
McGraw-Hill Education, Inc.

Quarterly Report

As of March 31, 2019

**INDEX TO THE CONSOLIDATED FINANCIAL STATEMENTS OF MCGRAW-HILL EDUCATION, INC.
AND SUBSIDIARIES**

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Special Note Regarding Forward-Looking Statements

This report includes statements that are, or may be deemed to be, “forward-looking statements.” These forward-looking statements can be identified by the use of forward-looking terminology, including the terms “believes,” “estimates,” “anticipates,” “expects,” “intends,” “plans,” “may,” “will” or “should” or, in each case, their negative or other variations or comparable terminology. These forward-looking statements include all matters that are not historical facts. They appear in a number of places throughout this report and include statements regarding our intentions, beliefs or current expectations concerning, among other things, our results of operations, financial condition, liquidity, prospects, growth, strategies and the industry in which we operate.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the developments in the industry in which we operate, may differ materially from those made in or suggested by the forward-looking statements contained in this report. In addition, even if our results of operations, financial condition and liquidity, and the developments in the industry in which we operate are consistent with the forward-looking statements contained in this report, those results of operations, financial condition and liquidity or developments may not be indicative of results or developments in subsequent periods.

Any forward-looking statements we make in this report speak only as of the date of such statement, and we undertake no obligation to update such statements. Comparisons of results for current and any prior periods are not intended to express any future trends or indications of future performance, unless expressed as such, and should only be viewed as historical data.

PART I - FINANCIAL INFORMATION

Item 1: FINANCIAL STATEMENTS

**McGraw-Hill Education, Inc. and subsidiaries
Consolidated Statements of Operations
(Unaudited; dollars in thousands)**

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Revenue	\$ 278,953	\$ 278,356
Cost of sales	63,921	61,473
Gross profit	215,032	216,883
Operating expenses		
Operating and administration expenses	252,190	263,199
Depreciation	12,504	11,196
Amortization of intangibles	18,629	21,079
Total operating expenses	283,323	295,474
Operating income	(68,291)	(78,591)
Interest expense (income), net	45,283	41,950
(Loss) income from operations before taxes on income	(113,574)	(120,541)
Income tax provision	1,355	519
Net (loss) income	\$ (114,929)	\$ (121,060)

See accompanying notes to the unaudited consolidated financial statements.

McGraw-Hill Education, Inc. and subsidiaries
Consolidated Statements of Comprehensive Income (Loss)
(Unaudited; dollars in thousands)

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Net (loss) income	\$ (114,929)	\$ (121,060)
Other comprehensive (loss) income:		
Foreign currency translation adjustment, net of tax	1,022	2,591
Unrealized (loss) gain on interest rate swap agreements, net of tax	(4,288)	7,894
Comprehensive (loss) income	\$ (118,195)	\$ (110,575)

See accompanying notes to the unaudited consolidated financial statements.

McGraw-Hill Education, Inc. and subsidiaries
Consolidated Balance Sheets
(Dollars in thousands)

	March 31, 2019 (Unaudited)	December 31, 2018
Current assets		
Cash and cash equivalents	\$ 159,341	\$ 314,945
Restricted cash	19,800	19,800
Accounts receivable, net of allowance for doubtful accounts of \$15,456 and \$17,000 as of March 31, 2019 and December 31, 2018, respectively	255,500	346,350
Inventories, net	205,810	185,531
Prepaid and other current assets	87,224	91,378
Total current assets	727,675	958,004
Pre-publication costs, net	181,269	175,024
Property, plant and equipment, net	103,402	102,483
Goodwill	493,956	494,059
Other intangible assets, net	563,947	581,189
Investments	6,297	6,049
Deferred income taxes	6,308	6,422
Operating lease right-of-use assets	97,332	—
Other non-current assets	185,380	191,206
Total assets	\$ 2,365,566	\$ 2,514,436
Liabilities and equity (deficit)		
Current liabilities		
Accounts payable	\$ 113,311	\$ 132,599
Accrued royalties	50,809	114,759
Accrued compensation	22,153	36,634
Deferred revenue	441,554	450,738
Current portion of long-term debt	47,597	31,297
Operating lease liabilities	11,557	—
Other current liabilities, including sales returns of \$60,832 and \$90,388 as of March 31, 2019 and December 31, 2018, respectively	152,825	166,095
Total current liabilities	839,806	932,122
Long-term debt	2,188,668	2,188,414
Deferred income taxes	13,626	13,318
Long-term deferred revenue	621,997	649,453
Operating lease liabilities	95,849	—
Other non-current liabilities	29,353	37,386
Total liabilities	3,789,299	3,820,693
Commitments and contingencies (Note 12)		
Stockholders' equity (deficit)		
Preferred stock, par value \$0.01 per share; 1,000,000 shares authorized and 100,000 issued	—	—
Common stock, par value \$0.01 per share; 100,000,000 shares authorized, 10,912,341 and 10,869,767 shares issued as of March 31, 2019 and December 31, 2018, respectively; and 10,748,833 and 10,728,489 shares outstanding as of March 31, 2019 and December 31, 2018, respectively	105	105
Additional paid in capital	43,293	40,790
Treasury stock, 163,508 and 141,278 shares as of March 31, 2019 and December 31, 2018, respectively	(21,198)	(19,414)
Accumulated deficit	(1,398,755)	(1,283,826)
Accumulated other comprehensive loss	(47,178)	(43,912)
Total stockholders' equity (deficit)	(1,423,733)	(1,306,257)
Total liabilities and equity (deficit)	\$ 2,365,566	\$ 2,514,436

See accompanying notes to the unaudited consolidated financial statements.

McGraw-Hill Education, Inc. and subsidiaries
Consolidated Statements of Cash Flows
(Unaudited; dollars in thousands)

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Operating activities		
Net (loss) income	\$ (114,929)	\$ (121,060)
Adjustments to reconcile net loss to net cash provided by operating activities		
Depreciation (including amortization of technology projects)	12,504	11,196
Amortization of intangibles	18,629	21,079
Amortization of pre-publication costs	15,055	13,157
Provision for losses on accounts receivable	311	1,784
Inventory obsolescence	4,040	3,383
Deferred income taxes	422	238
Stock-based compensation	2,500	4,042
Amortization of debt discount	2,462	2,158
Amortization of deferred financing costs	2,889	2,762
Restructuring charges	3,888	2,474
Other	(248)	(285)
Changes in operating assets and liabilities, net of the effect of acquisitions		
Accounts receivable	92,467	24,642
Inventories	(23,597)	(25,178)
Prepaid and other current assets	4,130	(3,657)
Accounts payable and accrued expenses	(98,318)	(119,753)
Deferred revenue	(37,279)	(57,662)
Other current liabilities	(15,376)	85,331
Net change in operating assets and liabilities	(1,544)	(3,591)
Cash (used for) provided by operating activities	<u>(131,994)</u>	<u>(158,940)</u>
Investing activities		
Investment in pre-publication costs	(20,741)	(22,533)
Capital expenditures	(11,657)	(11,633)
Cash provided by (used for) investing activities	<u>(32,398)</u>	<u>(34,166)</u>
Financing activities		
Payment of Term Loan Facility	(4,317)	(4,317)
Borrowings on Receivables Facility	16,300	—
Payment of capital lease obligations	(2,392)	(2,410)
Repurchase of common stock	(1,784)	(2,942)
Dividend equivalents on vested stock options	—	(656)
Dividend equivalents on vested restricted stock units	—	(1,398)
Cash provided by (used for) financing activities	<u>7,807</u>	<u>(11,723)</u>
Effect of exchange rate changes on cash	1,088	499
Net change in cash, cash equivalents and restricted cash	<u>(155,497)</u>	<u>(204,330)</u>
Cash, cash equivalents and restricted cash at the beginning of the period	345,920	407,632
Cash, cash equivalents and restricted cash, ending balance	<u>\$ 190,423</u>	<u>\$ 203,302</u>
Supplemental disclosures		
Cash paid for interest expense	\$ 27,300	\$ 35,188
Cash paid for income taxes	527	2,263

See accompanying notes to the unaudited consolidated financial statements.

McGraw-Hill Education, Inc. and subsidiaries
Notes to the Consolidated Financial Statements
(Unaudited; dollars in thousands, unless otherwise indicated)

1. Basis of Presentation and Accounting Policies

McGraw-Hill Education, Inc. ("MHE", the "Company", "Parent", "we", "us", or "our"), is a global provider of outcome-focused learning solutions, delivering both curated content and digital learning tools and platforms to the students in the classrooms of approximately 250,000 higher education instructors, 13,000 K-12 school districts and a wide variety of academic institutions, professionals and companies in more than 100 countries. We have evolved our business from a print-centric producer of textbooks and instructional materials to the development of digital content and technology-enabled adaptive learning solutions that are delivered anywhere, anytime. Our business is comprised of the following four operating segments:

- **Higher Education:** We are a top-three provider in the United States higher education market. We provide students, instructors and institutions with adaptive digital learning tools, digital platforms, custom publishing solutions and traditional printed textbook products. The primary users of our solutions are students enrolled in two- and four-year non-profit colleges and universities, and to a lesser extent, for profit institutions. We sell our Higher Education solutions to well-known online retailers, distribution partners and college bookstores, who subsequently sell to students. We also increasingly sell via our proprietary e-commerce platform, primarily directly to students, and through our formal rental program which was introduced for our copyright 2019 titles in the fall of 2018 with rental agreements with all major distribution partners.
- **K-12:** We are a top-three provider in the United States K-12 curriculum and learning solutions market. We sell our learning solutions directly to K-12 school districts across the United States. While we offer all of our major curriculum and learning solutions in digital format, given the varying degrees of availability and maturity of our customers' technological infrastructure, a majority of our sales are derived from selling blended print and digital solutions.
- **International:** We leverage our global scale, brand recognition and extensive product portfolio to serve students in the higher education, K-12 and professional markets in more than 100 countries outside of the United States. Our products and solutions for the International segment are produced in more than 75 languages and primarily originate from our offerings produced for the United States market and that are later adapted to different international markets.
- **Professional:** We are a leading provider of medical, technical, engineering and business content for the professional, education and test preparation communities.

Principles of Consolidation

The accompanying unaudited consolidated financial statements have been prepared in accordance with U.S. Generally Accepted Accounting Principles ("U.S. GAAP") and all significant intercompany transactions and balances have been eliminated. In the opinion of management, the accompanying unaudited consolidated financial statements include all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation.

These unaudited consolidated financial statements and notes reflect the Company's evaluation of events occurring subsequent to the balance sheet date through May 14, 2019, the date the financial statements were available for issuance.

Seasonality and Comparability

Our revenues, operating profit and operating cash flows are affected by the inherent seasonality of the academic calendar, which varies by country. Changes in our customers' ordering patterns may impact the comparison of our results in a quarter with the same quarter of the previous year, or in a fiscal year with the prior

McGraw-Hill Education, Inc. and subsidiaries
Notes to the Consolidated Financial Statements
(Unaudited; dollars in thousands, unless otherwise indicated)

fiscal year, where our customers may shift the timing of material orders for any number of reasons, including, but not limited to, changes in academic semester start dates or changes to their inventory management practices.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

On an ongoing basis, we evaluate our estimates and assumptions, including those related to revenue recognition, allowance for doubtful accounts and sales returns, inventories, pre-publication costs, accounting for the impairment of long-lived assets (including other intangible assets), goodwill and indefinite-lived intangible assets, restructuring, stock-based compensation, income taxes and contingencies.

Cash, Cash Equivalents, and Restricted Cash

Cash and cash equivalents include bank deposits and highly liquid investments with original maturities of three months or less that consist primarily of interest bearing demand deposits with daily liquidity, money market and time deposits. The balance also includes cash that is held by the Company outside the United States to fund international operations or to be reinvested outside of the United States. The investments and bank deposits are stated at cost, which approximates market value. These investments are not subject to significant market risk.

Restricted cash, including restricted cash included in other non-current assets, represents interest payable through April 15, 2020 relating to the MHGE Parent Term Loan (refer to Note 4, "Debt") and collateral for insurance coverage including workers' compensation, general liability and automobile claims.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported in the consolidated balance sheets to the total of the same amounts reported in the consolidated statements of cash flows:

	As of	
	March 31, 2019	December 31, 2018
Cash and cash equivalents	\$ 159,341	\$ 314,945
Restricted cash	19,800	19,800
Restricted cash included in other non-current assets	11,282	11,175
Total Cash, Cash Equivalents and Restricted Cash	\$ 190,423	\$ 345,920

Accounts Receivable

Credit is extended to customers based upon an evaluation of the customer's financial condition. Accounts receivable are recorded at net realizable value.

Allowance for Doubtful Accounts and Sales Returns

The allowance for doubtful accounts and sales returns reserves methodology is based on historical analysis, a review of outstanding balances and current conditions. In determining these reserves, we consider, among other factors, the financial condition and risk profile of our customers, areas of specific or concentrated risk as well as applicable industry trends or market indicators. The allowance for sales returns is a significant estimate, which is based on historical rates of return and current market conditions. The provision for sales returns is reflected as a reduction to "Revenues" in our consolidated statements of operations. Sales returns are charged against the reserve as products are returned to inventory. Accounts receivable losses for bad debt are charged against the allowance for doubtful accounts when the receivable is determined to be uncollectible. The change in the allowance for doubtful accounts is reflected as part of operating and administrative expenses in our consolidated statement of operations.

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Concentration of Credit Risk

As of March 31, 2019 and December 31, 2018, two customers comprised 21% and 23% of the gross accounts receivable balance which is reflective of concentration and seasonality in our industry. In addition, the Company mitigates concentration of credit risk with respect to accounts receivable by performing ongoing credit evaluations of its customers and by periodically entering into arrangements with third parties who have agreed to provide credit insurance or purchase our accounts receivables of certain customers in the event of the customer's financial inability to pay, subject to certain limitations.

For the three months ended March 31, 2019 and 2018, the Company had no single customer that accounted for 10% of our gross revenue. The loss of, or any reduction in sales from, a significant customer or deterioration in their ability to pay could harm our business and financial results.

