In addition, the recognition requirements are not applied to leases with a term of 12 months or less. Rather, the lease payments for short-term leases are recognized on the consolidated statements of operations and comprehensive loss on a straight-line basis over the lease term.

Variable payments that depend on an index or a rate are initially measured using the index or rate at the lease commencement date. Such variable payments are included in the total lease payments when measuring the lease liabilities and ROU assets. The Company will only remeasure variable payments that depend on an index or a rate when the Company is remeasuring the lease liabilities due to any of the following occurring: (i) the lease is modified and the modification is not accounted for as a separate contract; (ii) a contingency, upon which some or all of the variable lease payments that will be paid over the remainder of the lease term are based, is resolved; (iii) there is a change in lease term; (iv) there is a change in the probability of exercising a purchase option; or (v) there is a change in the amount probable of being owed under residual value guarantees. Until the lease liabilities are remeasured due to one of the aforementioned events, additional payments for an increase in the index or rate will be recognized in the period in which they are incurred. Variable payments that do not depend on an index or a rate are excluded from the measurement of the lease liabilities and recognized in the consolidated statements of operations and comprehensive loss in the period in which the obligation for those payments is incurred.

Business Combinations

The purchase price of an acquisition is allocated to the assets acquired, including intangible assets, and liabilities assumed, based on their respective fair values at the acquisition date. Acquisition-related costs are expensed as incurred. The excess of the cost of an acquired entity, net of the amounts assigned to the assets acquired and liabilities assumed, is recognized as goodwill. The net assets and results of operations of an acquired entity are included on the Company's consolidated financial statements from the acquisition date.

Foreign Currency Translation

For the portion of the Company's non-U.S. business where the local currency is the functional currency, operating results are translated into U.S. dollars using the average rate of exchange for the period, and assets and liabilities are converted at the closing rates on the period end date. Gains and losses on translation of these accounts are accumulated and reported as a separate component of stockholder's equity and comprehensive loss.

For any transaction that is in a currency different from the entity's functional currency, the Company records a gain or loss based on the difference between the exchange rate at the transaction date and the exchange rate at the transaction settlement date (or rate at period end, if unsettled) as other income (expense), net on the consolidated statements of operations and comprehensive loss.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

Concentration of Credit Risk

Financial instruments that subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. All of the Company's cash is held at financial institutions that management believes to be of high credit quality. The Company's bank accounts exceed federally insured limits at times. The Company has not experienced any losses on cash to date. The Company maintains an allowance for doubtful accounts, if needed, based on collection history.

Recent Accounting Pronouncements

In December 2019, the Financial Accounting Standards Board ("FASB") issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, as part of its initiative to reduce complexity in the accounting standards. The amendments in the ASU include removal of certain exceptions to the general principles in Topic 740 related to recognizing deferred taxes for investments, performing intraperiod tax allocation and calculating income taxes in an interim period. The ASU also clarifies and simplifies other aspects of the accounting for income taxes, including the recognition of deferred tax liabilities for outside basis differences. The amendments in this ASU are effective for annual and interim periods in fiscal years beginning after December 15, 2020, with early adoption permitted. The Company is evaluating the impact that this ASU will have on its consolidated financial statements and related disclosures.

In April 2019, the FASB issued ASU No. 2019-04, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments*. ASU No. 2019-04 provides corrections, updates and clarifications to the previously issued updates of ASU No. 2016-01, ASU No. 2016-13 and ASU No. 2017-12. Various areas of the Accounting Standards Codification were impacted by the update. This standard follows the effective dates of the previously issued ASUs, unless an entity has already early adopted the previous ASUs, in which case the effective date will vary according to each specific ASU adoption. As the Company has adopted ASU No. 2016-01, the amendments related to ASU No. 2016-01 are effective for annual and interim periods in fiscal years beginning after December 15, 2019. As the Company has not yet adopted ASU No. 2016-13, the amendments related to ASU No. 2016-13 are effective for fiscal years beginning after December 15, 2019. Refer below for further discussion of ASU No. 2016-13. The Company does not anticipate a significant impact on its consolidated financial statements upon the adoption of the amendments related to ASU Nos. 2016-13 and 2016-01. The amendments to ASU No. 2017-12 are not applicable to the Company.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract*, which requires customers in cloud computing arrangements that are service contracts to follow the internal-use software guidance in ASC 350-40 to determine which implementation costs to capitalize as assets or expense as incurred. The amendments in this ASU are effective for fiscal years beginning after December 15, 2019, with early adoption permitted. The Company early adopted this ASU on July 1, 2018 under the prospective method. As a result of adopting this standard, as of December 31, 2019 and 2018, the Company had balances of \$3.1 million and \$0.4 million, respectively, of capitalized implementation costs incurred to integrate the software associated with its cloud computing arrangements, within university payments and other assets, non-current on the consolidated balance sheets. Such capitalized costs are subject to amortization over the remaining contractual term of the associated cloud computing arrangement, with a useful life of between three to five years. The Company incurred \$0.3 million of such amortization for the year ended December 31, 2019 and did not incur a material amount of such amortization for the year ended December 31, 2018.

In July 2018, the FASB issued ASU No. 2018-09, *Codification Improvements*, which clarifies and corrects unintended applications of guidance, and makes improvements to several Accounting Standards Codification topics. The applicable amendments in this ASU are effective for the Company in annual periods beginning after December 15, 2018. The Company adopted this ASU on January 1, 2019. Adoption of this standard did not have a material impact on the Company's consolidated financial statements or related disclosures.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*, which simplifies the accounting for share-based payments to nonemployees. The amendments in this ASU are effective for fiscal years beginning after December 15, 2018, with early adoption permitted. The Company adopted this ASU on January 1, 2019. Adoption of this standard did not have a material impact on the Company's consolidated financial statements or related disclosures.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

2. Significant Accounting Policies (Continued)

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, which eliminates step two from the goodwill impairment test and requires an entity to recognize an impairment charge for the amount by which the carrying amount of a reporting unit exceeds its fair value, up to the amount of goodwill allocated to that reporting unit. The amendments in this ASU are effective for fiscal years beginning after December 15, 2019, with early adoption permitted. The Company early adopted this ASU on January 1, 2019.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. The ASU addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice surrounding how certain transactions are classified in the statement of cash flows. The amendments in this ASU were effective for fiscal years beginning after December 15, 2017. The Company adopted this ASU on January 1, 2018. Adoption of this standard did not have a material impact on the Company's consolidated statements of cash flows or related disclosures.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. Subsequently, the FASB has issued the following standards related to ASU No. 2016-13: ASU No. 2019-11, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses*, ASU No. 2019-05, *Financial Instruments—Credit Losses (Topic 326): Targeted Transition Relief*; ASU No. 2019-04, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments*; and ASU No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses*. ASU No. 2016-13 requires entities to measure all expected credit losses for most financial assets held at the reporting date based on an expected loss model, which includes historical experience, current conditions, and reasonable and supportable forecasts. Entities will now use forward-looking information to better form their credit loss estimates. ASU No. 2016-13 also requires enhanced disclosures to help financial statement users better understand assumptions used in estimating expected credit losses. The amendments in these ASUs are effective for annual and interim periods in fiscal years beginning after December 15, 2019, with early adoption permitted. The Company is evaluating the impact that the new guidance will have on its consolidated financial statements and related disclosures. The Company does not anticipate a significant impact on its consolidated financial statements based on the instruments currently held and its historical trend of bad debt expense relating to trade accounts receivable.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*, which supersedes ASC 840, *Leases (Topic 840)*. The ASU introduces a model for lessees requiring most leases to be reported on the balance sheet. The Company adopted this ASU and the related amendments on January 1, 2019 under the modified retrospective transition method, which resulted in no cumulative-effect adjustment to retained earnings. The Company's financial results for periods ending after January 1, 2019 are presented in accordance with the requirements of Topic 842, while prior period amounts are not adjusted and continue to be reported in accordance with Topic 840.

Upon adoption, the Company elected to not recognize ROU assets or lease liabilities for leases with a term of 12 months or less, as permitted by the short-term lease practical expedient. In transition, the Company also applied the package of practical expedients that permit entities to not reassess (i) whether expired or existing contracts contain a lease under the new standard, (ii) the lease classification for expired or existing leases, or (iii) whether previously capitalized initial direct costs would qualify for capitalization under the new standard. The Company also applied the practical expedient that permits a lessee to account for lease and non-lease components in a contract as a single lease component. In addition, the Company did not use hindsight during transition.

Upon adoption, the Company recorded ROU assets of approximately \$34 million, which have been reduced for accrued rent, and the remaining balance of any lease incentives upon transition, and also recorded corresponding current and non-current lease liabilities for its operating leases of approximately \$5 million and \$58 million, respectively, on the consolidated balance sheets. Adoption of this standard did not have a material impact on the Company's consolidated statements of operations and comprehensive loss, the consolidated statements of changes in stockholders' equity or the consolidated statements of cash flows. Refer to Note 8 for more information about the Company's lease-related obligations.