Inventories

Inventories, consisting principally of books, are stated at the lower of cost or net realizable value. The majority of our inventories relate to finished goods. A significant estimate, the reserve for inventory obsolescence, is reflected in operating and administration expenses. In determining this reserve, we consider management's current assessment of the marketplace, industry trends and projected product demand as compared to the number of units currently on hand.

Pre-publication Costs

Pre-publication costs include both the cost of developing educational content and the development of assessment solution products. Costs incurred prior to the publication date of a title or release date of a product represent activities associated with product development. These may be performed internally or outsourced to subject matter specialists and include, but are not limited to, editorial review and fact verification, graphic art design and layout and the process of conversion from print to digital media or within various formats of digital media. These costs are capitalized when the costs can be directly attributable to a project or title and the title is expected to generate probable future economic benefits. Capitalized costs are amortized upon publication of the title over its estimated useful life of up to five years, with a higher proportion of the amortization typically taken in the earlier years. Amortization expenses for prepublication costs are charged as a component of operating and administration expenses. In evaluating recoverability, we consider management's current assessment of the marketplace, industry trends and the projected success of programs.

Property, Plant and Equipment

Property, plant and equipment are stated at cost less accumulated depreciation. Depreciation and amortization are recorded on a straight-line basis, over the assets' estimated useful lives. Buildings have an estimated useful life, for purposes of depreciation, from ten to forty years. Furniture, fixtures and equipment are depreciated over periods not exceeding twelve years. Leasehold improvements are amortized over the life of the lease or the life of the assets, whichever is shorter. The Company evaluates the depreciation periods of property, plant and equipment to determine whether events or circumstances warrant revised estimates of useful lives.

Consigned Inventory

Consigned inventory consists mainly of books available through our formal rental program stated at the lower of cost or net realizable value. At the time a rental transaction is completed, the book is moved from inventories, net to property, plant and equipment, net. The cost of the book is amortized down to its estimated residual value over the rental period with the related amortization expense included within cost of sales in the consolidated statements of operations. Returns are moved back into inventories, net at the current residual value.

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Royalty Advances

Royalty advances are initially capitalized and subsequently expensed as related revenues are earned or when the Company determines future recovery is not probable. The Company has a long history of providing authors with royalty advances, and it tracks each advance earned with respect to the sale of the related publication. Historically, the longer the unearned portion of the advance remains outstanding, the less likely it is that the Company will recover the advance through the sale of the publication, as the related royalties earned are applied first against the remaining unearned portion of the advance. The Company applies this historical experience to its existing outstanding royalty advances to estimate the likelihood of recovery. Additionally, the Company's editorial staff reviews its portfolio of royalty advances at a minimum quarterly to determine if individual royalty advances are not recoverable for discrete reasons, such as the death of an author prior to completion of a title or titles, a Company decision to not publish a title, poor market demand or other relevant factors that could impact recoverability. Based on this information, the portion of any advance that we believe is not recoverable is expensed.

Deferred Technology Costs

We capitalize certain software development and website implementation costs. Capitalized costs only include incremental, direct costs of materials and services incurred to develop the software after the preliminary project stage is completed, funding has been committed and it is probable that the project will be completed and used to perform the function intended. Incremental costs are expenditures that are out-of-pocket to us and are not part of an allocation or existing expense base. Software development and website implementation costs are expensed as incurred during the preliminary project stage. Capitalized costs are amortized from the period the software is ready for its intended use over its estimated useful life, generally three years, using the straight-line method and are included within depreciation in the consolidated statements of operations. Periodically, we evaluate the amortization methods, remaining lives and recoverability of such costs. Capitalized software development and website implementation costs are included in other non-current assets in the consolidated balance sheets and are presented net of accumulated amortization. Gross deferred technology costs were \$174,318 and \$164,297 as of March 31, 2019 and December 31, 2018, respectively. Accumulated amortization of deferred technology costs were \$96,020 and \$89,248 as of March 31, 2019 and December 31, 2018, respectively.

Accounting for the Impairment of Long-Lived Assets (Including Other Intangible Assets)

We evaluate long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Upon such an occurrence, recoverability of assets to be held and used is measured by comparing the carrying amount of an asset to current forecasts of undiscounted future net cash flows expected to be generated by the asset. If the carrying amount of the asset exceeds its estimated future cash flows, an impairment charge is recognized equal to the amount by which the carrying amount of the asset exceeds the fair value of the asset. Long-lived assets held for sale are written down to fair value, less cost to sell. Fair value is determined based on market evidence, discounted cash flows, appraised values or management's estimates, depending upon the nature of the assets.

Goodwill and Indefinite-Lived Intangible Assets

Goodwill represents the excess of purchase price and related costs over the fair value of identifiable assets acquired and liabilities assumed in a business combination. Indefinite-lived intangible assets consist of the Company's acquired brands. Goodwill and indefinite-lived intangible assets are not amortized, but instead are tested for impairment annually during the fourth quarter each year, or more frequently if events or changes in circumstances indicate that the asset might be impaired. We have four reporting units, Higher Education, K-12, International, and Professional with goodwill and indefinite-lived intangible assets that are evaluated for impairment.

We initially perform a qualitative analysis evaluating whether there are events or circumstances that provide evidence that it is more likely than not that the fair value of any of our reporting units or indefinite-lived intangible assets are less than their carrying amount. If, based on our evaluation we do not believe that it is more

McGraw-Hill Education, Inc. and subsidiaries
Notes to the Consolidated Financial Statements
(Unaudited; dollars in thousands, unless otherwise indicated)

likely than not that the fair value of any of our reporting units or indefinite-lived intangible assets are less than their carrying amount, no quantitative impairment test is performed. Conversely, if the results of our qualitative assessment determine that it is more likely than not that the fair value of any of our reporting units or indefinite-lived intangible assets are less than their respective carrying amounts we perform a two-step quantitative impairment test.

During the first step, the estimated fair value of the reporting units are compared to their carrying value including goodwill and the estimated fair value of the intangible assets is compared to their carrying value. Fair values of the reporting units are estimated using the income approach, which incorporates the use of a discounted free cash flow analysis, and are corroborated using the market approach, which incorporates the use of revenue and earnings multiples based on market data. The discounted free cash flow analyses are based on the current operating budgets and estimated long-term growth projections for each reporting unit. Future cash flows are discounted based on a market comparable weighted average cost of capital rate for each reporting unit, adjusted for market and other risks where appropriate. Fair values of indefinite-lived intangible assets are estimated using avoided royalty discounted free cash flow analyses. Significant judgments inherent in these analyses include the selection of appropriate royalty and discount rates and estimating the amount and timing of expected future cash flows. The discount rates used in the discounted free cash flow analyses reflect the risks inherent in the expected future cash flows generated by the respective intangible assets. The royalty rates used in the discounted free cash flow analyses are based upon an estimate of the royalty rates that a market participant would pay to license the Company's trade names and trademarks.

If the fair value of the reporting units or indefinite-lived intangible assets are less than their carrying value, a second step is performed which compares the implied fair value of the reporting unit's goodwill or indefinite-lived intangible assets to the carrying value. The fair value of the goodwill or indefinite-lived intangible assets is determined based on the difference between the fair value of the reporting unit and the net fair value of the identifiable assets and liabilities of the reporting unit or carrying value of the indefinite-lived intangible asset. If the implied fair value of the goodwill or indefinite-lived intangible assets is less than the carrying value, the difference is recognized as an impairment charge. Significant judgments inherent in this analysis include estimating the amount and timing of future cash flows and the selection of appropriate discount rates, royalty rate and long-term growth rate assumptions. Changes in these estimates and assumptions could materially affect the determination of fair value for each reporting unit and indefinite-lived intangible asset and for some of the reporting units and indefinite-lived intangible assets could result in an impairment charge, which could be material to our financial position and results of operations.

Fair Value Measurements

In accordance with authoritative guidance for fair value measurements, certain assets and liabilities are required to be recorded at fair value on a recurring basis. Fair value is defined as the amount that would be received to sell an asset or transfer a liability in an orderly transaction between market participants. A fair value hierarchy has been established which requires us to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

The three levels of inputs used to measure fair value are as follows:

- Level 1 - Unadjusted quoted prices in active markets for identical assets or liabilities.
- Level 2 - Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the asset or liabilities.
- Level 3 - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

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Financial Instruments

We enter into interest rate hedge agreements to manage risks associated with interest rate exposures and are not used for trading or speculative purposes. Interest rate swap agreements are derivative financial instruments and generally involve the conversion of variable-rate debt to fixed-rate debt over the life of the interest rate swap agreement without exchange of the underlying notional amount.

Interest rate swap agreements which are designated and qualify as a hedge of the exposure to variability in expected future cash flows are considered cash flow hedges. The Company prepares written hedge documentation for all interest rate swap agreements which are designated as cash flow hedges. The written hedge documentation includes identification of, among other items, the risk management objective, hedging instrument, hedged item and methodologies for assessing and measuring hedge effectiveness and ineffectiveness, along with support for management's assertion that the hedge will be highly effective.

For designated hedging relationships, the Company performs retrospective and prospective effectiveness testing to determine whether the hedging relationship has been highly effective in offsetting changes in cash flows of hedged items and whether the relationship is expected to continue to be highly effective in the future. Assessments of hedge effectiveness and measurements of hedge ineffectiveness are performed at least quarterly. The effective portion of the changes in the fair value of an interest rate swap that is highly effective and that has been designated and qualifies as a cash flow hedge are initially recorded in accumulated other comprehensive income (loss) and reclassified to earnings in the same period that the hedged item impacts earnings or when the hedging relationship is terminated. The ineffective portion of the gain or loss, if any, is recognized in earnings.

The Company recognizes all interest rate swap agreements as assets or liabilities in the balance sheet at fair value and is included with other non-current assets or other non-current liabilities, respectively. Cash flows from interest rate swap agreements used to manage interest rate risk are classified as operating activities. In addition, we enter into interest rate swap agreements with a variety of financial institutions that we believe are creditworthy in order to reduce our concentration of credit risk.

Foreign Currency Translation

We have operations in many foreign countries. For most international operations, the local currency is the functional currency. For international operations that are determined to be extensions of the U.S. operations or where a majority of revenue and/or expenses is USD denominated, the United States dollar is the functional currency. For local currency operations, assets and liabilities are translated into United States dollars using end-of-period exchange rates, and revenue and expenses are translated into United States dollars using weighted-average exchange rates. Foreign currency translation adjustments are accumulated in a separate component of equity.

Stock-Based Compensation

The Company issues stock options and other stock-based compensation to eligible employees, directors and consultants and accounts for these transactions under the provisions of Accounting Standards Codification ("ASC") 718, *Compensation - Stock Compensation*. For equity awards, total compensation cost is based on the grant date fair value. For liability awards, total compensation cost is based on the fair value of the award on the date the award is granted and is remeasured at each reporting date until settlement. For performance-based options issued, the value of the instrument is measured at the grant date as the fair value of the common stock and expensed over the vesting term when the performance targets are considered probable of being achieved. The Company recognizes stock-based compensation expense for all awards, on a straight-line basis, over the service period required to earn the award, which is typically the vesting period.

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Revenue Recognition

Revenue is recognized when control of goods or services are transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services. We determine revenue recognition through the following steps:

- Identification of the contract, or contracts, with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, we satisfy a performance obligation.

Arrangements with multiple deliverables

Revenue relating to products that provide for more than one deliverable is recognized based upon the relative fair value to the customer of each deliverable as each deliverable is provided. Revenue relating to agreements that provide for more than one service is recognized based upon the relative fair value to the customer of each service component as each component is earned. If the fair value to the customer for each service is not determinable based on stand-alone selling price, we make our best estimate of the services' stand-alone selling price and recognize revenue as earned as the services are delivered. Because we determine the basis for allocating consideration to each deliverable primarily on prices experienced from completed sales, the portion of consideration allocated to each deliverable in a multiple deliverable arrangement may increase or decrease depending on the most recent selling price of a comparable product or service sold on a stand-alone basis. For example, as the demand for, and prevalence of, digital products increases, as new sales occur we may be required to increase the amount of consideration allocable to digital products included in multiple deliverable arrangements because the fair value of such products or services may increase relative to other products or services bundled in the arrangement. Conversely, in the event that demand for our print products decreases, thereby causing us to experience reduced prices on our print products, we may be required to allocate less consideration to our print products in our arrangements that include multiple deliverables.

Subscription-based products

Subscription revenue is recognized over the related subscription period that the subscription is available and is used by the customer. Subscription revenue received or receivable in advance of the delivery of services or publications is included in deferred revenue. Incremental costs that are directly related to the subscription revenue are deferred and amortized over the subscription period. Included among the underlying assumptions related to our estimates that impact the recognition of subscription income is the extent of our responsibility to provide access to our subscription-based products, and the extent of complementary support services customers demand to access our products.

Service arrangements

Revenue relating to arrangements that provide for more than one service is recognized based upon the relative fair value to the customer of each service component as each component is earned. Such arrangements may include digital products bundled with traditional print products, obligations to provide products and services in the future at no additional cost, and periodic training pertinent to products and services previously provided. If the fair value to the customer for each service is not objectively determinable, we make our best estimate of the services' stand-alone selling price and recognize revenue as earned as the services are delivered.

Rental program

Revenue relating to our rental program is deferred and subsequently recognized over the rental period. The rental period begins when the print product is transferred to the customer and is typically for a one semester. All rental periods are less than one year in duration.

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Shipping and Handling Costs

All amounts billed to customers in a sales transaction for shipping and handling are classified as revenue. Shipping and handling costs are also a component of cost of sales.

Income Taxes

The Company's operations are subject to United States federal, state and local income taxes, and foreign income taxes.

We determine the provision for income taxes using the asset and liability approach. Under this approach, deferred income taxes represent the expected future tax consequences of temporary differences between the carrying amounts and tax bases of assets and liabilities.

Valuation allowances are established when management determines that it is more-likely-than not that some portion or all of the deferred tax asset will not be realized. Management evaluates the weight of both positive and negative evidence in determining whether a deferred tax asset will be realized. Management will look to a history of losses, future reversal of existing taxable temporary differences, taxable income in carryback years, feasibility of tax planning strategies, and estimated future taxable income. The valuation allowance can also be affected by changes in tax laws and changes to statutory tax rates.