3. Business Combination

On May 22, 2019, the Company completed its acquisition of Trilogy pursuant to an Agreement and Plan of Merger and Reorganization, dated as of April 7, 2019 (the "Merger Agreement"), for a net purchase price of \$608.6 million in cash and stock consideration, subject to final adjustments related to working capital and indebtedness. Under the terms of the Merger

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

3. Business Combination (Continued)

Agreement, the Company has issued restricted stock units for shares of its common stock, par value \$0.001 per share, to certain employees and officers of Trilogy. These awards were issued pursuant to the Company's 2014 Equity Incentive Plan, are subject to future service requirements and will primarily vest over an 18-month period. In addition, a portion of the purchase price held in escrow was recognized as compensation expense in the third quarter of 2019 as the service requirements of certain key employees was determined to be fulfilled. The net assets and results of operations of Trilogy are included in the Company's consolidated financial statements within the Alternative Credential Segment as of May 22, 2019.

The following table reflects the Company's completed valuation of the assets acquired and liabilities assumed of Trilogy as of the date of the acquisition:

	Estimated Average Useful Life (in years)	Purchase Price Allocation
		(in thousands)
Cash and cash equivalents		\$ 35,320
Current assets		30,081
Property and equipment, net		2,411
Other non-current assets		6,276
Amortizable intangible assets:		
Developed technology	3	48,096
Developed content	4	48,050
University client relationships	10	84,150
Trade names and domain names	5	7,100
Goodwill		425,346
Current liabilities		(57,010)
Non-current liabilities		(21,224)
		\$ 608,596

Intangible assets are valued using the cost replacement, multi-period excess earnings and relief-from-royalty methodologies, which are Level 3 measurements. The fair value of the developed technology and developed content acquired from Trilogy was determined using the replacement cost method under the cost approach. Under the replacement cost method, consideration was given to the estimated time, investment and resources required to recreate the acquired intangibles, adjusted for obsolescence, an estimated developer's profit and rate of return, in accordance with accepted valuation methodologies.

The fair value of university client relationships was determined using the multi-period excess earnings method under the income approach based on discounted projected cash flows associated with the net earnings attributable to the acquired customer relationships. These projected cash flows are estimated over the remaining economic life of the intangible asset and are considered from a market participant perspective. Significant estimates and assumptions required under this method include growth rates for revenue attributable to the existing university partnership base, forecasted margins, attrition and renewal rates, a discount rate, and contributory asset charges.

Trade names were valued using the relief-from-royalty method under the income approach. This method assumes that trade names have value to the extent that their owner is relieved of the obligation to pay royalties for the benefits received from them. This method required several assumptions, including future revenue for the trade name, the appropriate royalty rate and the discount rate.

The goodwill balance is primarily attributed to the assembled workforce, expanded market opportunities and operating synergies anticipated upon the integration of the operations of the Company and Trilogy. The goodwill resulting from the acquisition will not be tax deductible. Refer to Note 5 for details.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

3. Business Combination (Continued)

The unaudited pro forma combined financial information below is presented for illustrative purposes and does not purport to represent what the results of operations would actually have been if the business combination occurred as of the dates indicated or what the results would be for any future periods. The following table presents the Company's unaudited pro forma combined revenue, pro forma combined net loss and pro forma combined net loss per share for the years ended December 31, 2019 and 2018, as if the acquisition of Trilogy had occurred on January 1, 2018:

	Year Ended December 31,	
	2019	2018
	(in thousands, except per share amounts)	
Pro forma revenue	\$ 624,796	\$ 497,637
Pro forma net loss	(268,900)	(109,508)
Pro forma net loss per share, basic and diluted	\$ (4.38)	\$ (1.96)

4. Property and Equipment, Net

Property and equipment, net consisted of the following as of:

	December 31, 2019	December 31, 2018
	(in thousands)	
Computer hardware	\$ 8,685	\$ 5,114
Furniture and office equipment	18,478	14,888
Leasehold improvements	50,461	45,158
Leasehold improvements in process	4,318	1,940
Total	81,942	67,100
Accumulated depreciation and amortization	(24,299)	(14,801)
Property and equipment, net	\$ 57,643	\$ 52,299

Depreciation expense of property and equipment was \$11.6 million, \$8.9 million and \$5.5 million for the years ended December 31, 2019, 2018 and 2017, respectively.

5. Goodwill and Amortizable Intangible Assets

The table below summarizes the changes in the carrying amount of goodwill by reportable segment:

	Graduate Program Segment	Alternative Credential Segment	Total
	(in thousands)		
Balance as of December 31, 2017	\$ —	\$ 71,988	\$ 71,988
Foreign currency translation adjustments	—	(10,136)	(10,136)
Balance as of December 31, 2018	—	61,852	61,852
Goodwill recognized in connection with business combination	—	425,346	425,346
Impairment charge (current and cumulative)	—	(70,379)	(70,379)
Foreign currency translation adjustments	—	1,531	1,531
Balance as of December 31, 2019	\$ —	\$ 418,350	\$ 418,350

The Company experienced a sustained decline in its stock price during the third quarter of 2019, which management deemed a triggering event that required the Company to perform an interim goodwill impairment test as of September 1, 2019. The Company's test relied in part on the work of an independent valuation firm engaged to provide inputs as to the fair value of the reporting units and to assist in the related calculations and analysis. The results of the interim impairment test indicated that the carrying value of the boot camp business acquired in 2019 within the Company's Alternative Credential Segment exceeded the fair value by \$70.4 million. The decrease in this reporting unit's fair value was primarily due to lower expectations of future

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

performance due to the impact of changes in key management as well as an increased focus in integrating the operations of the newly acquired reporting unit, which impacted the estimated operating cash flows. As a result, the Company recorded an impairment charge of \$70.4 million on the consolidated statements of operations and comprehensive loss in the third quarter of 2019. For purposes of testing the Company's goodwill for impairment, fair value measurements were determined primarily using a weighted combination of the income-based and market-based approaches. The income-based approach largely relied on inputs that were not observable to active markets, which would be deemed "Level 3" fair value measurements, as defined in the Fair Value Measurements section of Note 2. These inputs included the Company's expectations about future revenue growth, profitability, income tax rates, cash flows and the rate at which cash flows should be discounted, in order to determine this fair value estimate. The primary input used in the market-based approach was publicly-available data on the financial ratios of the Company's competitors.

In the fourth quarter of 2019, the Company performed a qualitative assessment for its October 1 annual impairment assessment and was not required to recognize any additional impairment of goodwill.

Amortizable intangible assets, net consisted of the following as of:

	Estimated Average Useful Life (in years)	December 31, 2019			December 31, 2018		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
(in thousands)							
Capitalized technology	3-5	\$ 142,712	\$ (41,106)	\$ 101,606	\$ 68,291	\$ (16,945)	\$ 51,346
Capitalized content development	4-5	167,758	(54,736)	113,022	79,725	(31,662)	48,063
University client relationships	9-10	110,344	(12,419)	97,925	25,616	(4,269)	21,347
Trade names and domain names	5-10	26,462	(5,940)	20,522	18,793	(2,944)	15,849
Total amortizable intangible assets, net		\$ 447,276	\$ (114,201)	\$ 333,075	\$ 192,425	\$ (55,820)	\$ 136,605

The amounts presented in the table above include \$30.7 million and \$40.3 million of in process capitalized technology and content development as of December 31, 2019 and December 31, 2018, respectively. Amortizable intangible assets recognized in connection with the acquisition of Trilogy consisted of developed technology of \$48.1 million, developed content of \$48.1 million, university client relationships of \$84.2 million and trade names and domain names of \$7.1 million, and are included in the balances presented in the table above as of December 31, 2019.

During 2018, the Company acquired certain third-party technologies to enhance the Company's platform, which is referred to as the 2U Operating System, or 2UOS, for aggregate consideration of \$9.5 million. These acquired assets are classified as capitalized technology within amortizable intangible assets, net, on the Company's consolidated balance sheets. Additionally, during the same period the Company purchased several active websites and additional domains for consideration of \$7.6 million to support the marketing efforts of certain offerings within our Graduate Program Segment. These acquired assets are classified as trade names and domain names within amortizable intangible assets, net, on the Company's consolidated balance sheets.

In the first quarter of 2018, the Company entered into an agreement to purchase a perpetual source code license for the Learn.co platform and certain integration software development services for \$14.5 million. These acquired assets are classified as capitalized technology and recorded within amortizable intangible assets, net on the Company's consolidated balance sheets.

The Company recorded amortization expense related to amortizable intangible assets of \$58.3 million, \$23.9 million and \$14.0 million for the years ended December 31, 2019, 2018 and 2017, respectively. As of December 31, 2019, the estimated future amortization expense for amortizable intangible assets placed in service is as follows (in thousands):

2020	\$ 75,955
2021	69,605
2022	55,520
2023	36,403
2024	19,512
Thereafter	45,357
Total	<u>\$ 302,352</u>

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

6. Accrued Expenses

Included within accounts payable and accrued expenses on the Company's consolidated balance sheet as of December 31, 2019 was \$23.4 million of accrued university and head tutor compensation and \$22.1 million of accrued marketing costs. Also included within accounts payable and accrued expenses as of December 31, 2019 was \$4.4 million of accrued transaction, integration and restructuring-related costs, of which \$0.5 million related to an employee termination benefits reserve for a September 2019 organizational restructuring.

As of December 31, 2018, accounts payable and accrued expenses included \$10.3 million of accrued marketing costs.

7. Commitments and Contingencies

Legal Contingencies

The Company is involved in various claims and legal proceedings arising in the ordinary course of business. The Company accrues a liability when a loss is considered probable and the amount can be reasonably estimated. While the Company does not expect that the ultimate resolution of any existing claims and proceedings (other than the specific matter described below, if decided adversely), individually or in the aggregate, will have a material adverse effect on its financial position, an unfavorable outcome in some or all of these proceedings could have a material adverse impact on the results of operations or cash flows for a particular period. This assessment is based on the Company's current understanding of relevant facts and circumstances. With respect to current legal proceedings, the Company does not believe it is probable a material loss exceeding amounts already recognized has been incurred as of the date of the balance sheets presented herein. As such, the Company's view of these matters is subject to inherent uncertainties and may change in the future.

In re 2U, Inc., Securities Class Action

On August 7 and 9, 2019, Aaron Harper and Anne M. Chinn filed putative class action complaints against the Company, Christopher J. Paucek, the Company's CEO, and Catherine A. Graham, the Company's former CFO, in the United States District Court for the Southern District of New York. The district court consolidated the two actions on August 27, 2019, under the caption *In re 2U, Inc., Securities Class Action*, No. 1:19-cv-7390 (S.D.N.Y.). On November 26, 2019, the court transferred the case to the United States District Court for the District of Maryland, and the docket number is now 8:19-cv-3455 (D. Md.). The complaints allege violations of Section 10(b) and 20(a) of the Securities Exchange Act of 1934, and SEC Rule 10b-5 promulgated thereunder, based upon allegedly false and misleading statements regarding the Company's business prospects and financial projections. The proposed class consists of all persons who acquired the Company's securities between February 26, 2018 and July 30, 2019.

The Company believes that the claims are without merit, and it intends to vigorously defend against these claims. However, due to the complex nature of the legal and factual issues involved, the outcome of this matter is not presently determinable.

Marketing and Sales Commitments

Certain of the agreements entered into between the Company and its university clients in the Graduate Program Segment require the Company to commit to meet certain staffing and spending investment thresholds related to marketing and sales activities. In addition, certain of the agreements in the Graduate Program Segment require the Company to invest up to agreed-upon levels in marketing the programs to achieve specified program performance. The Company believes it is currently in compliance with all such commitments.

Future Minimum Payments to University Clients

Pursuant to certain of the Company's contracts in the Graduate Program Segment, the Company has made, or is obligated to make, payments to university clients in exchange for contract extensions and various marketing and other rights. As of December 31, 2019, the future minimum payments due to university clients were as follows (in thousands):

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

7. Commitments and Contingencies (Continued)

2020	\$	2,625
2021		1,625
2022		625
2023		625
2024		625
Thereafter		3,150
Total future minimum payments to university clients	\$	<u>9,275</u>

Contingent Payments

The Company has entered into agreements with certain of its university clients in the Graduate Program Segment under which the Company would be obligated to make future minimum payments in the event that certain program metrics are not achieved on an annual basis. The Company recognizes any estimated contingent payments under these agreements as contra revenue over the period in which they relate, and records a liability in other current liabilities on the consolidated balance sheets.

As of December 31, 2019, the Company had an obligation to make an additional investment in an education technology company of up to \$5.0 million, upon demand by the investee.

8. Leases

The Company leases facilities under non-cancelable operating leases primarily in the United States, South Africa, the United Kingdom and Canada. The Company's operating leases have remaining lease terms of between one to 11 years, some of which include options to extend the leases for up to five years, and some of which include options to terminate the leases within one year. These options to extend the terms of the Company's operating leases were not deemed to be reasonably certain of exercise as of lease commencement and are therefore not included in the determination of their respective non-cancelable lease terms. The future lease payments due under non-cancelable operating lease arrangements contain fixed rent increases over the term of the lease. The Company also leases office equipment under non-cancelable leases. The Company did not have any subleases as of December 31, 2019.

The components of lease expense consisted of the following for the period presented:

	Year Ended December 31, 2019	
	(in thousands)	
Operating lease expense	\$	11,725
Short-term lease expense		737
Variable lease expense		4,195
Total lease expense	\$	<u>16,657</u>

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

As of December 31, 2019, for the Company's operating leases, the weighted-average remaining lease term was 7.9 years and the weighted-average discount rate was 12.3%. For the year ended December 31, 2019, cash paid for amounts included in the measurement of operating lease liabilities was \$13.5 million.

The maturities of operating lease liabilities were as follows:

	As of December 31, 2019 (in thousands)
2020	\$ 15,956
2021	14,934
2022	14,043
2023	13,685
2024	13,262
Thereafter	45,952
Total lease payments	117,832
Less: imputed interest	(43,538)
Total lease liability	\$ 74,294

As of December 31, 2019, the Company has additional operating leases for facilities that have not yet commenced with future minimum lease payments of approximately \$93.1 million. These operating leases will commence during fiscal years 2020 and 2021, with lease terms of between four to twelve years.

As of December 31, 2018, the future minimum lease payments for operating leases having initial or remaining noncancellable lease terms in excess of one year were as follows (in thousands):

2019	\$ 12,941
2020	14,020
2021	13,900
2022	13,633
2023	13,959
Thereafter	68,347
Total future minimum lease payments	\$ 136,800

9. Debt

The Company's outstanding long-term debt was as follows:

	December 31, 2019	December 31, 2018
	(in thousands)	
Senior secured term loan facility	\$ 250,000	\$ —
Deferred government grant obligations	3,500	3,500
Less: unamortized debt issuance costs	(7,238)	—
Other	358	—
Long-term debt	\$ 246,620	\$ 3,500

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

9. Debt (Continued)

The Company believes the carrying value of its long-term debt approximates the fair value of the debt as the terms and interest rates approximate the market rates.

As of December 31, 2019, the Company had a current portion of long-term debt balance of \$0.6 million related to other borrowings, and had no such balance as of December 31, 2018.

Credit Agreement

On May 22, 2019, the Company entered into a credit agreement (the "Credit Agreement") with Owl Rock Capital Corporation, as administrative agent and collateral agent, and certain other lenders party thereto that provides for a \$250 million senior secured term loan facility (the "Term Loan"). Subject to certain exceptions, the Term Loan under the Credit Agreement may be increased or new term loans may be established in an amount not to exceed (i) \$50 million plus (ii) the amount of certain prepayments made by the Company plus (iii) an unlimited amount, subject to the achievement of either a certain First Lien LQA University Segment Revenue Leverage Ratio (as defined in the Credit Agreement) or a certain First Lien Net Leverage Ratio (as defined in the Credit Agreement), as applicable.

On February 25, 2020 (the "First Amendment Effective Date"), the Company amended the credit agreement (as amended, the "Credit Agreement") to modify the Minimum Graduate LQAR (as defined below) and Minimum Alternative Credential LTMR (as defined below) required for the fiscal quarters ending June 30, 2020, September 30, 2020 and December 31, 2020. In addition, the amendment increases the applicable interest rate margins and extends the prepayment premium applicable to certain voluntary prepayments and mandatory prepayments. In connection with the amendment, the Company incurred incremental issuance costs of \$2.5 million, which will be amortized as a component of interest expense over the remaining term of the Credit Agreement.

The Credit Agreement governing the Term Loan requires the Company to comply with several customary financial and other restrictive covenants, such as maintaining leverage ratios in certain situations, maintaining insurance coverage, and restricting the Company's ability to make certain investments. The Company is also required to maintain liquidity of \$25.0 million of unrestricted cash as of the last day of each fiscal quarter. The Credit Agreement also includes covenants that require the Company to maintain minimum: (i) annualized last quarter Graduate Program Segment revenue ("Minimum Graduate LQAR") and (ii) Alternative Credential Segment revenue for the last four consecutive fiscal quarters ("Minimum Alternative Credential LTMR"). For the quarter and four consecutive fiscal quarters ended December 31, 2019, the Company's Minimum Graduate LQAR and Minimum Alternative Credential LTMR were \$432.9 million and \$218.8 million, respectively, which exceeded the requirements of \$397.8 million and \$185.0 million, respectively.

The Term Loan matures on May 22, 2024 and currently bears interest, at the Company's option, at variable rates based on (i) a customary alternative base rate (with a floor of 2.00%) plus an applicable margin of 5.75% or (ii) an adjusted LIBOR rate (with a floor of 1.00%) for the interest period relevant to such borrowing plus an applicable margin of 6.75%. The effective interest rate of the Term Loan for the year ended December 31, 2019 was 8.91%. Voluntary prepayments and mandatory prepayments following or in connection with any asset sales, debt issuance or casualty events or following any acceleration of the Term Loan are subject to a 2% prepayment premium if made prior to the first anniversary of the First Amendment Effective Date, and a 1% prepayment premium if made on or after the first anniversary of the First Amendment Effective Date, but prior to the second anniversary of the First Amendment Effective Date; provided, that a 1% prepayment penalty shall apply to the extent the prepayment is made prior to the first anniversary of the First Amendment Effective Date with the proceeds from the sale of equity securities, equity-linked securities and/or derivative securities settled in, or convertible into, equity securities. During the year ended December 31, 2019, the Company incurred interest expense of \$13.2 million in connection with the Credit Agreement. As of December 31, 2019, the Company's accrued interest balance associated with the Credit Agreement was \$0.1 million.