We prepare and file tax returns based on management's interpretation of tax laws and regulations. As with all businesses, our tax returns are subject to examination by various taxing authorities. Such examinations may result in future tax assessments based on differences in interpretation of the tax law and regulations. We adjust our estimated uncertain tax positions reserves based on audits by and settlements with various taxing authorities as well as changes in tax laws, regulations, and interpretations. The Company recognizes accrued interest and penalties related to uncertain tax positions in income tax (benefit) provision within the consolidated statement of operations.

Contingencies

We accrue for loss contingencies when both (a) information available prior to issuance of the financial statements indicates that it is probable that a liability had been incurred at the date of the financial statements and (b) the amount of loss can reasonably be estimated. When we accrue for loss contingencies and the reasonable estimate of the loss is within a range, we record its best estimate within the range. We disclose an estimated possible loss or a range of loss when it is at least reasonably possible that a loss may have been incurred. Neither an accrual nor disclosure is required for losses that are deemed remote.

Recently Adopted Accounting Standards

In February 2018, the FASB issued ASU No. 2018-02, "*Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*", to allow a reclassification from accumulated other comprehensive income (loss) for stranded tax effects resulting from the Tax Cuts and Jobs Act ("TCJA"). The Company adopted Topic 220 on January 1, 2019, and elected to not reclassify the income tax effects of the TCJA from accumulated comprehensive income (loss) to retained earnings. The adoption had no impact on the Company's consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, "*Leases*" (Topic 842): The company adopted ASU No. 2016-02, effective January 1, 2019 using the modified retrospective approach. The adoption of Topic 842 resulted in the recognition of lease liabilities of \$56,640 and lease assets of \$48,086 (net of lease incentives and deferred rent), as of January 1, 2019 on the consolidated balance sheet, with no material impact on the consolidated statement of operations. For required disclosures relating to the impact of adopting Topic 842 and a discussion on the Company's updated accounting policies relating to leases, see Note 10, "Leases".

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Recently Issued Accounting Standards

In August 2018, the FASB issued ASU No. 2018-13, “*Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*”, which modifies the disclosure requirements on fair value measurements. This standard is effective for interim and annual reporting periods after December 15, 2019, with early adoption permitted. The Company is currently evaluating the impact of this guidance on its consolidated financial statements.

In August 2017, the FASB issued ASU 2017-12, “*Derivative and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*”, which aligns hedge accounting with risk management activities and changes both how companies assess hedge effectiveness and presentation and disclosure requirements. This standard is effective for interim and annual reporting periods after December 15, 2019, with early adoption permitted. The Company is currently evaluating the impact of this guidance on its consolidated financial statements.

Recently issued FASB accounting standard codification updates, except for the above standards, did not have a material impact to the Company’s unaudited consolidated financial statements for the three months ended March 31, 2019.

2. Revenue from Contracts with Customers

On January 1, 2018, we adopted ASU 2014-09, “*Revenue from Contracts with Customers*” (“Topic 606”), applying the modified retrospective method to all contracts that were not completed as of that date. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while prior period results are not adjusted and continue to be reported under the accounting standards in effect for the prior period. We recorded an increase to opening equity of \$28,252 as of January 1, 2018 due to the cumulative impact of adopting Topic 606.

Disaggregation of Revenue

The following table presents our disaggregated revenues by source for the three months ended March 31, 2019 and 2018:

	Three Months Ended March 31, 2019			Three Months Ended March 31, 2018		
	Digital	Print (1)	Total	Digital	Print (1)	Total
Reported Revenue by segment:						
Higher Education	\$ 117,463	\$ 21,342	\$ 138,805	\$ 110,464	\$ 31,947	\$ 142,411
K-12	50,452	17,617	68,069	44,689	20,069	64,758
International	13,330	29,313	42,643	13,502	30,079	43,581
Professional	16,823	10,256	27,079	15,981	9,961	25,942
Other	410	1,947	2,357	352	1,312	1,664
Total Reported Revenue	\$ 198,478	\$ 80,475	\$ 278,953	\$ 184,988	\$ 93,368	\$ 278,356

(1) Print revenue contains traditional print, consumable print workbooks and custom revenue.

Higher Education

For our print products, our performance obligation is typically satisfied at the time of shipment directly to the student or to our distribution partners, who typically order products several weeks before the beginning of an academic semester to ensure sufficient physical product inventory. Digital products are generally sold as subscriptions, which are paid for at the time of sale or shortly thereafter, and our performance obligation is satisfied over the life of the subscription.

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K-12

Our performance obligation from traditional print products is typically satisfied at the time of shipment, which closely aligns with when a school district takes possession of the required number of products at the outset of a multi-year adoption. Traditional print products are typically re-used by students over the term of the adoption, and school districts will occasionally purchase replacement products due to wear or increasing enrollment over the life of the adoption. Sales of these replacement products are known as residual sales, from which we derive a significant portion of our revenue. Our digital solutions are sold as a subscription, which states and districts generally pay for at the beginning of a multi-year adoption. We defer revenue related to digital solutions for the entirety of the contract upfront and satisfy our performance obligation ratably over the term of the contract. Revenues for print workbooks are deferred when we enter into a multi-year contract and our performance obligation is satisfied when delivery takes place, often at the beginning of each academic year over the contract term.

International

Revenue recognition for international products is similar to products sold in the United States, primarily in the Higher Education market. Our performance obligations for traditional print products are typically satisfied upon shipment, while digital performance obligations are satisfied over the contractual term of the product.

Professional

Our performance obligations for traditional print products are typically satisfied upon shipment, while our performance obligations for digital products are satisfied over the contractual term.

In addition, revenues are also impacted by our reserve for product returns. To more accurately reflect the economic impact of returns on our operating performance, we reserve a percentage of our gross sales in anticipation of these returns when calculating our net revenues.

Significant Judgments

Our contracts with customers often include promises to transfer multiple products and services to a customer. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. We use an observable price to determine the stand-alone selling price for separate performance obligations if available or when not available, an estimate that maximizes the use of observable inputs and faithfully depicts the selling price of the promised goods or services if the entity sold those goods or services separately to a similar customer in similar circumstances.

Deferred Commission Costs

Our incremental direct costs of obtaining a contract, which consist of sales commissions, are deferred and amortized over the expected period of benefit or the related contractual renewal period, depending on whether the contract is an initial or renewal contract, respectively. We classify deferred commission costs as current or non-current based on the timing of when we expect to recognize the expense. The current and non-current portions of deferred commission costs are included in prepaid and other current assets, and other non-current assets, respectively, in our consolidated balance sheets. Deferred commission costs was as follows:

	As of	
	March 31, 2019	December 31, 2018
Current	\$ 7,229	\$ 7,270
Non-current	19,363	20,812
Total Deferred Commission Costs	\$ 26,592	\$ 28,082

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As of March 31, 2019 and 2018, amortization expense related to deferred commission costs was \$1,876 and \$1,615, respectively, which are included within operating and administration expenses in our consolidated statements of operations.

In addition, there were no impairment losses of deferred commission costs for the three months ended March 31, 2019 and 2018.

Contract Assets and Contract Liabilities

Our contract assets consist of unbilled receivables that are recorded for contracts with performance obligations that have been satisfied but have not yet been billed. Contract assets are included in accounts receivable, net, on our consolidated balance sheets.

Our contract liabilities consist of revenues from our digital subscription products and multi-year consumable products that are deferred at the time of sale and are recognized in earnings on a pro-rata basis over the term of the subscription or contract period. We classify contract liabilities as current or non-current deferred revenue on our consolidated balance sheets based on the timing of when we expect to recognize revenue.

Contract assets and contract liabilities consisted of the following:

	As of	
	March 31, 2019	December 31, 2018
Contract assets	\$ 19,467	\$ 4,975
Contract liabilities (deferred revenue):	—	
Current	441,554	450,738
Non-current	621,997	649,453
Total Contract liabilities	\$ 1,063,551	\$ 1,100,191

Revenue recognized during the three months ended March 31, 2019 and 2018 from amounts included within deferred revenue at January 1, 2019 and 2018 was approximately \$129,389 and \$123,979, respectively.

In addition, estimated revenue expected to be recognized in the future related to the \$1,063,551 of performance obligations that are unsatisfied or partially satisfied as of March 31, 2019 is approximately 77% over the next one to three years.

Practical expedients

We expense commission costs when incurred related to customer contracts that have a duration of less than one year. We recognize these costs within operating and administration expenses in our consolidated statements of operations.

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3. Inventories

Inventories consist of the following:

	As of	
	March 31, 2019	December 31, 2018
Raw materials	\$ 5,402	\$ 3,199
Work-in-progress	1,990	1,063
Finished goods	267,104	249,691
	<u>274,496</u>	<u>253,953</u>
Reserves	(68,686)	(68,422)
Inventories, net	<u>\$ 205,810</u>	<u>\$ 185,531</u>

4. Debt

Long-term debt consisted of the following:

	As of	
	March 31, 2019	December 31, 2018
MHGE Senior Notes	\$ 400,000	\$ 400,000
Term Loan Facility	1,679,275	1,683,593
MHGE Parent Term Loan	180,000	180,000
Receivables Facility	66,300	50,000
Total long-term debt outstanding	<u>2,325,575</u>	<u>2,313,593</u>
Less: unamortized debt discount	(52,498)	(54,960)
Less: unamortized deferred financing costs	(36,812)	(38,922)
Less: current portion of long-term debt	(47,597)	(31,297)
Long-Term Debt	<u>\$ 2,188,668</u>	<u>\$ 2,188,414</u>

MHGE Senior Notes

On May 4, 2016, McGraw-Hill Global Education Holdings, LLC ("MHGE") and McGraw-Hill Global Education Finance, Inc. (together with MHGE, the "Issuers") issued \$400,000 aggregate principal amount of the 7.875% Senior Notes due 2024, ("MHGE Senior Notes") in a private placement. The MHGE Senior Notes mature on May 15, 2024 and bear interest at a rate of 7.875% per annum, payable semi-annually in arrears on May 15 and November 15 of each year, and commenced on November 15, 2016.

As of March 31, 2019, the unamortized debt discount and deferred financing costs was \$37,713 and \$17,178, respectively, which are amortized over the term of the MHGE Senior Notes using the effective interest method.

The Issuers may redeem the MHGE Senior Notes at their option, in whole or in part, at any time on or after May 15, 2019, at certain redemption prices. In addition, prior to May 15, 2019 the Issuers may redeem the MHGE Senior Notes at their option, in whole at any time or in part from time to time, at a redemption price equal to 100% of the principal amount of the MHGE Senior Notes redeemed, plus a "make-whole" premium and accrued and unpaid interest, if any. Notwithstanding the foregoing, from time to time on or prior to May 15, 2019 the Issuers may redeem in the aggregate up to 40% of the original aggregate principal amount of the Notes (calculated after giving effect to any issuance of additional notes) in an aggregate amount equal to the net cash proceeds of one or more equity offerings at a redemption price equal to 107.875%, plus accrued and unpaid interest, if any, so long as at

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least 50% of the original aggregate principal amount of the Notes (calculated after giving effect to any issuance of additional notes) must remain outstanding after each such redemption.

The MHGE Senior Notes are fully and unconditionally guaranteed by each of McGraw-Hill Global Education Intermediate Holdings, LLC ("MHGE Holdings") domestic restricted subsidiaries that guarantee the Senior Facilities.

The MHGE Senior Notes contain certain customary negative covenants and events of default. The negative covenants limit MHGE Holdings and its restricted subsidiaries' ability to, among other things: incur additional indebtedness or issue certain preferred shares, create liens on certain assets, pay dividends or prepay junior debt, make certain loans, acquisitions or investments, materially change its business, engage in transactions with affiliates, conduct asset sales, restrict dividends from subsidiaries, restrict liens, or merge, consolidate, sell or otherwise dispose of all or substantially all of MHGE Holdings' assets.

The fair value of the MHGE Senior Notes was approximately \$328,000 and \$310,000 as of March 31, 2019 and December 31, 2018, respectively. The Company estimates the fair value of its MHGE Senior Notes based on trades in the market. Since the MHGE Senior Notes do not trade on a daily basis in an active market, the fair value estimates are based on market observable inputs based on borrowing rates currently available for debt with similar terms and average maturities (Level 2). As of March 31, 2019, the remaining contractual life of the MHGE Senior Notes is approximately 5.0 years.

Senior Facilities

On May 4, 2016, MHGE Holdings entered into the Senior Facilities. The Senior Facilities provide for senior secured financing of up to \$1,925,000, consisting of:

- Term Loan Facility in an aggregate principal amount of \$1,575,000 with a maturity of 6 years; and
- a senior secured revolving credit facility in an aggregate principal amount of up to \$350,000 with a maturity of 5 years (the "Revolving Credit Facility"), including both a letter of credit sub-facility and a swingline loan sub-facility.

On December 15, 2017, the Company completed an incremental aggregate principal amount of \$150,000 under the existing Term Loan Facility. The incremental Term Loan Facility was issued at a 0.25% discount and will mature concurrently with the existing Term Loan Facility.

Borrowings under the Senior Facilities bear interest at a rate equal to a LIBOR or Prime rate plus an applicable margin, subject to a 1.00% floor in the case of the Term Loan Facility. As of March 31, 2019, the interest rate for the Term Loan Facility was 6.5%. In addition, the Term Loan Facility was issued at a discount of 0.5%. As of March 31, 2019, the unamortized debt discount and deferred financing costs was \$11,351 and \$16,374, respectively, which are amortized over the term of the facility using the effective interest method.

As of March 31, 2019, the amount available under the Revolving Facility was \$350,000 (excluding outstanding letters of credit of \$4,262). In addition, we are required to pay a commitment fee of 0.50% per annum to the lenders under the Revolving Facility in respect of the unutilized commitments thereunder.

The Senior Facilities require scheduled quarterly principal payments on the term loans in amounts equal to 0.25% of the original principal amount of the term loans commencing with the end of the first full fiscal quarter ending after the closing date, with the balance payable at maturity. The Term Loan Facility also includes customary mandatory prepayment requirements based on certain events such as asset sales, debt issuances and defined levels of excess cash flow. As of December 31, 2018, the Company determined that a \$14,028 mandatory prepayment of indebtedness is required and was paid on April 5, 2019. This amount is included within the current portion of long-term debt in the consolidated balance sheets as of March 31, 2019.