Comerica Line of Credit

Effective in the second quarter of 2019, the Company terminated its \$25.0 million revolving line of credit agreement and letters of credit with Comerica Bank. No amounts were outstanding under this credit agreement as of December 31, 2019 or 2018.

Deferred Government Grant Obligations

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

9. Debt (Continued)

The Company has a total of two outstanding conditional loan agreements with Prince George's County, Maryland and the State of Maryland for an aggregate amount of \$3.5 million, each bearing an interest rate of 3% per annum. These agreements are conditional loan obligations that may be forgiven provided that the Company attains certain conditions related to employment levels at 2U's Lanham, Maryland headquarters. The conditional loan with the State of Maryland has a maturity date of December 31, 2026, and the conditional loan with Prince George's County, Maryland has a maturity date of June 22, 2027. As of December 31, 2019, the Company did not meet the employment level threshold set forth in the conditional loan agreement with Prince George's County, Maryland and a \$0.6 million portion of the \$1.5 million principal balance and \$0.1 million of accrued interest as of that date were no longer subject to forgiveness and became payable upon demand. The Company is in discussions with Prince George's County, Maryland to amend the employment conditions under this conditional loan agreement. The interest expense related to these loans for the years ended December 31, 2019 and 2018 was immaterial. As of December 31, 2019 and 2018, the Company's combined accrued interest balance associated with the deferred government grant obligations was \$0.3 million and \$0.2 million, respectively.

Letters of Credit

Certain of the Company's operating lease agreements entered into require security deposits in the form of cash or an unconditional, irrevocable letter of credit. As of December 31, 2019, the Company has entered into standby letters of credit totaling \$18.4 million as security deposits for the applicable leased facilities and in connection with the deferred government grant obligations.

The Company maintains restricted cash as collateral for standby letters of credit for the Company's leased facilities and in connection with the deferred government grant obligations.

10. Income Taxes

The following table presents the components of loss before income taxes:

	Year Ended December 31,		
	2019	2018	2017
	(in thousands)		
Loss before income taxes:			
United States	\$ (239,629)	\$ (33,339)	\$ (25,002)
Foreign	(15,453)	(9,858)	(5,718)
Total	<u>\$ (255,082)</u>	<u>\$ (43,197)</u>	<u>\$ (30,720)</u>

The following table presents the components of the income tax (provision) benefit:

	Year Ended December 31,		
	2019	2018	2017
	(in thousands)		
Current income tax (provision) benefit:			
United States federal and state	\$ (97)	\$ —	\$ —
Foreign	3	—	—
Total current income tax (provision) benefit	<u>\$ (94)</u>	<u>\$ —</u>	<u>\$ —</u>
Deferred income tax benefit:			
United States federal and state	\$ 17,459	\$ 2,774	\$ —
Foreign	2,495	2,093	1,297
Total deferred income tax benefit	<u>\$ 19,954</u>	<u>\$ 4,867</u>	<u>\$ 1,297</u>
Total income tax (provision) benefit	<u>\$ 19,860</u>	<u>\$ 4,867</u>	<u>\$ 1,297</u>

A reconciliation between the Company's statutory federal income tax rate and the effective tax rate is presented below:

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

10. Income Taxes (Continued)

	Year Ended December 31,		
	2019	2018	2017
U.S. statutory federal income tax rate	21.0 %	21.0 %	35.0 %
Increase (decrease) resulting from:			
U.S. state income taxes, net of federal benefits	4.2	0.9	9.9
Foreign tax rate differential	0.2	1.1	(1.4)
Non-deductible expenses	(1.1)	(2.6)	(1.8)
Stock-based compensation	0.5	30.0	40.9
Change in valuation allowance	(10.9)	(39.3)	29.8
Change in tax rate	—	(0.1)	(108.0)
Non-deductible impairment	(5.8)	—	—
Other	(0.3)	0.3	(0.2)
Effective tax rate	7.8 %	11.3 %	4.2 %

The significant components of the Company's deferred tax assets and liabilities are as follows:

	As of December 31,	
	2019	2018
(in thousands)		
Deferred tax assets:		
Accrued expenses and other	\$ 3,037	\$ 2,580
Accrued compensation and related benefits	2,779	3,395
Rebate reserve	—	5
Deferred rent	7,543	6,388
Stock-based compensation	14,546	8,279
Deferred income	345	257
Interest expense carryforwards	2,059	—
Foreign net operating loss carryforwards	3,171	1,543
U.S. net operating loss carryforwards	164,854	96,809
Valuation allowance	(116,244)	(88,061)
Total deferred tax assets	\$ 82,090	\$ 31,195
Deferred tax liabilities:		
Prepaid expenses and other	\$ (142)	\$ (95)
Property and equipment	(3,056)	(4,038)
Intangibles	(84,025)	(34,011)
Total deferred tax liabilities	(87,223)	(38,144)
Net deferred tax liabilities	\$ (5,133)	\$ (6,949)

As of December 31, 2019, the Company had a U.S. net operating loss ("NOL") carryforward of approximately \$627.7 million, of which \$265.0 million expires between 2029 and 2037. In accordance with the Tax Cuts and Jobs Act of 2017 (the "Tax Act"), U.S. NOLs arising in a tax year ending after 2017 will not expire. The Company has generated \$362.7 million of U.S. NOLs in tax years ending after 2017. The gross amount of the state NOL carryforwards is equal to or less than the federal NOL carryforwards and expires over various periods based on individual state tax laws. The Company also had an NOL carryforward of \$14.5 million in its foreign jurisdictions, which does not expire. A full valuation allowance has been established to offset its net deferred tax assets in the U.S., and certain foreign jurisdictions as the Company has not generated taxable income since inception and does not have sufficient deferred tax liabilities to recover the deferred tax assets in these jurisdictions. The total increase in the valuation allowance was \$28.2 million for the year ended December 31, 2019. The utilization of the NOL carryforwards to reduce future income taxes will depend on the Company's ability to generate sufficient taxable income prior to the expiration of the NOL carryforwards. Under the provisions of Internal Revenue Code Section 382, certain substantial changes in the Company's ownership may result in a limitation on the amount of U.S. net operating loss carryforwards that could be utilized annually to offset future taxable income and taxes payable. The Company does not expect such limitation, if any, to impact the use of the net operating losses prior to their expiration.

A one-time tax benefit of approximately \$17.5 million related to the acquisition of Trilogy was included in the Company's income tax benefit for the year ended December 31, 2019. This one-time benefit relates to the release of the

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

10. Income Taxes (Continued)

Company's tax valuation allowance that was no longer needed as a result of recognizing an additional net deferred tax liability, due to the acquisition of Trilogy.

As of December 31, 2019 and 2018, the Company has not recognized any amounts for uncertain tax positions.

The Company has analyzed its filing positions in all significant federal, state and foreign jurisdictions where it is required to file income tax returns, as well as open tax years in these jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state and local tax examinations by tax authorities for the years prior to 2016, though the NOL carryforwards can be adjusted upon audit and could impact taxes owed in open tax years. No income tax returns are currently under examination by the taxing authorities.

On December 22, 2017, the Tax Act was enacted into law and contains certain key tax provisions that affect the Company. The Tax Act affects the Company by (i) reducing the U.S. tax rate to 21%, effective January 1, 2018, (ii) impacting the values of the Company's deferred assets and liabilities, (iii) changing the Company's ability to utilize future net operating losses and (iv) requiring a one-time tax on any of the Company's unrepatriated foreign earnings and profits ("E&P") in 2017. The Company did not incur the one-time tax as cumulative foreign earnings and profits were negative.

The Tax Act includes Global Intangible Low-Taxed Income ("GILTI") provisions that require a company to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets. Due to foreign subsidiary losses, this provision did not apply to the Company in 2019. Another significant section of the Tax Act, the Base Erosion Anti-Abuse Tax ("BEAT"), did not apply to the Company's 2019 tax year as the Company did not meet the minimum revenue requirements under the BEAT. As these taxes may become applicable in the future, the Company will continue to monitor the potential impact.

11. Stockholders' Equity

On May 22, 2019, the Company issued 4,608,101 shares of common stock in connection with its acquisition of Trilogy. On May 22, 2018, the Company sold 3,833,334 shares of its common stock to the public, including 500,000 shares sold pursuant to the underwriters' over-allotment option, and received net proceeds of \$330.9 million. On September 11, 2017, the Company sold 4,047,500 shares of its common stock to the public, including 547,500 shares sold pursuant to the underwriters' over-allotment option, and received net proceeds of \$189.5 million.

As of December 31, 2019, the Company was authorized to issue 205,000,000 total shares of capital stock, consisting of 200,000,000 shares of common stock and 5,000,000 shares of preferred stock. As of December 31, 2019, the Company had reserved a total of 14,178,107 of its authorized shares of common stock for future issuance as follows:

Outstanding stock options	4,373,895
Outstanding restricted stock units	3,694,915
Available for future issuance under Amended and Restated 2014 Equity Incentive Plan	5,296,333
Available for future issuance under 2017 Employee Stock Purchase Plan	812,964
Total shares of common stock reserved for future issuance	<u>14,178,107</u>

12. Stock-Based Compensation

The Company provides stock-based compensation awards to employees, independent contractors and directors as an effective means for attracting, retaining and motivating such individuals. The Company maintains two stock-based compensation plans: the Amended and Restated 2014 Equity Incentive Plan (the "2014 Plan") and the 2008 Stock Incentive Plan (the "2008 Plan"). Upon the effective date of the 2014 Plan in January 2014, the Company ceased using the 2008 Plan to grant new equity awards, and began using the 2014 Plan for grants of new equity awards.

2014 Plan

In February 2014, the Company's stockholders approved the 2014 Plan. The 2014 Plan provides for the grant of incentive stock options to the Company's employees and for the grant of nonstatutory stock options, restricted stock awards, restricted stock unit awards, stock appreciation rights, performance stock awards and other forms of stock compensation to the

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

12. Stock-Based Compensation (Continued)

Company's employees, consultants and directors. The 2014 Plan also provides for the grant of performance-based cash awards to the Company's employees, consultants and directors.

A total of 2,800,000 shares of the Company's common stock were initially reserved for issuance pursuant to the 2014 Plan. In addition, the shares reserved for issuance under the 2014 Plan include (a) those shares reserved but unissued under the 2008 Plan, and (b) shares returned to the 2008 Plan as the result of expiration or termination of awards (provided that the maximum number of shares that may be added to the 2014 Plan pursuant to (a) and (b) is 5,943,348 shares). The number of shares of the Company's common stock that may be issued under the 2014 Plan will automatically increase on January 1st of each year, for a period of ten years, from January 1, 2015 continuing through January 1, 2024, by 5% of the total number of shares of the Company's common stock outstanding on December 31st of the preceding calendar year, or a lesser number of shares as may be determined by the Company's board of directors. The shares available for issuance increased by 3,175,011 and 2,896,365 on January 1, 2020 and 2019, respectively, pursuant to the automatic share reserve increase provision under the 2014 Plan.

In addition, shares subject to outstanding stock awards granted under the 2008 Plan and 2014 Plan that (i) expire or terminate for any reason prior to exercise or settlement; (ii) are forfeited because of the failure to meet a contingency or condition required to vest such shares or otherwise return to the Company; or (iii) are reacquired or withheld (or not issued) to satisfy a tax withholding obligation in connection with an award or to satisfy the purchase price or exercise price of a stock award, return to the 2014 Plan's share reserve and become available for future grant under the 2014 Plan, up to the maximum number of shares of 5,943,348.

As of December 31, 2019, the Company had 5,296,333 shares reserved for issuance under the 2014 Plan. Further, as of December 31, 2019, under the 2014 Plan, options to purchase 3,249,445 shares of the Company's common stock were outstanding at a weighted-average exercise price of \$44.14 per share and 3,694,915 restricted stock units were outstanding.

2008 Plan

In October 2008, the Company's stockholders approved the Company's 2008 Plan. The 2008 Plan was most recently amended on May 8, 2013. The 2008 Plan provided for the grant of incentive stock options to the Company's employees and the employees of the Company's subsidiaries, and for the grant of nonstatutory stock options, restricted stock awards and deferred stock awards to the Company's employees, directors and consultants. The Company ceased granting equity awards under the 2008 Plan, and accordingly, as of January 30, 2014, no shares were available for future grant under the 2008 Plan. However, the 2008 Plan will continue to govern the terms and conditions of outstanding awards granted thereunder.

As of December 31, 2019, options to purchase 1,124,450 shares of the Company's common stock were outstanding under the 2008 Plan at a weighted-average exercise price of \$5.66 per share.

Stock Options

The terms of stock option grants, including the exercise price per share and vesting periods, are determined by the Company's board of directors or the compensation committee thereof. Stock options are granted at exercise prices of not less than the estimated fair market value of the Company's common stock at the date of grant. Stock options are generally subject to service-based vesting conditions and vest at various times from the date of the grant, with most options vesting in tranches, generally over a period of four years. Stock options granted under the 2014 Plan and the 2008 Plan are subject to service-based vesting conditions, and generally expire ten years from the grant date.

The Company values stock options using the Black-Scholes option pricing model, which requires the input of subjective assumptions, including the risk-free interest rate, expected life of the option, expected stock price volatility and dividend yield. The risk-free interest rate assumption is based upon observed interest rates for constant maturity U.S. Treasury securities consistent with the expected term of the Company's employee stock options. The expected life represents the period of time the stock options are expected to be outstanding and is based on the "simplified method." Under the "simplified method," the expected life of an option is presumed to be the mid-point between the vesting date and the end of the contractual term. The Company uses the "simplified method" due to the lack of sufficient historical exercise data to provide a reasonable basis upon which to otherwise estimate the expected life of the stock options. Expected volatility is based on the historical volatility of the Company's common stock over the estimated expected life of the stock options. The Company assumes no dividend yield because dividends are not expected to be paid in the near future, which is consistent with the Company's history of not declaring or paying dividends to date.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

12. Stock-Based Compensation (Continued)

The following table summarizes the assumptions used for estimating the fair value of the stock options granted for the periods presented.

	Year Ended December 31,		
	2019	2018	2017
Risk-free interest rate	1.6% - 2.6%	2.3% - 3.0%	2.0% - 2.1%
Expected term (years)	5.96 - 6.08	5.97 - 6.77	6.00 - 6.08
Expected volatility	45% - 64%	44% - 45%	46% - 49%
Dividend yield	0%	0%	0%

The following is a summary of the stock option activity for the year ended December 31, 2019:

	Number of Options	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding balance as of December 31, 2018	4,057,788	\$ 27.23	5.95	\$ 113,211
Granted	809,289	61.34	8.35	
Exercised	(361,134)	8.64	1.36	
Forfeited	(116,435)	56.00		
Expired	(15,613)	44.99		
Outstanding balance as of December 31, 2019	4,373,895	34.24	5.88	28,736
Exercisable as of December 31, 2019	3,051,658	\$ 20.98	4.69	\$ 28,374

The weighted-average grant date fair value of the Company's stock options granted during the years ended December 31, 2019, 2018 and 2017 was \$28.49, \$39.66 and \$19.65 per share, respectively.

The total unrecognized compensation cost related to the unvested options as of December 31, 2019 was \$35.5 million and will be recognized over a weighted-average period of approximately 2.9 years.

The aggregate intrinsic value of options exercised during the years ended December 31, 2019, 2018 and 2017 was \$15.4 million, \$54.0 million and \$24.9 million, respectively.

Restricted Stock Units

Under the 2014 Plan, the Company grants RSUs and PRSUs to the Company's directors and certain of the Company's employees and consultants. The terms of these grants under the 2014 Plan, including the vesting periods, are determined by the Company's board of directors or the compensation committee, or a subcommittee thereof.

During the first quarter of 2019, the Company granted 186,433 PRSUs with an aggregate grant date fair value of \$11.5 million to certain of its employees. These PRSU awards are generally subject to vesting over periods of approximately one or two years, based on the Company achieving pre-determined consolidated revenue and adjusted EBITDA (loss) performance targets for the 2019 fiscal year. As of December 31, 2019, the performance targets were not met and no awards vested.

During the fourth quarter of 2019, the Company granted 1,275,955 PRSUs with an aggregate grant date fair value of \$29.3 million to certain of its employees. These PRSU awards are subject to vesting over a period of three years, based on the Company's stock price achieving pre-determined total shareholder return targets relative to that of companies comprising the Russell 3000 Index during each of the one, two and three-year vesting periods. The PRSU award agreements provide that the quantity of units subject to vesting may range from 200% to 0% of the granted quantities, depending on the achievement of market-based targets. The expense recognized each period is determined at the time of grant and not subject to fluctuation due to the achievement of market-based targets.

Throughout 2019 and 2018, the Company granted RSUs under the 2014 Plan to the Company's directors and certain of the Company's employees and consultants. The terms of the restricted stock unit grants under the 2014 Plan, including the vesting periods, are determined by the Company's board of directors or the compensation committee thereof. Restricted stock units are generally subject to service-based vesting conditions and vest at various times from the date of the grant, with most restricted stock units vesting in equal annual tranches, generally over a period of three to four years.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

12. Stock-Based Compensation (Continued)

The following is a summary of RSU and PRSU activity for the year ended December 31, 2019:

	Number of Restricted Stock Units	Weighted-Average Grant Date Fair Value per Share
Outstanding balance as of December 31, 2018	1,139,045	\$ 52.47
Granted	3,388,919	32.50
Vested	(538,752)	42.74
Forfeited	(294,297)	50.15
Outstanding balance as of December 31, 2019	3,694,915	\$ 35.76

The total compensation cost related to the nonvested restricted stock units not yet recognized as of December 31, 2019 was \$93.5 million and will be recognized over a weighted-average period of approximately 2.1 years.