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All obligations under the Senior Facilities are unconditionally guaranteed by each of MHGE Holdings' existing and future direct and indirect material, wholly owned domestic subsidiaries. The obligations are secured by substantially all of MHGE Holdings' assets and those of each subsidiary guarantor, capital stock of the subsidiary guarantors and 65% of the voting capital stock of the first-tier foreign subsidiaries that are not subsidiary guarantors, in each case subject to exceptions. Such security interests consist of a first priority lien with respect to the collateral.

Our Revolving Facility includes a springing covenant that requires MHGE Holdings, subject to a testing threshold, comply on a quarterly basis with a maximum net first lien senior secured leverage ratio (the ratio of consolidated net debt secured by first-priority liens on the collateral to Adjusted EBITDA) of (a) with respect to the first, third and fourth fiscal quarters of any year, 4.80 to 1.00 and (b) with respect to the second quarter of any fiscal year, 5.25 to 1.00. The testing threshold is satisfied at any time at which the sum of outstanding revolving credit facility loans, swingline loans and certain letters of credit exceeds thirty percent (30%) of commitments under the revolving credit facility at quarter end.

Adjusted EBITDA reflects EBITDA as defined in the credit agreement governing the Senior Facilities. Solely for the purpose of calculating the springing financial covenant, pre-publication investments should be excluded from the calculation of Adjusted EBITDA.

The Senior Facilities contain certain customary affirmative covenants and events of default. The negative covenants in the Senior Facilities include, among other things, limitations on MHGE Holdings' and its subsidiaries' ability to incur additional debt or issue certain preferred shares; create liens on certain assets; make certain loans or investments (including acquisitions); pay dividends on or make distributions in respect of capital stock or make other restricted payments; consolidate, merge, sell or otherwise dispose of all or substantially all of their assets; sell assets; enter into certain transactions with affiliates; enter into sale-leaseback transactions; change their lines of business; restrict dividends from their subsidiaries or restrict liens; change their fiscal year; and modify the terms of certain debt or organizational agreements.

The fair value of the Term Loan Facility was approximately \$1,551,230 and \$1,536,279 as of March 31, 2019 and December 31, 2018, respectively. The Company estimates the fair value of its Term Loan Facility based on trades in the market. Since the Term Loan Facility do not trade on a daily basis in an active market, the fair value estimates are based on market observable inputs based on borrowing rates currently available for debt with similar terms and average maturities (Level 2). As of March 31, 2019, the remaining contractual life of the Term Loan Facility is approximately 3.0 years.

MHGE Parent Term Loan

On April 20, 2018, MHGE Parent, LLC ("MHGE Parent"), an indirect parent of MHGE, entered into a term loan agreement with Ares Agent Services, L.P., as administrative agent, and clients of Ares Capital Management, LLC and certain funds and accounts advised by Guggenheim Partners Investment Management, LLC, as lenders, providing for a \$180,000 term loan facility (the "MHGE Parent Term Loan") with a maturity of April 20, 2022. The MHGE Parent Term Loan was issued at a discount of 2.5%.

The MHGE Parent Term Loan bears interest at 11.00% per annum for interest paid in cash and 11.75% per annum for interest paid in kind. Interest is payable semiannually on April 15 and October 15 of each year, commencing on October 15, 2018. Upon closing, the Company was required to deposit \$39,325 of the MHGE Parent Term Loan proceeds into an escrow account, representing the first four interest payments which must be paid in cash. As of March 31, 2019, \$19,800 and \$9,900 is included as restricted cash and other non current assets, respectively, within the consolidated balance sheet. Thereafter, the determination as to whether interest is paid in cash or in kind will be based on the amount of cash available to pay interest and the ability of the MHGE Parent subsidiaries to make distributions and dividends to MHGE Parent to fund such payments. The MHGE Parent Term Loan is unsecured and is not guaranteed by any of the MHGE Parent subsidiaries.

As of March 31, 2019, the unamortized debt discount and deferred financing costs was \$3,434 and \$2,293, respectively, which are amortized over the term of the MHGE Parent Term Loan using the effective interest method.

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The MHGE Parent Term Loan contains certain customary affirmative covenants and events of default that are similar to those contained in the indenture governing the MHGE Senior Notes. The negative covenants in the MHGE Parent Term Loan limit MHGE Parent and its subsidiaries' ability to, among other things: incur additional indebtedness or issue certain preferred shares, create liens on certain assets, pay dividends or prepay junior debt, make certain loan, acquisitions or investments, materially change its business, engage into transactions with affiliates, conduct asset sales, restrict dividends from subsidiaries or restrict liens, or merge, consolidate, sell or otherwise dispose of all or substantially all of MHGE Parent's assets.

The fair value of the MHGE Parent Term Loan was approximately \$162,661 and \$163,244 as of March 31, 2019 and December 31, 2018, respectively. The Company estimates the fair value of its MHGE Parent Term Loan based on trades in the market. Since the MHGE Parent Term Loan do not trade on a daily basis in an active market, the fair value estimates are based on market observable inputs based on borrowing rates currently available for debt with similar terms and average maturities (Level 2). As of March 31, 2019, the remaining contractual life of the MHGE Parent Term Loan is approximately 3.0 years.

Receivables Facility

On October 29, 2018, MHE Receivables LLC (the "Borrower"), a newly formed special purpose subsidiary of McGraw-Hill Global Education, LLC ("MHGE Global"), entered into a Receivables Financing Agreement ("RFA") with MHGE Global, as initial servicer, the lenders from time to time party thereto, and PNC Bank, National Association, as administrative agent (the "Administrative Agent"), providing for a receivables financing facility up to a committed principal amount of \$50,000 (the "Receivables Facility") with a maturity of October 29, 2021.

Furthermore, an additional principal amount of \$100,000 has been committed for an agreed seasonal period, which has a maturity of October 28, 2019 and an annual renewal feature through to October 2021. The borrowing capacity under the Receivables Facility is subject to a borrowing limit that is based on the Borrower's Eligible Receivables, as defined in the RFA. Under a Purchase and Sale Agreement entered into in connection with the Receivables Facility, with MHGE Global and McGraw-Hill School Education, LLC ("MHSE"), as originators, MHGE Global as initial servicer, and the Borrower, as buyer, all existing receivables of MHGE Global and MHSE have been assigned to the Borrower and all future receivables of MHGE Global and MHSE will be automatically assigned to the Borrower when they are created.

As of March 31, 2019, \$66,300 was outstanding under the Receivables Facility, of which, \$16,300 and \$50,000 is included in current portion of long-term debt and long-term debt, respectively, within the consolidated balance sheet. Borrowings under the Receivables Facility bear interest at LIBOR plus 2.00%, subject to adjustments, and are payable monthly. In addition, we also incur an undrawn fee of 0.50% on unutilized commitments. As of March 31, 2019, the unamortized deferred financing costs was \$967, which are amortized over the term of the Receivables Facility using the effective interest method.

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Scheduled Principal Payments

The scheduled principal payments required under the terms of the MHGE Senior Notes, Senior Facilities, MHGE Parent Term Loan and Receivables Facility were as follows:

	As of
	March 31, 2019
Remainder of 2019	\$ 43,280
2020	17,269
2021	67,269
2022	1,797,757
2023	—
2024 and beyond	400,000
	<u>2,325,575</u>
Less: Current portion	(47,597)
	<u><u>\$ 2,277,978</u></u>

5. Interest Rate Hedge

On March 15, 2017, the Company entered into interest rate swap agreements with various financial institutions having an aggregate notional value of \$500,000 to convert a portion of its variable-rate debt to a fixed rate debt. The Company will receive payments from the counterparties at one-month LIBOR and make payments to the counterparties at a fixed rate of 2.07%. The cash flow payments on the interest rate swap agreements began in April 2017 and terminate April 2022. The notional amount and interest payment date of the interest rate and interest rate swaps match the principal, interest payment and maturity date of the related debt.

The interest rate swap agreements have been designated as a cash flow hedge and qualifies for hedge accounting under the accounting guidance related to derivatives and hedging. Accordingly, we recorded an unrealized (loss) gain of \$(4,288) and \$7,894 in our consolidated statements of comprehensive income (loss) to account for the changes in fair value of these derivatives during the three months ended March 31, 2019 and 2018, respectively. The corresponding hedge asset of \$1,485 and \$5,773 is included within other non-current assets in our consolidated balance sheets as of March 31, 2019 and December 31, 2018, respectively. Ineffectiveness of the cash flow hedge was not material for the periods presented. The Company records the fair value of its interest rate swap agreements on a recurring basis using Level 2 inputs of quoted prices for similar assets or liabilities in active markets.

6. Segment Reporting

The Company manages and reports its businesses in the following segments:

- **Higher Education:** We provide students, instructors and institutions with adaptive digital learning, tools, digital platforms, custom publishing solutions and traditional printed textbook products.
- **K - 12:** Provides curriculum and learning solutions to the K-12 market. We sell our learning solutions directly to K-12 school districts across the United States. While we offer all of our major curriculum and learning solutions in digital format, given the varying degrees of availability and maturity of our customers' technological infrastructure, a majority of our sales are derived from selling blended print and digital solutions.
- **International:** We leverage our global scale, brand recognition and extensive product portfolio to serve students in the higher education, K-12 and professional markets in more than 100 countries outside of the

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United States. Our products and solutions for the International segment are produced in more than 75 languages and primarily originate from our offerings produced for the United States market and that are later adapted to different international markets.

- **Professional:** We are a leading provider of medical, technical, engineering and business content for the professional, education and test preparation communities.
- **Other:** Includes certain transactions or adjustments that our Chief Operating Decision Maker ("CODM") considers to be unusual and/or non-operational.

The Company's business segments are consistent with how management views the markets served by the Company. The CODM reviews their separate financial information to assess performance and to allocate resources. We measure and evaluate our reportable segments based on segment Billings and Adjusted EBITDA and believe they provide additional information to management and investors to measure our performance and evaluate our ability to service our indebtedness. We include the change in deferred revenue to GAAP revenue to arrive at Billings. Billings is a key metric that we use to manage our business as it reflects the sales activity in a given period and provides comparability during this time of digital transition, particularly in the K-12 market, in which our customers typically pay for five to eight-year contracts upfront. Furthermore, Billings incorporates the change in deferred revenue that is reflected in the calculation of Adjusted EBITDA. Therefore when the Company uses a margin calculation based on Adjusted EBITDA, the margin has to be based on Billings. We exclude from segment Adjusted EBITDA: interest expense (income), net, income tax (benefit) provision, depreciation, amortization and pre-publication amortization and certain transactions or adjustments that our CODM does not consider for the purposes of making decisions to allocate resources among segments or assessing segment performance. Although we exclude these amounts from segment Adjusted EBITDA, they are included in reported consolidated net income (loss) and are included in the reconciliation below.

Billings and Adjusted EBITDA are not presentations made in accordance with U.S. GAAP and the use of the terms, Billings and Adjusted EBITDA, varies from others in our industry. Billings and Adjusted EBITDA should be considered in addition to, not as a substitute for, revenue and net income (loss), or other measures of financial performance derived in accordance with U.S. GAAP as measures of operating performance or cash flows as measures of liquidity.

Segment asset disclosure is not used by the CODM as a measure of segment performance since the segment evaluation is driven by Billings and Adjusted EBITDA. As such, segment assets are not disclosed in the notes to the accompanying unaudited consolidated financial statements.

The following tables set forth information about the Company's operations by its segments:

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Billings:		
Higher Education	\$ 151,996	\$ 135,547
K - 12	31,301	29,773
International	38,694	37,976
Professional	20,126	17,903
Other	196	86
Total Billings (1)	<u>242,313</u>	<u>221,285</u>
Change in deferred revenue	36,640	57,071
Total Consolidated Revenue	<u>\$ 278,953</u>	<u>\$ 278,356</u>

(1) The elimination of inter-segment revenues was not significant to the revenues of any one segment.

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	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Adjusted EBITDA:		
Higher Education	\$ 31,525	\$ 16,199
K - 12	(79,943)	(84,570)
International	(10,183)	(12,936)
Professional	(1,374)	(2,290)
Other	3,600	(9,620)
Total Adjusted EBITDA	\$ (56,375)	\$ (93,217)

Reconciliation of Adjusted EBITDA to the consolidated statements of operations is as follows:

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Total Adjusted EBITDA	\$ (56,375)	\$ (93,217)
Interest (expense) income, net	(45,283)	(41,950)
Provision for taxes on income	(1,355)	(519)
Depreciation, amortization and pre-publication amortization	(46,188)	(45,432)
Change in deferred revenue	36,640	57,071
Change in deferred royalties	(1,480)	(6,264)
Change in deferred commissions	(1,490)	(1,281)
Restructuring and cost savings implementation charges	(166)	(3,349)
Sponsor fees	(875)	(875)
Transaction costs	(7,360)	—
Other	(11,738)	(7,777)
Pre-publication investment	20,741	22,533
Net (loss) income	\$ (114,929)	\$ (121,060)

The following is a schedule of revenue and long-lived assets by geographic region:

	Revenue (1)	
	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
United States	\$ 236,310	\$ 234,775
International	42,643	43,581
Total	\$ 278,953	\$ 278,356

	Long-lived Assets (2)	
	As of	
	March 31, 2019	December 31, 2018
United States	\$ 511,583	\$ 420,405
International	49,277	41,005
Total	\$ 560,860	\$ 461,410

(1) Revenues are attributed to a geographic region based on the location of customer.

(2) Reflects total assets less current assets, goodwill, intangible assets, investments, deferred financing costs and non-current deferred tax assets.

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7. Taxes on Income

For the three months ended March 31, 2019 and 2018, the effective tax rate on continuing operations was (1.2)% and (0.4)%, respectively. A valuation allowance has been recorded for net federal and state and certain foreign deferred tax assets due to the negative evidence of cumulative book losses. For the three months ended March 31, 2019 and 2018, no deferred income tax benefit was recognized for the domestic and certain foreign losses on operations as a result of the valuation allowance against these tax benefits.