In January 2020, the Company issued its annual grants to certain employees consisting of 1.7 million RSUs with an aggregate grant date fair value of \$34.1 million and 1.9 million PRSUs with an aggregate intrinsic value of \$37.6 million. These RSU and PRSU awards vest over a period of three years. The quantity of PRSU awards that will vest is based on the Company's stock price achieving pre-determined total shareholder return targets relative to that of companies comprising the Russell 3000 Index during each performance period. The PRSU award agreements provide that the quantity of units subject to vesting may range from 200% to 0% of the granted quantities for the first performance period, depending on the achievement of market-based targets. Achievement percentages applicable to the second and third performance periods will be determined in advance of the grants date, by the Company's compensation committee. The expense recognized each period is determined at the time of grant and not subject to fluctuation due to the achievement of market-based targets.

Employee Stock Purchase Plan

The Company's 2017 Employee Stock Purchase Plan (the "ESPP") provides (i) for two offering periods each year and (ii) that the purchase price for shares of the Company's common stock purchased under the ESPP will be 90% of the lesser of the fair market value of the Company's common stock on the purchase date or the fair market value of the Company's common stock on the first day of the offering period. Notwithstanding the foregoing, the compensation committee of the Company's board of directors may exercise its discretion, subject to certain conditions, to make changes to certain aspects of the ESPP including, but not limited to, the length of the offering periods and that the purchase price will be 85% of the lesser of the fair market value of the Company's common stock on the purchase date or the fair market value of 2U's common stock on the first day of the offering period. Participating eligible employees select a rate of payroll deduction between 1% and 15% of their salary or wage compensation received from the Company as in effect at the start of the offering period, with the aggregate purchase limited to a maximum fair market value of \$25,000 per employee per year. Participation in the ESPP began on January 1, 2018. The ESPP is intended to qualify as an employee stock purchase plan under Section 423 of the Internal Revenue Code. A maximum of 1,000,000 shares of 2U's common stock may be issued under the ESPP, subject to adjustments for certain capital transactions.

During the year ended December 31, 2019, an aggregate of 123,365 shares of 2U's common stock were purchased in accordance with the ESPP. Net proceeds from the issuance of shares of 2U's common stock under the ESPP for the year ended December 31, 2019 were \$3.4 million. As of December 31, 2019, 812,964 shares remain available for purchase under the ESPP.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

12. Stock-Based Compensation (Continued)

Stock-Based Compensation Expense

Stock-based compensation expense related to stock-based awards, as well as the ESPP, is included in the following line items on the accompanying consolidated statements of operations and comprehensive loss:

	Year Ended December 31,		
	2019	2018	2017
	(in thousands)		
Curriculum and teaching	\$ 45	\$ 14	\$ 3
Servicing and support	8,915	4,764	4,036
Technology and content development	8,241	4,094	3,306
Marketing and sales	7,021	2,743	1,742
General and administrative	27,282	19,795	12,843
Total stock-based compensation expense	<u>\$ 51,504</u>	<u>\$ 31,410</u>	<u>\$ 21,930</u>

Prior to January 1, 2017, the Company adjusted stock-based compensation expense for estimated forfeitures of stock-based awards. Beginning on January 1, 2017, the Company began accounting for forfeitures (and the impact on stock-based compensation expense) as they occur and recorded the cumulative-effect of this accounting change at that time.

13. Net Loss per Share

Diluted net loss per share is the same as basic net loss per share for all periods presented because the effects of potentially dilutive items were anti-dilutive, given the Company's net loss. The following securities have been excluded from the calculation of weighted-average shares of common stock outstanding because the effect is anti-dilutive for the years ended December 31, 2019, 2018 and 2017:

	Year Ended December 31,		
	2019	2018	2017
Stock options	4,373,895	4,057,788	4,559,176
Restricted stock units	3,694,915	1,139,045	1,413,423

Basic and diluted net loss per share is calculated as follows:

	Year Ended December 31,		
	2019	2018	2017
Numerator (in thousands):			
Net loss	\$ (235,222)	\$ (38,330)	\$ (29,423)
Denominator:			
Weighted-average shares of common stock outstanding, basic and diluted	61,393,666	55,833,492	49,062,611
Net loss per share, basic and diluted	<u>\$ (3.83)</u>	<u>\$ (0.69)</u>	<u>\$ (0.60)</u>

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

14. Segment and Geographic Information

The Company has two reportable segments: the Graduate Program Segment and the Alternative Credential Segment (formerly known as the Short Course Segment). The Company's reportable segments are determined based on (i) financial information reviewed by the chief operating decision maker, the Chief Executive Officer ("CEO"), (ii) internal management and related reporting structure, and (iii) the basis upon which the CEO makes resource allocation decisions. The Company's segments did not change as a result of the acquisition of Trilogy. The Company's Graduate Program Segment includes the technology and services provided to nonprofit colleges and universities to enable the online delivery of degree programs. The Company's Alternative Credential Segment includes the premium online short courses and technical skills-based boot provided through relationships with nonprofit colleges and universities.

Graduate Program Segment

For the year ended December 31, 2019, one university client accounted for 10% or more of the Company's consolidated revenue, with \$83.5 million, or approximately 15% of the Company's consolidated revenue. For the year ended December 31, 2018, three university clients each accounted for 10% or more of the Company's consolidated revenue, as follows: \$86.9 million, \$54.2 million and \$42.7 million, which equaled 21%, 13% and 10% of the Company's consolidated revenue, respectively. For the year ended December 31, 2017, four university clients each accounted for 10% or more of the Company's consolidated revenue, as follows: \$77.6 million, \$48.2 million, \$30.1 million and \$28.3 million, which equaled 27%, 17%, 11% and 10% of the Company's consolidated revenue, respectively.

As of December 31, 2019, two university clients each accounted for 10% or more of the Company's consolidated accounts receivable, net balance, as follows: \$6.1 million and \$4.9 million, which equaled 18% and 15% of the Company's consolidated accounts receivable, net balance, respectively. As of December 31, 2018, two university clients each accounted for 10% or more of the Company's consolidated accounts receivable, net balance, as follows: \$11.9 million and \$11.8 million, which equaled 36% and 36% of the Company's consolidated accounts receivable, net balance, respectively.

Alternative Credential Segment

For the year ended December 31, 2019, 2018 and 2017, there were no customers or individual university clients that had revenue associated with it that accounted for 10% or more of the Company's consolidated revenue. In addition, as of December 31, 2019 and December 31, 2018, no customers had accounts receivable, net balances that accounted for 10% or more of the Company's consolidated accounts receivable, net balance, as customers are individual students or third parties paying on their behalf, rather than university clients.

For the year ended December 31, 2019, offerings associated with one university client accounted for 10% or more of the segment's revenue, with \$33.9 million, or approximately 22% of the segment's revenue. For the year ended December 31, 2018, offerings associated with three university clients each accounted for 10% or more of the segment's revenue, and when combined, accounted for approximately 81% of the segment's revenue. For the year ended December 31, 2017, offerings associated with three university clients each accounted for 10% or more of the segment's revenue, and when combined, accounted for approximately 82% of the segment's revenue.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

14. Segment and Geographic Information (Continued)

Segment Performance

The following table summarizes financial information regarding each reportable segment's results of operations for the periods presented:

	Year Ended December 31,		
	2019	2018	2017
(in thousands)			
Revenue by segment*			
Graduate Program Segment	\$ 417,206	\$ 348,361	\$ 270,432
Alternative Credential Segment	157,465	63,408	16,320
Total revenue	<u>\$ 574,671</u>	<u>\$ 411,769</u>	<u>\$ 286,752</u>
Segment profitability**			
Graduate Program Segment	\$ 5,770	\$ 16,839	\$ 13,022
Alternative Credential Segment	(29,716)	816	(1,606)
Total segment profitability	<u>\$ (23,946)</u>	<u>\$ 17,655</u>	<u>\$ 11,416</u>
Segment profitability margin***			
Graduate Program Segment	1.4 %	4.8%	4.8 %
Alternative Credential Segment	(18.9)	1.3	(9.8)
Total segment profitability margin	(4.2)%	4.3%	3.9 %

* The Company has excluded immaterial amounts of intersegment revenue from the years ended December 31, 2019, 2018 and 2017.

** The Company defines segment profitability as net income or net loss, as applicable, before net interest income (expense), taxes, depreciation and amortization expense, foreign currency gains or losses, deferred revenue fair value adjustments, transaction costs, integration costs, restructuring-related costs, shareholder activism costs, impairment charges, and stock-based compensation expense. Some or all of these items may not be applicable in any given reporting period.

*** The Company defines segment profitability margin as segment profitability as a percentage of the respective segment's revenue.