At the end of each interim period, we estimate the annual effective tax rate and apply that rate to our ordinary quarterly earnings. The tax expense or benefit related to significant, unusual or extraordinary items that will be separately reported or reported net of their related tax effect that are individually computed, are recognized in the interim period in which those items occur. In addition, the effect of changes in enacted tax laws or rates or tax status is recognized in the interim period in which the change occurs.

8. Stock-Based Compensation

The Company issues share based compensation under the Management Equity Plan (the “Plan”) which was established during the quarter ended June 30, 2013. The Plan permits the grant of stock options, restricted stock, restricted stock units and other equity based awards to the Company’s employees and directors.

The Company measures compensation cost for share based awards according to the equity method. In accordance with the expense recognition provisions of those standards, the Company amortizes unearned compensation associated with share based awards on a straight-line basis over the vesting period of the option or award.

The following table sets forth the total recognized compensation expense related to stock option grants and restricted stock and restricted stock units issuances for all periods presented:

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Stock option expense	\$ 643	\$ 898
Market stock option expense	510	—
Restricted stock and unit awards expense	1,347	3,144
Total stock-based compensation expense	\$ 2,500	\$ 4,042

An income tax benefit for stock options and restricted stock units was recognized and subsequently offset with a full valuation allowance for the three months ended March 31, 2019 and 2018.

Stock Options

Stock options issued prior to 2018 generally vest up to five years with 50% vesting on cumulative financial performance measures under the Plan and the remaining 50% vest in annually in equal installments, in each case subject to continued service. Stock options issued during the year ended December 31, 2018, generally vest up to three years annually in equal installments and are subject to continued service. Stock options terminate on the earliest of the tenth year from the date of the grant or other committee action, as defined under the Plan.

As of March 31, 2019, there was \$12,580 of unrecognized compensation expense related to the Company's grant of nonvested stock options. Unrecognized compensation expense related to nonvested stock options granted to employees is expected to be recognized over a weighted-average period of 1.7 years.

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Market Stock Options

During 2018, the Company issued market stock options ("MSOs") to certain employees of the Company. The MSOs vest over two to four years pursuant to certain market conditions set forth by the Company and subject to continued service. Employees can earn between 0% and 150% of the number of MSOs issued based on the attainment of these market-based conditions. These MSOs terminate on the earliest of the tenth year from the date of grant or other committee action, as defined under the Plan.

As of March 31, 2019, there was \$2,892 of unrecognized compensation expense related to the Company's MSOs. Unrecognized compensation expense related to MSOs issued to employees is expected to be recognized over a weighted-average period of 1.0 years.

Restricted stock and restricted stock units

Restricted stock and restricted stock units (collectively, "RSUs") issued prior to 2017 vest either subject to the achievement of certain performance measures and continued service over a three year period, or vest in equal installments over a three period subject only to continued service. RSUs issued during the year ended December 31, 2017 and 2018 vest in equal installments over a two to four year period subject only to continued service.

As of March 31, 2019, there was \$9,831 of unrecognized compensation expense related to the Company's grant of nonvested restricted shares and restricted stock units to employees. Unrecognized compensation expense related to nonvested restricted shares and restricted stock units granted to employees is expected to be recognized over a weighted-average period of 0.7 years.

9. Restructuring

In order to contain costs and mitigate the impact of current and expected future economic conditions, as well as a continued focus on process improvements, we have initiated various restructuring plans over the last several years. The charges for each restructuring plan are classified as operating and administration expenses within the consolidated statements of operations.

In certain circumstances, reserves are no longer needed because of efficiencies in carrying out the plans, or because employees previously identified for separation resigned from the Company and did not receive severance or were reassigned due to circumstances not foreseen when the original plans were initiated. In these cases, we reverse reserves through the consolidated statements of operations when it is determined they are no longer needed.

The following table summarizes restructuring information by reporting segment:

	Higher Education	K-12	International	Professional	Total
As of December 31, 2018	\$ 3,641	\$ 1,360	\$ 1,653	\$ —	\$ 6,654
Charges:					
Employee severance and other personal benefits	3,300	360	229	—	3,889
Payments:					
Employee severance and other personal benefits	(2,152)	(714)	(638)	—	(3,504)
As of March 31, 2019	\$ 4,789	\$ 1,006	\$ 1,244	\$ —	\$ 7,039

The Company expects to utilize the remaining reserves of \$5,971, \$1,043, and \$25 in 2019, 2020, and 2021 respectively.

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10. Leases

On January 1, 2019, the Company adopted Topic 842 using the modified retrospective transition for all leases that existed as of the date of adoption. Because of the transition method we used, Topic 842 was not applied to periods prior to adoption and the adoption of Topic 842 had no impact on our previously reported results. We elected to apply the package of practical expedients available for leases that expired prior to or existed as of January 1, 2019, and therefore did not reassess (1) whether contractual arrangements are or contain leases; (2) the classification of leases; and (3) initial direct costs for leases.

We lease property under operating leases with expiration dates through 2035 as well as computer systems and office equipment under finance leases with lease terms ranging from 12 to 50 months. For operating lease arrangements with terms greater than 12 months, we record a lease liability and right-of-use asset on our consolidated balance sheets at the lease commencement date. We measure lease liabilities based on the present value of the total lease payments not yet paid. As most of our leases do not provide an implicit rate, we use our estimated incremental borrowing rate at the lease commencement date to determine the present value of the total lease payments. We measure right-of-use assets based on the corresponding lease liability adjusted for (i) payments made to the lessor at or before the commencement date, (ii) initial direct costs we incur and (iii) tenant incentives under the lease. Certain lease arrangements contain escalation clauses covering increased costs for various defined real estate taxes and operating services which are factored into our determination of lease payments, however, we do not assume renewals or early terminations unless we are reasonably certain to exercise these options at commencement, and we do not allocate consideration between lease and non-lease components.

For short-term leases, we record expense in our consolidated statement of operations on a straight-line basis over the lease term.

In addition, the adoption of Topic 842 had no material impact to our consolidated statement of operations, cash flows from or used in operating, financing, or investing on our consolidated cash flow statements, Billings or Adjusted EBITDA.

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Lease position as of March 31, 2019

The table below presents the lease-related assets and liabilities recorded on the consolidated balance sheet:

	Classification on the Balance Sheet	As of March 31, 2019
Assets		
Operating leases	Operating lease right-of-use assets	\$ 97,332
Finance leases	Property and equipment, net	19,546
Total lease assets		\$ 116,878
Liabilities		
Current:		
Operating leases	Operating lease liabilities	\$ 11,557
Finance Leases	Other current liabilities	11,716
Non-current:		
Operating leases	Operating lease liabilities	95,849
Finance leases	Other non-current liabilities	12,933
Total lease liabilities		\$ 132,055
Weighted-average remaining lease term:		
Operating leases		11.0 years
Finance Leases		3.9 years
Weighted-average discount rate:		
Operating leases		10.95%
Finance Leases		5.35%

Lease costs

The table below presents certain information related to the lease costs for operating and finance leases during the three months ended March 31, 2019:

	Three Months Ended March 31, 2019
Operating lease cost	\$ 6,687
Short-term lease cost	311
Finance lease cost:	
Amortization of assets	2,294
Interest on lease liabilities	330
Sub-lease income	(894)
Total net lease cost	\$ 8,728

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Other Information

Supplemental cash flow information related to leases was as follows:

	Three Months Ended March 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	5,723
Operating cash flows from finance leases	2,392

Undiscounted cash flows

The table below reconciles the undiscounted cash flows for each of the first five years and total of the remaining years to the operating and finance lease liabilities recorded on the balance sheet:

	As of March 31, 2019	
	Operating Leases	Finance Leases
Remainder of 2019	\$ 16,726	\$ 9,329
2020	20,933	9,993
2021	17,328	5,245
2022	13,161	1,712
2023	13,806	190
2024 and beyond	122,596	—
Total lease payments	204,550	26,469
Less: amounts related to interest	(97,144)	(1,820)
Total lease liabilities	107,406	24,649
Less: Current liabilities	(11,557)	(11,716)
Non-current lease liabilities	\$ 95,849	\$ 12,933

11. Transactions with Apollo Global Management LLC (the "Sponsors")

Transactions Fee Agreement

The Company entered into a transaction fee agreement on March 22, 2013 (the "Transactions Fee Agreement") with Apollo Global Securities, LLC (the "Service Provider") relating to the provision of certain structuring, financial, investment banking and other similar advisory services by the Service Provider to the Company, its direct and indirect divisions and subsidiaries, parent entities or controlled affiliates (collectively, the "Company Group") in connection with future transactions. Subject to the terms and conditions of the Transactions Fee Agreement, a transaction fee equal to 1% of the aggregate enterprise value is payable in connection with any merger, acquisition, disposition, recapitalization, divestiture, sale of assets, joint venture, issuance of securities (whether equity, equity-linked, debt or otherwise), financing or any similar transaction effected by a member of the Company Group.

Management Fee Agreement

The Company entered into a management fee agreement (the "Management Fee Agreement") with Apollo Management VII, L.P. (the "Advisor") on March 22, 2013, relating to the provision of certain management consulting and advisory services to the members of the Company Group. In exchange for the provision of such services, the Advisor will receive a non-refundable annual management fee of \$3,500 in the aggregate. Subject to the terms and conditions of the Management Fee Agreement, upon a change of control or an initial public offering

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(“IPO”) of a member of the Company Group, the Advisor may elect to receive a lump sum payment in lieu of future management fees payable to them under the Management Fee Agreement. For the three months ended March 31, 2019 and 2018, the Company recorded an expense of \$875 for management fees.

12. Commitments and Contingencies

Legal Matters

In the normal course of business both in the United States and abroad, the Company is a defendant in various lawsuits and legal proceedings which may result in adverse judgments, damages, fines or penalties and is subject to inquiries and investigations by various governmental and regulatory agencies concerning compliance with applicable laws and regulations. In view of the inherent difficulty of predicting the outcome of legal matters, we cannot state with confidence what the timing, eventual outcome, or eventual judgment, damages, fines, penalties or other impact of these pending matters will be. We believe, based on our current knowledge, that the outcome of the legal actions, proceedings and investigations currently pending should not have a material adverse effect on the Company’s financial condition.

13. Related Party Transactions

In the normal course of business, the Company has transactions with its wholly owned consolidated subsidiaries and affiliated entities.

Presidio

The Company entered into a master lease agreement with Presidio Technology Capital, LLC (“Presidio Technology”), a portfolio company of the Sponsors, primarily for the lease of computer equipment and software. For the three months ended March 31, 2019 and 2018 the Company paid Presidio Technology \$5 and \$307, respectively.

In addition, the Company purchases technology equipment from Presidio Networked Solutions (“Presidio Networked”), a portfolio company of the Sponsors. For the three months ended March 31, 2019 and 2018 the Company paid Presidio Networked \$329 and \$325, respectively.

University of Phoenix

University of Phoenix is owned by Apollo Education Group, which was acquired by the Sponsors and certain co-investors in February 2017. For the three months ended March 31, 2019 and 2018, the Company’s sales to University of Phoenix totaled \$1,176 and \$500.

CEVA Group

The Company utilizes CEVA Freight Management, a wholly owned subsidiary of CEVA Group PLC, a U.K. based portfolio company of the Sponsors, as one of our freight forwarding contractors. For the three months ended March 31, 2019 and 2018 the Company paid CEVA \$1,038 and \$154, respectively.

14. Subsequent Events

On May 1, 2019, McGraw-Hill Education, Inc. (“McGraw-Hill”) and Cengage Learning Holdings II, Inc. (“Cengage”) announced the execution of an Agreement and Plan of Merger (“Merger Agreement”) among McGraw-Hill, Cengage, McGraw-Hill Global Education Holdings, LLC, Cengage Learning Holdco, Inc., and Cengage Learning, Inc. pursuant to which, McGraw-Hill and Cengage will merge in an all-stock transaction on equal terms, subject to the satisfaction or waiver of certain conditions, including regulatory approvals.

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As of May 21, 2019, \$62.7 million is outstanding under the Receivables Facility and is subject to an interest rate of LIBOR plus 2.0%.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion provides a narrative of our results of operations and financial condition for the three months ended March 31, 2019 and 2018. You should read the following discussion of our results of operations and financial condition in conjunction with the accompanying unaudited financial statements and notes thereto, appearing elsewhere in this document.

Company Overview

We are a leading provider of outcome-focused learning solutions, delivering both curated content and digital learning tools and platforms to the students in the classrooms of approximately 250,000 higher education instructors, approximately 13,000 pre-kindergarten through 12th grade (“K-12”) school districts and a wide variety of academic institutions, professionals and companies in more than 100 countries. We have evolved our business from a printcentric producer of textbooks and instructional materials to a leader in the development of digital content and technology-enabled adaptive learning solutions that are delivered anywhere, anytime. We believe we have established a reputation as an industry leader in the delivery of innovative educational content and methodologies.

As learners and educators have become increasingly outcome-focused in their search for more effective learning solutions, we have embraced adaptive learning tools as a central feature of our digital learning solutions. Adaptive learning is based on educational theory and cognitive science that emphasizes personalized delivery of concepts, continuous assessment of gained and retained knowledge and skills, and design of targeted and personalized study paths that help students improve in their areas of weakness while retaining competencies. We have developed a unique set of digital solutions by combining innovative adaptive learning methods with our proprietary content and digital delivery platforms. These solutions provide immediate feedback, and we believe they are more effective than traditional print textbooks in driving positive student outcomes. Students’ year-over-year performance can be impacted by many factors outside the instructional materials used in class. We believe that even taking into account these factors, our learning solutions can contribute to significant improvements in students’ classroom performance as well as improved student retention. For the instructor, time spent on active learning experiences increases significantly as a result of a reduction in time spent on administrative tasks and the availability of critical data to help better focus in class instruction.

Business Segments

We have four operating business segments: Higher Education, K-12, International and Professional. Higher Education is our largest segment, representing 42% of total revenue for the years ended December 31, 2018, 2017 and 2016, respectively. Our K-12 segment generated 35% of total revenue for the years ended December 31, 2018, 2017 and 2016, respectively. Our International segment generated 16% of total revenue for the years ended December 31, 2018, 2017 and 2016, respectively. Our Professional segment represents 7% of total revenue for the years ended December 31, 2018, 2017 and 2016, respectively. The remaining total revenue relates to adjustments made for in-transit product sales.