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

14. Segment and Geographic Information (Continued)

The following table reconciles net loss to total segment profitability:

	Year Ended December 31,		
	2019	2018	2017
	(in thousands)		
Net loss	\$ (235,222)	\$ (38,330)	\$ (29,423)
Adjustments:			
Interest income	(5,800)	(5,173)	(371)
Interest expense	13,419	108	87
Foreign currency loss	707	1,722	866
Income tax benefit	(19,860)	(4,867)	(1,297)
Depreciation and amortization expense	69,843	32,785	19,624
Deferred revenue fair value adjustment	11,175	—	—
Transaction costs	4,786	—	—
Integration costs	3,255	—	—
Restructuring-related costs	10,826	—	—
Shareholder activism costs	1,042	—	—
Impairment charge	70,379	—	—
Stock-based compensation expense	51,504	31,410	21,930
Total adjustments	211,276	55,985	40,839
Total segment profitability	\$ (23,946)	\$ 17,655	\$ 11,416

The Company's total assets by segment are as follows:

	December 31, 2019	December 31, 2018
	(in thousands)	
Total assets		
Graduate Program Segment	\$ 507,187	\$ 702,827
Alternative Credential Segment	679,643	104,527
Total assets	\$ 1,186,830	\$ 807,354

Trade Accounts Receivable and Contract Liabilities

The Company's trade accounts receivable and contract liabilities in each segment are as follows:

	December 31, 2019	December 31, 2018
	(in thousands)	
Trade accounts receivable		
Graduate Program Segment accounts receivable, net of allowance for doubtful accounts of \$0 for all periods presented	\$ 3,454	\$ 31,110
Graduate Program Segment unbilled revenue	12,123	265
Alternative Credential Segment accounts receivable, net of allowance for doubtful accounts of \$1.3 million and \$257 thousand as of December 31, 2019 and 2018, respectively	12,436	982
Alternative Credential Segment unbilled accounts receivable	5,642	—
Total trade accounts receivable	\$ 33,655	\$ 32,357
Contract liabilities		
Graduate Program Segment deferred revenue	\$ 2,210	\$ 2,864
Alternative Credential Segment deferred revenue	46,623	5,481
Total contract liabilities	\$ 48,833	\$ 8,345

2U, Inc.
Notes to Consolidated Financial Statements (Continued)

14. Segment and Geographic Information (Continued)

For the Graduate Program Segment, revenue recognized during the years ended December 31, 2019 and 2018 that was included in the deferred revenue balance at the beginning of each year was \$2.4 million and \$2.5 million, respectively. For the Alternative Credential Segment, revenue recognized during the years ended December 31, 2019 and 2018 that was included in the deferred revenue balance at the beginning of the year was \$5.4 million and \$4.5 million, respectively.

Contract Acquisition Costs

The Graduate Program Segment had \$0.5 million and \$0.3 million of net capitalized contract acquisition costs capitalized primarily within university payments and other assets, non-current on the consolidated balance sheets as of December 31, 2019 and 2018, respectively. For the year ended December 31, 2019, the Company capitalized \$0.2 million and recorded an immaterial amount of amortization expense in the Graduate Program Segment.

Geographical Information

The Company's non-U.S. revenue is based on the currency of the country in which the university client primarily operates. The Company's non-U.S. revenue was \$40.8 million, \$33.9 million and \$10.0 million for the years ended December 31, 2019, 2018 and 2017, respectively, substantially all of which was sourced from the Alternative Credential Segment's operations outside of the U.S. The Company's long-lived tangible assets in non-U.S. countries as of December 31, 2019 and 2018 totaled approximately \$2.7 million and \$1.2 million, respectively.

15. Retirement Plan

The Company has established a 401(k) plan for eligible employees to contribute up to 100% of their compensation, limited by the IRS-imposed maximum contribution amount. The Company matches 33% of each employee's contribution up to 6% of the employee's salary deferral each plan year. For the years ended December 31, 2019, 2018 and 2017, the Company made employer contributions of \$3.0 million, \$2.1 million and \$1.3 million, respectively.

16. Quarterly Financial Information (Unaudited)

The following tables set forth certain unaudited quarterly financial data for 2019 and 2018. This unaudited information has been prepared on the same basis as the audited information included elsewhere in this Annual Report and includes all adjustments necessary to present fairly the information set forth therein. The operating results are not necessarily indicative of results for any future period.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of our disclosure controls and procedures pursuant to the Securities Exchange Act of 1934 Rules 13a-15 and 15d-15 as of the end of the period covered by this report. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that these disclosure controls and procedures are effective.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for our company. With the participation of our Chief Executive Officer and Chief Financial Officer, management conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2019 based on the Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2019.

We acquired Trilogy on May 22, 2019, which represented 4.1% of our total assets as of December 31, 2019 and 12.9% of our total revenue for the year ended December 31, 2019. As the Trilogy acquisition was completed during the second quarter of 2019, the scope of our evaluation of the effectiveness of our internal control over financial reporting does not include Trilogy.

Our independent registered public accounting firm, KPMG LLP, has issued an audit report on the effectiveness of our internal control over financial reporting, which appears in Part II, Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

We made no changes in our internal control over financial reporting during the three months ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting, other than changes in controls to integrate the business we acquired in the Trilogy acquisition.

Item 9B. Other Information

On February 25, 2020, we entered into the First Amendment (the "Amendment") to our Credit Agreement with Owl Rock Capital Corporation. The Amendment increases the applicable interest rate margins, extends the prepayment premium applicable to certain voluntary prepayments and mandatory prepayments and replaces the amounts of Minimum Graduate LQAR and Minimum Alternative Credential LTMR required for the fiscal quarters ending June 30, 2020, September 30, 2020 and December 31, 2020.

A full description of the terms of our Credit Agreement, as amended by the Amendment, is included in Note 9 in the "Notes Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K.

PART III

We will file a definitive Proxy Statement for our 2020 Annual Meeting of Stockholders or our 2020 Proxy Statement with the SEC, pursuant to Regulation 14A, not later than 120 days after the end of our fiscal year. Accordingly, certain information required by Part III has been omitted under General Instruction G(3) to Form 10-K. Only those sections of the 2020 Proxy Statement that specifically address the items set forth herein are incorporated by reference.

Item 10. Directors, Executive Officers and Corporate Governance

The information required by Item 10 will be contained in our 2020 Proxy Statement under the captions "Board of Directors and Committees," "Election of Directors," "Management," "Code of Business Conduct and Ethics for Employees, Executive Officers and Directors" and, if applicable, "Delinquent Section 16(a) Reports" or in an amendment on Form 10-K/A and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by Item 11 will be contained in our 2020 Proxy Statement under the captions "Executive Compensation," "Director Compensation" and "Compensation Committee Interlocks and Insider Participation" or in an amendment on Form 10-K/A and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by Item 12 will be contained in our 2020 Proxy Statement under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Securities Authorized for Issuance under Equity Compensation Plans" or in an amendment on Form 10-K/A and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by Item 13 will be contained in our 2020 Proxy Statement under the captions "Transactions with Related Parties" and "Director Independence" or in an amendment on Form 10-K/A and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by Item 14 will be contained in our 2020 Proxy Statement under the caption "Independent Registered Public Accounting Firm Fees" and is incorporated herein by reference.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Exhibits

See the Exhibit Index immediately following the signature page of this Annual Report on Form 10-K.

(b) Financial Statement Schedules

Schedule II—Valuation and Qualifying Accounts (in thousands)

	Balance at Beginning of Period	Additions Charged to Expense/Against Revenue	Deductions	Balance at End of Period
Allowance for doubtful accounts:				
Year ended December 31, 2019	\$ 257	\$ 1,425	\$ (351)	\$ 1,331
Year ended December 31, 2018	287	571	(601)	257
Year ended December 31, 2017	\$ —	\$ 287	\$ —	\$ 287

	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Income tax valuation allowance:				
Year ended December 31, 2019	\$ 88,061	\$ 45,642	\$ (17,459)	\$ 116,244
Year ended December 31, 2018	71,101	16,960	—	88,061
Year ended December 31, 2017	\$ 62,297	\$ 17,967	\$ (9,163)	\$ 71,101

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized:

2U, Inc.

February 27, 2020

By: /s/ CHRISTOPHER J. PAUCEK

Name: Christopher J. Paucek

Title: *Chief Executive Officer and Director*

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Christopher J. Paucek, Paul S. Lalljie and Matthew J. Norden, or each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any amendments to this report and to file the same, with exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that either of said attorneys-in-fact, or substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1934, this Annual Report on Form 10-K has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ CHRISTOPHER J. PAUCEK</u> Christopher J. Paucek	Chief Executive Officer and Director (Principal Executive Officer)	February 27, 2020
<u>/s/ PAUL S. LALLJIE</u> Paul S. Lalljie	Chief Financial Officer (Principal Financial Officer)	February 27, 2020
<u>/s/ JOHN B. ELLIS</u> John B. Ellis	Chief Accounting Officer (Principal Accounting Officer)	February 27, 2020
<u>/s/ PAUL A. MAEDER</u> Paul A. Maeder	Director and Chairman of the Board	February 27, 2020
<u>/s/ TIMOTHY M. HALEY</u> Timothy M. Haley	Director	February 27, 2020
<u>/s/ JOHN M. LARSON</u> John M. Larson	Director	February 27, 2020
<u>/s/ CORETHA M. RUSHING</u> Coretha M. Rushing	Director	February 27, 2020
<u>/s/ ROBERT M. STAVIS</u> Robert M. Stavis	Director	February 27, 2020
<u>/s/ SALLIE L. KRAWCHECK</u> Sallie L. Krawcheck	Director	February 27, 2020
<u>/s/ EARL LEWIS</u> Earl Lewis	Director	February 27, 2020
<u>/s/ EDWARD S. MACIAS</u> Edward S. Macias	Director	February 27, 2020
<u>/s/ VALERIE B. JARRETT</u> Valerie B. Jarrett	Director	February 27, 2020
<u>/s/ GREGORY PETERS</u> Gregory Peters	Director	February 27, 2020
<u>/s/ ALEXIS MAYBANK</u> Alexis Maybank	Director	February 27, 2020

SPECIAL NOTE REGARDING EXHIBITS

In reviewing the agreements included as exhibits to this Annual Report on Form 10-K, please remember they are included to provide you with information regarding their terms and are not intended to provide any other factual or disclosure information about the Company or the other parties to the agreements. The agreements contain representations and warranties by each of the parties to the applicable agreement. These representations and warranties have been made solely for the benefit of the other parties to the applicable agreement and:

- should not in all instances be treated as categorical statements of fact, but rather as a way of allocating the risk to one of the parties if those statements prove to be inaccurate;
- have been qualified by disclosures that were made to the other party in connection with the negotiation of the applicable agreement, which disclosures are not necessarily reflected in the agreement;
- may apply standards of materiality in a way that is different from what may be viewed as material to you or other investors; and
- were made only as of the date of the applicable agreement or such other date or dates as may be specified in the agreement and are subject to more recent developments.

Accordingly, these representations and warranties may not describe the actual state of affairs as of the date they were made or at any other time. Additional information about the Company may be found elsewhere in this Annual Report on Form 10-K and the Company's other public filings, which are available without charge through the SEC's website at <http://www.sec.gov>.

The Company acknowledges that, notwithstanding the inclusion of the foregoing cautionary statements, it is responsible for considering whether additional specific disclosures of material information regarding material contractual provisions are required to make the statements in this report not misleading.

Exhibit Index

Exhibit Number	Description	Form	File No.	Exhibit Number	Filing Date	Filed/Furnished Herewith
2.1	Agreement and Plan of Merger and Reorganization, dated as of April 7, 2019, by and among 2U, Inc., Skywalker Purchaser, LLC, Skywalker Sub, Inc., Fortis Advisors LLC, as stockholder representative and Trilogy Education Services, Inc.	8-K	001-36376	2.1	April 8, 2019	
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	8-K	001-36376	3.1	April 4, 2014	
3.2	Amended and Restated Bylaws of the Registrant.	8-K	001-36376	3.2	April 4, 2014	
4.1	Specimen stock certificate evidencing shares of Common Stock.	S-1/A	333-194079	4.2	March 17, 2014	
4.2	Description of Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.					X
10.1*	Services Agreement, by and between the Registrant and University of Southern California, on behalf of the USC Rossier School of Education, dated as of October 29, 2008, as amended to date.	S-1	333-194079	10.1	February 21, 2014	
10.2*	Master Services Agreement, by and between the Registrant and University of Southern California, on behalf of School of Social Work, dated as of April 12, 2010, as amended.	S-1	333-194079	10.2	February 21, 2014	
10.2.1*	Second Addendum to the Master Services Agreement, by and between the Registrant and University of Southern California, on behalf of the School of Social Work, dated as of March 14, 2014.	S-1/A	333-194079	10.2.1	March 17, 2014	
10.2.2*	Amendment to Master Services Agreement, by and between the Registrant and University of Southern California, on behalf of School of Social Work, dated as of November 5, 2015.	10-K	001-36376	10.2.2	March 10, 2016	
10.3†	Fourth Amended and Restated 2008 Stock Incentive Plan, as amended to date.	S-1	333-194079	10.7	February 21, 2014	
10.4†	Form of Incentive Stock Option Agreement under 2008 Stock Incentive Plan.	S-1	333-194079	10.8	February 21, 2014	
10.5†	Form of Non-Qualified Stock Option Agreement under 2008 Stock Incentive Plan.	S-1	333-194079	10.9	February 21, 2014	
10.6†	Amended and Restated 2014 Equity Incentive Plan.	10-Q	001-36376	10.1	August 2, 2018	
10.7†	Form of Stock Option Agreement under Amended and Restated 2014 Equity Incentive Plan.	10-Q	001-36376	10.2	August 2, 2018	
10.8†	Form of Restricted Stock Unit Award Agreement under Amended and Restated 2014 Equity Incentive Plan.					X
10.9†	Form of Performance Stock Unit Award Agreement under Amended and Restated 2014 Equity Incentive Plan.	10-Q	001-36376	10.3	November 12, 2019	

<u>Exhibit Number</u>	<u>Description</u>	<u>Form</u>	<u>File No.</u>	<u>Exhibit Number</u>	<u>Filing Date</u>	<u>Filed/Furnished Herewith</u>
<u>10.10†</u>	<u>Form of Performance Stock Unit Award Agreement under Amended and Restated 2014 Equity Incentive Plan.</u>					X
<u>10.11†</u>	<u>Form of Severance Pay and Change in Control Plan.</u>	8-K	001-36376	10.1	February 21, 2020	
<u>10.12†</u>	<u>Summary of Non-Employee Director Compensation.</u>	10-Q	001-36376	10.2	July 30, 2019	
<u>10.13†</u>	<u>Confidential Information, Invention Assignment, Work for Hire, Noncompete and No Solicit/No Hire Agreement, dated as of February 28, 2009, by and between the Registrant and Christopher J. Paucek.</u>	S-1/A	333-194079	10.14	March 17, 2014	
<u>10.14†</u>	<u>Form of Indemnification Agreement with directors and executive officers.</u>	S-1	333-194079	10.15	February 21, 2014	
<u>10.15†</u>	<u>Offer letter agreement, dated as of May 20, 2018, between Mark Chernis and 2U, Inc.</u>	10-Q	001-36376	10.4	August 2, 2018	
<u>10.16†</u>	<u>Offer letter agreement, dated as of October 10, 2019, between Paul S. Lalljie and 2U, Inc.</u>	8-K	001-36376	10.1	October 16, 2019	
<u>10.17†</u>	<u>Employee Intellectual Property, Non-Competition, and Non-Solicitation Agreement, dated October 10, 2019, between Paul S. Lalljie and 2U, Inc.</u>	8-K	001-36376	10.2	October 16, 2019	
<u>10.18†</u>	<u>Separation and Transition Agreement, dated October 17, 2019, between Catherine A. Graham and 2U, Inc.</u>	8-K	001-36376	10.1	October 23, 2019	
<u>10.19**</u>	<u>Credit Agreement, dated May 22, 2019, by and among 2U, Inc., as borrower, the Guarantors from time to time party thereto, the Lenders from time to time party thereto, Owl Rock Capital Corporation, as administrative agent and collateral agent and Owl Rock Capital Advisors LLC, as Lead Arranger and Bookrunner.</u>	8-K	001-36376	10.1	May 22, 2019	
<u>10.19.1**</u>	<u>First Amendment to Credit Agreement, by and among, 2U, Inc., the Guarantors party thereto, the Lenders party thereto and Owl Rock Capital Corporation, as administrative agent.</u>					X
<u>10.20</u>	<u>Office Lease, by and between Lanham Office 2015 LLC and 2U Harkins Road LLC, dated as of December 23, 2015.</u>	10-K	001-36376	10.16	February 24, 2017	
<u>10.21</u>	<u>Agreement of Lease, by and between 55 Prospect Owner LLC and 2U NYC, LLC, dated as of February 13, 2017.</u>	10-K	001-36376	10.17	February 24, 2017	
<u>10.22</u>	<u>Office Lease, by and between SRI Ten DCC LCC and 2U, Inc., dated May 11, 2016.</u>	10-K	001-36376	10.18	February 24, 2017	
<u>21.1</u>	<u>Subsidiaries of the Registrant.</u>					X
<u>23.1</u>	<u>Consent of KPMG LLP, independent registered public accounting firm.</u>					X
<u>31.1</u>	<u>Certification of Chief Executive Officer of 2U, Inc. pursuant to Exchange Act Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>					X

Exhibit Number	Description	Form	File No.	Exhibit Number	Filing Date	Filed/Furnished Herewith
31.2	Certification of Chief Financial Officer of 2U, Inc. pursuant to Exchange Act Rule 13a-14(a)/15d-14 (a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1	Certification of Chief Executive Officer of 2U, Inc. in accordance with 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
32.2	Certification of Chief Financial Officer of 2U, Inc. in accordance with 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
101.INS	XBRL Instance Document - The instance document does not appear in the interactive data file because its XBRL tags are embedded within the Inline XBRL document.					X
101.SCH	XBRL Taxonomy Extension Schema Document.					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.					X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).					X

* Portions of this exhibit, indicated by asterisks, have been omitted pursuant to a request for confidential treatment and have been separately filed with the Securities and Exchange Commission.

** Schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The registrant hereby undertakes to supplementally furnish to the Securities and Exchange Commission copies of any of the omitted schedules and exhibits upon request by the Securities and Exchange Commission.

† Indicates management contract or compensatory plan.