Higher Education

In the higher education market in the United States, we provide students, instructors and institutions with adaptive digital learning tools, digital platforms, custom publishing solutions and traditional printed textbook products with capabilities in adaptive learning, homework tools, lecture capture and Learning Management System (“LMS”) integration for post-secondary markets. Although we cover all major academic disciplines, our content portfolio is organized into three key disciplines: (i) Business, Economics & Career; (ii) Science, Engineering & Math; and (iii) Humanities, Social Science & Languages. Our top selling products include *Economics: Principles, Problems, and Policies* (McConnell/Brue/Flynn), *ALEKS*, *Managerial Accounting* (Garrison) and *The Art of Public Speaking* (Lucas). The primary users of our solutions are students enrolled in two- and four-year non-profit colleges and universities, and to a much lesser extent, for-profit institutions. Based on NSCRC data, recent declines in 2-year and 4-year enrollments have been driven in large part by declines in for-profit institutions. While overall enrollments

declined by approximately 1.8 million between Fall 2010 and 2018, the for profit enrollment declines were approximately 49% of the total while other enrollments declined 51% of the total. In 2018, for-profit colleges accounted for approximately 9% of Higher Education revenue and approximately 4% of McGraw-Hill Education revenue.

We sell our Higher Education solutions to well-known online retailers, distribution partners and college bookstores, who subsequently sell to students. Our own direct-to-student sales channel is increasing via our proprietary e-commerce platform, which currently represents the largest distribution channel in this segment. Although we sell our products to the students as end users, it is the instructor that makes the ultimate decision regarding new materials for the course. We have longstanding and exclusive relationships with many authors and nearly all of our products are covered by copyright in major markets, providing us the exclusive right to produce and distribute such content in those markets during the applicable copyright terms.

In addition, affordability initiatives are a key focus with strong digital activation growth led by our Inclusive Access institutional delivery and the launch of our formal rental program which was introduced in the fall of 2018 for our new copyright Higher Education titles with rental agreements executed with all major distribution partners.

K-12

In the K-12 market in the United States, we primarily sell curriculum and learning solutions, which include core basal programs, intervention and supplemental products, formative assessment tools, teaching resources and professional development programs. We sell our learning solutions directly to school districts across the United States. The process through which products are selected and procured for classroom use varies throughout the United States. Nineteen states, known as adoption states, approve and procure new basal programs, usually every five to eight years on a state-wide basis for each major area of study, before individual schools or school districts are permitted to schedule the purchase of materials. In all remaining states, known as open territories, each individual school or school district can procure materials at any time, though they usually do so on a five to eight year cycle. The student population in adoption states represents approximately 50% of the U.S. elementary and secondary school-age population. Many adoption states provide “categorical funding” for instructional materials, which means that state funds cannot be used for any other purpose. While we offer all of our curriculum and learning solutions in digital format, given the varying degrees of availability and maturity of our customers’ technological infrastructure, a majority of our sales are derived from blended print and digital solutions. Our top selling programs are *Reading Wonders*, *Everyday Math*, *Inspire Science* and *ALEKS K-12*.

International

Our International segment, defined as sales outside the United States, serves students in the higher education, K-12 and professional markets in more than 100 countries. Our products and solutions for the International segment are produced in more than 75 languages and primarily originate from our offerings for the United States market, which are later adapted to meet the needs of individual geographies. Sales of our digital offerings are growing significantly in the international market, and we are continuously increasing our inventory of digital programs. The growth in the use of the English language is also a driver of demand for digital learning solutions and printed educational instructional materials.

Professional

In the professional market in the United States, we provide medical, technical, engineering and business content for the professional, education and test preparation communities. Our digital subscription products are sold to more than 2,600 customers including corporations, academic institutions, libraries and hospitals. Our digital subscription products had a 91% annual retention rate in 2018.

Other

Other represents certain transactions or adjustments that are unusual or non-operational. In addition, adjustments made for in-transit product sales, timing related corporate cost allocations and other costs not attributed to a single operating segment are recorded within Other.

Consolidated Operating Results

Consolidated Operating Results for the Three Months Ended March 31, 2019 and 2018

(Dollars in thousands)	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	\$ Change	% Change
Revenue	\$ 278,953	\$ 278,356	\$ 597	0.2 %
Cost of sales	63,921	61,473	2,448	4.0 %
Gross profit	215,032	216,883	(1,851)	(0.9)%
Operating expenses				
Operating and administration expenses	252,190	263,199	(11,009)	(4.2)%
Depreciation	12,504	11,196	1,308	11.7 %
Amortization of intangibles	18,629	21,079	(2,450)	(11.6)%
Total operating expenses	283,323	295,474	(12,151)	(4.1)%
Operating (loss) income	(68,291)	(78,591)	10,300	(13.1)%
Interest expense (income), net	45,283	41,950	3,333	7.9 %
(Loss) income from operations before taxes on income	(113,574)	(120,541)	6,967	(5.8)%
Income tax provision	1,355	519	836	161.1 %
Net (loss) income	\$ (114,929)	\$ (121,060)	\$ 6,131	(5.1)%

Revenue

(Dollars in thousands)	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	\$ Change	% Change
Reported Revenue by segment:				
Higher Education	\$ 138,805	\$ 142,411	\$ (3,606)	(2.5)%
K-12	68,069	64,758	3,311	5.1 %
International	42,643	43,581	(938)	(2.2)%
Professional	27,079	25,942	1,137	4.4 %
Other	2,357	1,664	693	41.6 %
Total Reported Revenue	\$ 278,953	\$ 278,356	\$ 597	0.2 %

Revenue for the three months ended March 31, 2019 and 2018 was \$279.0 million and \$278.4 million, respectively, an increase of \$0.6 million or 0.2%. Excluding the impact of purchase accounting (which negatively impacted revenue as a result of the adjustment recorded to reduce the carrying value of deferred revenue on the opening balance sheet), revenue for the three months ended March 31, 2019 and 2018 was \$279.0 million and \$279.0 million, respectively. The variance was driven by the segment factors described below.

Higher Education

Higher Education revenue for the three months ended March 31, 2019 and 2018 was \$138.8 million and \$142.4 million, respectively, a decrease of \$3.6 million or 2.5%. The decrease was primarily due to:

- a decline in print revenue, driven by the ongoing migration from print to digital learning solutions and limited sales of our 2019 copyright titles which were primarily available only through our new rental program;
- continued price compression as print and digital affordability solution offerings are implemented across the industry; and
- the timing of revenue recognition primarily driven by the increase in sales of our digital learning solutions, which more than offset the recognition of previously deferred revenue; partially offset by
- growth in back-list digital revenue, driven by inclusive access sales (paid activations of Connect/LearnSmart grew by approximately 5%); and
- a lower product returns reserve rate and a continued decline in actual product returns from major distribution partners driven by the ongoing shift to digital learning solutions and our rental program.

K-12

K-12 revenue for the three months ended March 31, 2019 and 2018 was \$68.1 million and \$64.8 million respectively, an increase of \$3.3 million or 5.1%. Excluding the impact of purchase accounting, revenue for the three months ended March 31, 2019 and 2018 was \$68.1 million and \$65.4 million, respectively, an increase of \$2.7 million or 4.1%. The increase was due to higher adoption sales, primarily driven by a strong performance in the California social studies adoption.

International

International revenue for the three months ended March 31, 2019 and 2018 was \$42.6 million and \$43.6 million, respectively, a decrease of \$0.9 million or 2.2%. The decrease was primarily due to:

- lower print revenue, primarily driven by limited sales of our 2019 copyright titles as part of the Higher Education rental program and stronger controls on sales to distributors to prevent product from being resold in the U.S. secondary market;
- the timing of revenue recognition primarily driven by the increase in sales of our digital learning solutions, which more than offset the recognition of previously deferred revenue; and
- a \$2.1 million unfavorable foreign exchange rate impact (estimated by re-calculating current period results of foreign operations using the average exchange rate from the prior period); partially offset by
- revenue growth in Australia and Asia, as well as strong digital revenue growth in Canada and EMEA.

Professional

Professional revenue for the three months ended March 31, 2019 and 2018 was \$27.1 million and \$25.9 million, respectively, an increase of \$1.1 million or 4.4%. The increase was primarily due to the increase in digital subscription revenue related to our *Access* platform offering.

Cost of Sales

Cost of sales for the three months ended March 31, 2019 and 2018 was \$63.9 million and \$61.5 million, respectively, an increase of \$2.4 million or 4.0%. The increase was primarily due to higher manufacturing costs attributable to an increase in custom print sales.

Operating and Administration Expenses

Operating and administration expenses for the three months ended March 31, 2019 and 2018 was \$252.2 million and \$263.2 million, respectively, a decrease of \$11.0 million or 4.2%. Included within operating and administration expense is the amortization of pre-publication expenditures which increased by \$1.9 million driven by the timing and level of pre-publication expenditures. The remaining variance was primarily due to:

- lower compensation (including incentives) due to strategic headcount reductions; and
- lower discretionary spending, including professional fees; partially offset by
- an increase in samples expense primarily driven by the large new adoption opportunities in 2019.

Depreciation & Amortization of Intangibles

Depreciation and amortization expenses for the three months ended March 31, 2019 and 2018 was \$31.1 million and \$32.3 million, respectively, a decrease of \$1.1 million or 3.5%. The decrease was driven by the use of accelerated amortization methods for certain of our acquired intangible assets, partially offset by an increase in depreciation expense associated with our capital lease arrangements.

Interest expense, net

Interest expense, net, for the three months ended March 31, 2019 and 2018 was \$45.3 million and \$42.0 million, respectively, an increase of \$3.3 million or 7.9%. The increase was primarily due to:

- a higher applicable LIBOR rate related to the Term Loan Facility in comparison to the prior period due to rising market interest rates;
- the issuance of \$180 million MHGE Parent Term Loan on April 20, 2018; and
- a \$66.3 million draw down on the Receivables Facility entered into on October 29, 2018; partially offset by
- a reduction in interest expense primarily due to the redemption and discharge of the remaining \$243.6 million face value of MHGE PIK Toggle Notes by April 20, 2018.

Refer to Note 4, "Debt," of our consolidated financial statements for further discussion of our debt.

Provision for Taxes on Income

Taxes on income from continuing operations for the three months ended March 31, 2019 and 2018 were provisions of \$1.4 million and \$0.5 million, respectively. For the three months ended March 31, 2019 and 2018, the effective tax rate on continuing operations was (1.2)% and (0.4)%, respectively. A valuation allowance has been recorded for net federal and state and certain net foreign deferred tax assets due to the negative evidence of cumulative book losses. For the three months ended March 31, 2019 and 2018, no deferred income tax benefit was recognized for the domestic and certain foreign losses on operations as a result of the valuation allowance against these tax benefits.

Adjusted EBITDA by Segment for the Three Months Ended March 31, 2019 and 2018

Adjusted EBITDA by segment, as determined in accordance with Accounting Standards Codification Topic 280, Segment Reporting, is a measure used by management to assess the performance of our segments. We exclude from Adjusted EBITDA by segment: interest expense (income), net, income tax (benefit) provision, depreciation, amortization and pre-publication amortization and certain transactions or adjustments that our management does not consider for the purposes of making decisions to allocate resources among segments or assessing segment performance. In addition, Adjusted EBITDA by segment is calculated in a manner consistent with the definition and meaning of our Adjusted EBITDA non-GAAP debt covenant compliance measure, see “Non-GAAP Measures” - “Debt Covenant Compliance”.

(Dollars in thousands)	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	\$ Change	% Change
Adjusted EBITDA by segment:				
Higher Education	\$ 31,525	\$ 16,199	\$ 15,326	94.6 %
K-12	(79,943)	(84,570)	4,627	(5.5)%
International	(10,183)	(12,936)	2,753	n/m
Professional	(1,374)	(2,290)	916	(40.0)%
Other	3,600	(9,620)	13,220	(137.4)%

Higher Education

Adjusted EBITDA for the three months ended March 31, 2019 and 2018 was \$31.5 million and \$16.2 million, respectively, an increase of \$15.3 million or 94.6%. The increase was primarily due to:

- the gross profit impact of the \$16.4 million favorable Billings variance discussed under “Non-GAAP Measures-Billings for the Three Months Ended March 31, 2019 and 2018 - Higher Education”; and
- a decrease in pre-publication investment cash costs due to timing; partially offset by
- higher manufacturing costs attributable to higher custom print sales.

K-12

Adjusted EBITDA for the three months ended March 31, 2019 and 2018 was \$(79.9) million and \$(84.6) million, respectively, a variance of \$4.6 million. The variance was primarily due to:

- the gross profit impact of the \$1.5 million favorable Billings variance discussed under “Non-GAAP Measures-Billings for the Three Months Ended March 31, 2019 and 2018 - K-12”;
- a decrease in pre-publication investment cash costs due to timing; and
- lower discretionary spending and lower compensation due to strategic headcount reductions; partially offset by
- an increase in samples expense primarily driven by the large new adoption opportunities in 2019.

International

Adjusted EBITDA for the three months ended March 31, 2019 and 2018 was \$(10.2) million and \$(12.9) million, respectively, a variance of \$2.8 million. The variance was primarily due to:

- the gross profit impact of the \$0.7 million favorable Billings variance discussed under "Non-GAAP Measures- Billings for the Three Months Ended March 31, 2019 and 2018 - International";
- lower discretionary spending and lower compensation (including incentives and commissions) due to strategic headcount reductions as well as lower operating costs due to restructuring initiatives undertaken in 2018; and
- a \$0.7 million favorable foreign exchange rate impact (estimated by re-calculating current period results of foreign operations using the average exchange rate from the prior period.).

Professional

Adjusted EBITDA for the three months ended March 31, 2019 and 2018 was \$(1.4) million and \$(2.3) million, respectively, a variance of \$0.9 million. The variance was primarily due to:

- the gross profit impact of the \$2.2 million favorable Billings variance discussed under "Non-GAAP Measures-Billings for the Three Months Ended March 31, 2019 and 2018 - Professional"; partially offset by
- slightly higher pre-publication investment cash costs.

Non-GAAP Measures

Billings, EBITDA and Adjusted EBITDA

The SEC has adopted rules to regulate the use in filings with the SEC and in public disclosures of "non-GAAP financial measures," such as Billings, EBITDA and Adjusted EBITDA. These measures are derived on the basis of methodologies other than in accordance with U.S. GAAP.

Billings is a non-GAAP performance measure that provides useful information in evaluating our period-to-period performance because it reflects the total amount of revenue that would have been recognized in a period if we recognized all print and digital revenue at the time of sale. We use Billings as a performance measure given that we typically collect full payment for our digital and print solutions at the time of sale or shortly thereafter, but recognize revenue from digital solutions and multi-year deliverables ratably over the term of our customer contracts. As sales of our digital learning solutions have increased, so has the amount of revenue that is deferred in accordance with U.S. GAAP. Billings is a key metric we use to manage our business as it reflects the sales activity in a given period, provides comparability from period-to-period during this time of digital transition and is the basis for all sales incentive compensation. In the K-12 market where customers typically pay for five to eight year contracts upfront and the ongoing costs to service any contractual obligation are limited, the impact of the change in deferred revenue is most significant. Billings is U.S. GAAP revenue plus the net change in deferred revenue.

EBITDA, a measure used by management to assess operating performance, is defined as net income from continuing operations plus net interest, income taxes, depreciation and amortization (including amortization of pre-publication investment cash costs). Adjusted EBITDA is a non-GAAP debt covenant compliance measure that is defined in accordance with our debt agreements. Adjusted EBITDA is a material term in our debt agreements and provides an understanding of our debt covenant compliance, ability to service our indebtedness and make capital allocation decisions in accordance with our debt agreements.

Each of the above described measures is not a recognized term under U.S. GAAP and does not purport to be an alternative to revenue, income from continuing operations, or any other measure derived in accordance with U.S. GAAP as a measure of operating performance, debt covenant compliance or to cash flows from operations as a measure of liquidity. Additionally, each such measure is not intended to be a measure of free cash flows available for management's discretionary use, as it does not consider certain cash requirements such as interest payments, tax payments and debt service requirements. Such measures have limitations as analytical tools, and you should not consider any of such measures in isolation or as substitutes for our results as reported under U.S. GAAP. Management compensates for the limitations of using non-GAAP financial measures by using them to supplement U.S. GAAP results to provide a more complete understanding of the factors and trends affecting the business than U.S. GAAP results alone. Because not all companies use identical calculations, our measures may not be comparable to other similarly titled measures of other companies.

Management believes Adjusted EBITDA is helpful in highlighting trends because Adjusted EBITDA excludes the results of certain transactions or adjustments that are non-recurring or non-operational and can differ significantly from company to company depending on long-term strategic decisions regarding capital structure, the tax rules in the jurisdictions in which companies operate, and capital investments.

Management believes that the presentation of Adjusted EBITDA, which is defined in accordance with our debt agreements, is appropriate to provide additional information to investors about certain material non-cash items and about unusual items that we do not expect to continue at the same level in the future as well as other items to assess our debt covenant compliance, ability to service our indebtedness and make capital allocation decisions in accordance with our debt agreements.

Billings for the Three Months Ended March 31, 2019 and 2018

(Dollars in thousands)	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	\$ Change	% Change
Reported Revenue by segment:				
Higher Education	\$ 138,805	\$ 142,411	\$ (3,606)	(2.5)%
K-12	68,069	64,758	3,311	5.1 %
International	42,643	43,581	(938)	(2.2)%
Professional	27,079	25,942	1,137	4.4 %
Other	2,357	1,664	693	n/m
Total Reported Revenue	\$ 278,953	\$ 278,356	\$ 597	0.2 %
Change in deferred revenue	(36,640)	(57,071)	20,431	(35.8)%
Billings	\$ 242,313	\$ 221,285	\$ 21,028	9.5 %

Billings by Segment:				
Higher Education	\$ 151,996	\$ 135,547	\$ 16,449	12.1 %
K-12	31,301	29,773	1,528	5.1 %
International	38,694	37,976	718	1.9 %
Professional	20,126	17,903	2,223	12.4 %
Other	196	86	110	127.9 %
Total Billings	\$ 242,313	\$ 221,285	\$ 21,028	9.5 %

Billings for the three months ended March 31, 2019 and 2018 was \$242.3 million and \$221.3 million, respectively, an increase of \$21.0 million or 9.5%.

These variances were driven by the segment factors described below.

Higher Education

Billings for the three months ended March 31, 2019 and 2018 was \$152.0 million and \$135.5 million, respectively, an increase of \$16.4 million or 12.1%. The increase was primarily due to:

- growth in back-list digital revenue, driven by inclusive access sales (paid activations of Connect/LearnSmart grew by approximately 5%); and
- a lower product returns reserve rate and a continued decline in actual product returns from major distribution partners driven by the ongoing shift to digital learning solutions and our rental program; partially offset by
- a decline in print revenue, driven by the ongoing migration from print to digital learning solutions and limited sales of our 2019 copyright titles which were primarily available only through our new rental program; and
- continued price compression as print and digital affordability solution offerings are implemented across the industry.

K-12

Billings for the three months ended March 31, 2019 and 2018 was \$31.3 million and \$29.8 million, respectively, an increase of \$1.5 million or 5.1%. The increase was due to higher adoption sales, primarily driven by a strong performance in the California social studies adoption.

International

Billings for the three months ended March 31, 2019 and 2018 was \$38.7 million and \$38.0 million, respectively, an increase of \$0.7 million or 1.9%. The increase was primarily due to:

- revenue growth in Australia and Asia, as well as strong digital revenue growth in Canada and EMEA; partially offset by
- lower print revenue, primarily driven by limited sales of our 2019 copyright titles as part of the Higher Education rental program and stronger controls on sales to distributors to prevent product from being resold in the U.S. secondary market; and
- a \$1.8 million unfavorable foreign exchange rate impact (estimated by re-calculating current period results of foreign operations using the average exchange rate from the prior period).

Professional

Billings for the three months ended March 31, 2019 and 2018 was \$20.1 million and \$17.9 million, respectively, an increase of \$2.2 million or 12.4%. The increase was primarily due to the increase in digital subscription revenue related to our *Access* platform offering.

Debt Covenant Compliance

Adjusted EBITDA is an important measure because, under our debt agreements, our ability to incur additional indebtedness or issue certain preferred shares, make certain types of acquisitions or investments, operate our business and make dividends, conduct asset sales or dispose of all or substantially all of our assets, all of which will impact our financial performance, is impacted by our Adjusted EBITDA, as our lenders measure our performance with a net first lien leverage ratio by comparing our senior secured bank indebtedness to our Adjusted

EBITDA and a fixed charge coverage ratio, and several of our debt, investment and restricted payment baskets are measured using Adjusted EBITDA.

The Senior Facilities and the indentures governing the MHGE Parent Term Loan and the MHGE Senior Notes contain, among other provisions, certain customary covenants regarding indebtedness, payments and distributions, mergers and acquisitions, asset sales and affiliate transactions. Capacity for investments, debt, distributions and certain prepayments is measured in many instances by a multiple of Adjusted EBITDA. Our revolving credit facility requires that MHGE Holdings, after an initial grace period and subject to a testing threshold, comply on a quarterly basis with a maximum net first lien senior secured leverage ratio (the ratio of consolidated net debt secured by first-priority liens on the collateral to Adjusted EBITDA, as defined in the credit agreement governing the Senior Facilities) of (a) with respect to the first, third and fourth fiscal quarters of any year, 4.80 to 1.00 and (b) with respect to the second quarter of any fiscal year, 5.25 to 1.00. The testing threshold is satisfied at any time at which the sum of outstanding revolving credit facility loans, swingline loans and certain letters of credit exceeds thirty percent (30%) of commitments under the revolving credit facility at quarter end. Payment of borrowings under the debt agreements may be accelerated if there is an event of default. Events of default include the failure to pay principal and interest when due, a material breach of a representation or warranty, certain non-payments or defaults under other indebtedness, covenant defaults, events of bankruptcy and a change of control. Our historical debt agreements, including the MHGE Facilities, the MHSE Revolving Facility and the MHSE Term Loan, contained similar covenants predicated on the same Adjusted EBITDA measure. Failure to comply with these covenants, which are based, in part, upon Adjusted EBITDA could limit our long-term growth prospects by hindering our ability to incur future debt or make acquisitions.

“Adjusted EBITDA” as defined in our Senior Facilities debt agreements, is net income, adjusted for the items summarized in the table below. Adjusted EBITDA is intended to show our unleveraged, pre-tax operating results and therefore reflects our financial performance based on operational factors, excluding non-operational or non-recurring losses or gains. Adjusted EBITDA is not a presentation made in accordance with U.S. GAAP, and our use of the term Adjusted EBITDA varies from others in our industry. This measure should not be considered as an alternative to net income (loss) from continuing operations or any other performance measures derived in accordance with U.S. GAAP. Adjusted EBITDA has important limitations as an analytical tool, and you should not consider it in isolation, or as a substitute for analysis of our results as reported under U.S. GAAP. For example, Adjusted EBITDA does not reflect: (a) our cash capital expenditure requirements for the assets being depreciated and amortized that may have to be replaced in the future; (b) changes in, or cash requirements for, our working capital needs; (c) the significant interest expenses, or the cash requirements necessary to service interest or principal payments, on our debt; (d) tax payments that may represent a reduction in cash available to us; (e) management fees paid to entities and investment funds affiliated with Apollo Global Management, LLC; (f) one-time expenditures to realize the synergies referred to above; or (g) the impact of earnings or charges resulting from matters that we and the lenders under our debt agreements may not consider indicative of our ongoing operations. In particular, our definition of Adjusted EBITDA allows us to add back certain non-cash and other charges or costs that are deducted in calculating net income from continuing operations. However, these are expenses that may recur, vary greatly and are difficult to predict. They can represent the effect of long-term strategies as opposed to short-term results. In addition, certain of these expenses can represent the reduction of cash that could be used for other corporate purposes.

Further, although not included in the calculation of Adjusted EBITDA below, the measure may at times allow us to add estimated cost savings and operating synergies related to operational changes ranging from acquisitions or dispositions to restructurings, and/or exclude one-time transition expenditures that we anticipate we will need to incur to realize cost savings before such savings have occurred.

The calculation of Adjusted EBITDA in accordance with our debt agreements is presented in the table below. The results of such calculation could differ in the future based on the different types of adjustments that may be included in such respective calculations at the time.

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	Year Ended December 31, 2018	LTM March 31, 2019
Net income (loss)	\$ (114,929)	\$ (121,060)	\$ (160,421)	\$ (154,290)
Interest (income) expense, net	45,283	41,950	180,576	183,909
Income tax (benefit) provision	1,355	519	10,535	11,371
Depreciation, amortization and pre-publication investment amortization	46,188	45,432	219,513	220,269
EBITDA	\$ (22,103)	\$ (33,159)	\$ 250,203	\$ 261,259
Change in deferred revenue (a)	(36,640)	(57,071)	64,492	84,923
Change in deferred royalties (b)	1,480	6,264	(5,426)	(10,210)
Change in deferred commissions (c)	1,490	1,281	1,281	1,490
Restructuring and cost savings implementation charges (d)	166	3,349	9,770	6,587
Sponsor fees (e)	875	875	3,500	3,500
Transaction costs (f)	7,360	—	—	7,360
Other (g)	11,738	7,777	36,643	40,604
Pre-publication investment (h)	(20,741)	(22,533)	(99,539)	(97,747)
Adjusted EBITDA	\$ (56,375)	\$ (93,217)	\$ 260,924	\$ 297,766

- (a) We receive cash up-front for most sales but recognize revenue (primarily related to digital sales) over time recording a liability for deferred revenue at the time of sale. This adjustment represents the net effect of converting deferred revenues to a cash basis assuming the collection of all receivable balances.
- (b) Royalty obligations are generally payable in the period incurred with limited recourse. This adjustment represents the net effect of converting deferred royalties to a cash basis assuming the payment of all amounts owed in the period incurred.
- (c) Commissions are generally payable in the period incurred. This adjustment represents the net effect of converting deferred commissions to a cash basis assuming the payment of all amounts owed in the period incurred.
- (d) Represents severance and other expenses associated with headcount reductions and other cost savings initiated as part of our formal restructuring initiatives to create a flatter and more agile organization.
- (e) Represents \$3.5 million of annual management fees and payable to Apollo.
- (f) The amount represents the transaction costs associated with the Merger Agreement entered into between the Company and Cengage on May 1, 2019.
- (g) For the three months ended March 31, 2019 and 2018, and for the year ended December 31, 2018, the amount represents (i) non-cash incentive compensation expense and (ii) other adjustments required or permitted in calculating covenant compliance under our debt agreements.
- (h) Represents the cash cost for pre-publication investment during the period.

In addition, the Senior Facilities credit agreement, the indentures governing the MHGE Senior Notes and the MHGE Parent Term Loan, contain a financial covenant that requires the disclosure of a description of the quantitative differences from the parent, McGraw Hill Education Inc., (“MHE”) to MHGE and its subsidiaries (for the Senior Facilities and MHGE Senior Notes) and from MHE to MHGE Parent, LLC (“MHGE Parent”) and its subsidiaries (for the MHGE Parent Term Loan).

As of March 31, 2019, the material quantitative differences from MHE to MHGE and its subsidiaries relate to \$30.6 million of cash, cash equivalents and restricted cash, of which \$30.1 million was held by MHGE Parent and \$0.5 million was held by MHE. There were no other material assets or liabilities other than the \$174.3 million of MHGE Parent Term Loan due in 2019 and its related accrued interest of \$9.1 million.

As of March 31, 2019, the material quantitative differences from MHE to MHGE Parent and its subsidiaries relate to \$0.5 million of cash and cash equivalents held by MHE. There were no other material assets or liabilities.

Furthermore, MHE and MHGE Parent do not generate revenue or conduct, transact or engage in any material business or operations other than their direct or indirect ownership of the equity interests in MHGE.

Seasonality and Comparability

Our revenues, operating profit and operating cash flows are affected by the inherent seasonality of the academic calendar. During 2018, we realized approximately 17%, 24%, 35% and 24% of our revenues during the first, second, third and fourth quarters, respectively. This seasonality affects operating cash flow from quarter to quarter and there are certain months when we operate at a net cash deficit. Changes in our customers' ordering patterns may affect the comparison of our results in a quarter with the same quarter of the previous year or in a fiscal year with the prior fiscal year, where our customers may shift timing of material orders for any number of reasons, including, but not limited to, changes in academic semester start dates or changes to their inventory management practices.

Quarterly Results of Operations

(Dollars in thousands)	2017			2018			2019	
	Second Quarter 2017	Third Quarter 2017	Fourth Quarter 2017	First Quarter 2018	Second Quarter 2018	Third Quarter 2018	Fourth Quarter 2018	First Quarter 2019
Reported revenue by segment:								
Higher Education	\$ 122,548	\$ 245,880	\$ 198,956	\$ 142,411	\$ 127,557	\$ 200,798	\$ 190,115	\$ 138,805
K-12	206,752	264,701	68,330	64,758	172,650	241,362	82,032	68,069
International	66,020	77,277	93,779	43,581	60,990	73,521	76,903	42,643
Professional	26,870	31,513	35,460	25,942	27,356	32,070	31,535	27,079
Other	(16,812)	15,946	1,121	1,664	(4,342)	4,393	1,649	2,357
Total Reported Revenue	\$ 405,378	\$ 635,317	\$ 397,646	\$ 278,356	\$ 384,211	\$ 552,144	\$ 382,234	\$ 278,953
Change in deferred revenue	69,112	187,710	(58,136)	(57,071)	(31,138)	232,491	(79,790)	(36,640)
Billings	\$ 474,490	\$ 823,027	\$ 339,510	\$ 221,285	\$ 353,073	\$ 784,635	\$ 302,444	\$ 242,313
Billings by segment:								
Higher Education	\$ 96,681	\$ 346,728	\$ 144,365	\$ 135,547	\$ 86,248	\$ 320,473	\$ 139,964	\$ 151,996
K-12	283,531	360,240	52,870	29,773	181,126	343,741	46,086	31,301
International	63,837	85,915	95,766	37,976	55,586	90,484	71,821	38,694
Professional	29,825	29,646	45,221	17,903	29,260	28,999	43,297	20,126
Other	616	498	1,288	86	853	938	1,276	196
Total Billings	\$ 474,490	\$ 823,027	\$ 339,510	\$ 221,285	\$ 353,073	\$ 784,635	\$ 302,444	\$ 242,313

(Dollars in thousands)	2017			2018				2019
	Second Quarter 2017	Third Quarter 2017	Fourth Quarter 2017	First Quarter 2018	Second Quarter 2018	Third Quarter 2018	Fourth Quarter 2018	First Quarter 2019
Adjusted EBITDA by segment:								
Higher Education	\$ (6,805)	\$ 198,682	\$ 24,082	\$ 16,199	\$ (15,686)	\$ 172,775	\$ 27,379	\$ 31,525
K-12	99,000	167,694	(68,912)	(84,570)	20,616	157,492	(69,453)	(79,943)
International	475	13,237	20,502	(12,936)	(8,655)	23,237	6,392	(10,183)
Professional	9,242	10,393	20,549	(2,290)	7,601	11,899	18,543	(1,374)
Other	3,228	2,437	(749)	(9,620)	7,527	2,830	(8,357)	3,600

Indebtedness and Liquidity

(Dollars in thousands)	As of	
	March 31, 2019	December 31, 2018
Cash, cash equivalents and restricted cash	\$ 190,423	\$ 345,920
Current portion of long-term debt	47,597	31,297
Long-term debt	2,188,668	2,188,414

Historically, we have generated operating cash flows sufficient to fund our seasonal working capital, capital requirements, expenditure and financing requirements. We use our cash generated from operating activities for a variety of needs, including among others: working capital requirements, pre-publication investment cash costs, capital expenditures and strategic acquisitions.

Our operating cash flows are affected by the inherent seasonality of the academic calendar. This seasonality also impacts cash flow patterns as investments are typically made in the first half of the year to support the significant selling period that occurs in the second half of the year. As a result, our cash flow is typically lower in the first half of the fiscal year and higher in the second half of the fiscal year.

Going forward, we may need cash to fund operating activities, working capital, pre-publication investment cash costs, capital expenditures and strategic investments. Our ability to fund our capital needs will depend on our ongoing ability to generate cash from operations and our access to the bank and capital markets. We believe that our future cash flow from operations, together with our access to funds on hand and capital markets, will provide adequate resources to fund our operating and financing needs for at least the next twelve months. We also expect our working capital requirements to be positively impacted by our migration from print products to digital learning solutions.

If our cash flows from operations are less than we require, we may need to incur debt or issue equity. From time to time we may need to access the long-term and short-term capital markets to obtain financing. Although we believe we can currently finance our operations on acceptable terms and conditions, our access to, and the availability of, financing on acceptable terms and conditions in the future will be affected by many factors, including: (i) our credit ratings, (ii) the liquidity of the overall capital markets and (iii) the current state of the economy. There can be no assurance that we will continue to have access to the capital markets on terms acceptable to us.

Cash, cash equivalents and restricted cash

Cash and cash equivalents include bank deposits and highly liquid investments with original maturities of three months or less that consist primarily of interest bearing demand deposits with daily liquidity, money market and time deposits. The balance also includes cash that is held by the Company outside the United States to fund

international operations or to be reinvested outside of the United States. The investments and bank deposits are stated at cost, which approximates market value. These investments are not subject to significant market risk.

Restricted cash, including restricted cash included in other non-current assets, represents interest payable through April 15, 2020 relating to the MHGE Parent Term Loan (refer to Note 4, "Debt") and collateral for insurance coverage including workers' compensation, general liability and automobile claims. As of March 31, 2019, the restricted cash, including restricted cash included in other non-current assets, was \$31.1 million. Refer to Note 1, "Basis of Presentation and Accounting Policies" in the accompanying notes to the consolidated financial statements.

MHGE Senior Notes

On May 4, 2016, MHGE and McGraw-Hill Global Education Finance, Inc. (together with MHGE, the "Issuers") issued \$400.0 million aggregate principal amount of the 7.875% Senior Notes due 2024, ("MHGE Senior Notes") in a private placement. The MHGE Senior Notes mature on May 15, 2024 and bear interest at a rate of 7.875% per annum, payable semi-annually in arrears on May 15 and November 15 of each year, and commenced on November 15, 2016.

As of March 31, 2019, the unamortized debt discount and deferred financing costs was \$37.7 million and \$17.2 million, respectively, which are amortized over the term of the MHGE Senior Notes using the effective interest method.

The Issuers may redeem the MHGE Senior Notes at their option, in whole or in part, at any time on or after May 15, 2019, at certain redemption prices. In addition, prior to May 15, 2019 the Issuers may redeem the MHGE Senior Notes at their option, in whole at any time or in part from time to time, at a redemption price equal to 100% of the principal amount of the MHGE Senior Notes redeemed, plus a "make-whole" premium and accrued and unpaid interest, if any. Notwithstanding the foregoing, from time to time on or prior to May 15, 2019 the Issuers may redeem in the aggregate up to 40% of the original aggregate principal amount of the Notes (calculated after giving effect to any issuance of additional notes) in an aggregate amount equal to the net cash proceeds of one or more equity offerings at a redemption price equal to 107.875%, plus accrued and unpaid interest, if any, so long as at least 50% of the original aggregate principal amount of the Notes (calculated after giving effect to any issuance of additional notes) must remain outstanding after each such redemption.

The MHGE Senior Notes are fully and unconditionally guaranteed by each of McGraw-Hill Global Intermediate Holdings, LLC domestic restricted subsidiaries that guarantee the Senior Facilities.

The MHGE Senior Notes contain certain customary negative covenants and events of default. The negative covenants limit MHGE Holdings and its restricted subsidiaries' ability to, among other things: incur additional indebtedness or issue certain preferred shares, create liens on certain assets, pay dividends or prepay junior debt, make certain loans, acquisitions or investments, materially change its business, engage in transactions with affiliates, conduct asset sales, restrict dividends from subsidiaries, restrict liens, or merge, consolidate, sell or otherwise dispose of all or substantially all of MHGE Holdings' assets.

The fair value of the MHGE Senior Notes was approximately \$328.0 million and \$310.0 million as of March 31, 2019 and December 31, 2018, respectively. The Company estimates the fair value of its MHGE Senior Notes based on trades in the market. Since the MHGE Senior Notes do not trade on a daily basis in an active market, the fair value estimates are based on market observable inputs based on borrowing rates currently available for debt with similar terms and average maturities (Level 2). As of March 31, 2019, the remaining contractual life of the MHGE Senior Notes is approximately 5.0 years.

Senior Facilities

On May 4, 2016, MHGE Holdings entered into the Senior Facilities. The Senior Facilities provide for senior secured financing of up to \$1,925.0 million, consisting of:

- Term Loan Facility in an aggregate principal amount of \$1,575,000 with a maturity of 6 years; and
- a senior secured revolving credit facility in an aggregate principal amount of up to \$350,000 with a maturity of 5 years (the "Revolving Credit Facility"), including both a letter of credit sub-facility and a swingline loan sub-facility.

On December 15, 2017, the Company completed an incremental aggregate principal amount of \$150,000 under the existing Term Loan Facility. The incremental Term Loan Facility was issued at a 0.25% discount and will mature concurrently with the existing Term Loan Facility.

Borrowings under the Senior Facilities bear interest at a rate equal to a LIBOR or Prime rate plus an applicable margin, subject to a 1.00% floor in the case of the Term Loan Facility. As of March 31, 2019, the interest rate for the Term Loan Facility was 6.5%. In addition, the Term Loan Facility was issued at a discount of 0.5%. As of March 31, 2019, the unamortized debt discount and deferred financing costs was \$11.4 million and \$16.4 million, respectively, which are amortized over the term of the facility using the effective interest method.

As of March 31, 2019, the amount available under the Revolving Facility was \$350.0 million (excluding outstanding letters of credit of \$4.3 million). In addition, we are required to pay a commitment fee of 0.50% per annum to the lenders under the Revolving Facility in respect of the unutilized commitments thereunder.

The Senior Facilities require scheduled quarterly principal payments on the term loans in amounts equal to 0.25% of the original principal amount of the term loans commencing with the end of the first full fiscal quarter ending after the closing date, with the balance payable at maturity. The Term Loan Facility also includes customary mandatory prepayment requirements based on certain events such as asset sales, debt issuances and defined levels of excess cash flow. As of December 31, 2018, the Company determined that a \$14.0 million mandatory prepayment of indebtedness is required and was paid on April 5, 2019. This amount is included within the current portion of long-term debt in the consolidated balance sheets as of March 31, 2019.

All obligations under the Senior Facilities are unconditionally guaranteed by each of MHGE Holdings' existing and future direct and indirect material, wholly owned domestic subsidiaries. The obligations are secured by substantially all of MHGE Holdings' assets and those of each subsidiary guarantor, capital stock of the subsidiary guarantors and 65% of the voting capital stock of the first-tier foreign subsidiaries that are not subsidiary guarantors, in each case subject to exceptions. Such security interests consist of a first priority lien with respect to the collateral.

Our Revolving Facility includes a springing covenant that requires MHGE Holdings, subject to a testing threshold, comply on a quarterly basis with a maximum net first lien senior secured leverage ratio (the ratio of consolidated net debt secured by first-priority liens on the collateral to Adjusted EBITDA) of (a) with respect to the first, third and fourth fiscal quarters of any year, 4.80 to 1.00 and (b) with respect to the second quarter of any fiscal year, 5.25 to 1.00. The testing threshold is satisfied at any time at which the sum of outstanding revolving credit facility loans, swingline loans and certain letters of credit exceeds thirty percent (30%) of commitments under the revolving credit facility at quarter end.

Adjusted EBITDA reflects EBITDA as defined in the credit agreement governing the Senior Facilities. Solely for the purpose of calculating the springing financial covenant, pre-publication investments should be excluded from the calculation of Adjusted EBITDA.

The Senior Facilities contain certain customary affirmative covenants and events of default. The negative covenants in the Senior Facilities include, among other things, limitations on MHGE Holdings' and its subsidiaries' ability to incur additional debt or issue certain preferred shares; create liens on certain assets; make certain loans or

investments (including acquisitions); pay dividends on or make distributions in respect of capital stock or make other restricted payments; consolidate, merge, sell or otherwise dispose of all or substantially all of their assets; sell assets; enter into certain transactions with affiliates; enter into sale-leaseback transactions; change their lines of business; restrict dividends from their subsidiaries or restrict liens; change their fiscal year; and modify the terms of certain debt or organizational agreements.

The fair value of the Term Loan Facility was approximately \$1,551.2 million and \$1,536.3 million as of March 31, 2019 and December 31, 2018, respectively. The Company estimates the fair value of its Term Loan Facility based on trades in the market. Since the Term Loan Facility do not trade on a daily basis in an active market, the fair value estimates are based on market observable inputs based on borrowing rates currently available for debt with similar terms and average maturities (Level 2). As of March 31, 2019, the remaining contractual life of the Term Loan Facility is approximately 3.0 years.

MHGE Parent Term Loan

On April 20, 2018, MHGE Parent, LLC ("MHGE Parent"), an indirect parent of MHGE, entered into a term loan agreement with Ares Agent Services, L.P., as administrative agent, and clients of Ares Capital Management, LLC and certain funds and accounts advised by Guggenheim Partners Investment Management, LLC, as lenders, providing for a \$180,000 term loan facility (the "MHGE Parent Term Loan") with a maturity of April 20, 2022. The MHGE Parent Term Loan was issued at a discount of 2.5%.

The MHGE Parent Term Loan bears interest at 11.00% per annum for interest paid in cash and 11.75% per annum for interest paid in kind. Interest is payable semiannually on April 15 and October 15 of each year, commencing on October 15, 2018. Upon closing, the Company was required to deposit \$39.3 million of the MHGE Parent Term Loan proceeds into an escrow account, representing the first four interest payments which must be paid in cash. As of March 31, 2019, \$19.8 million and \$9.9 million is included as restricted cash and other non current assets, respectively, within the consolidated balance sheet. Thereafter, the determination as to whether interest is paid in cash or in kind will be based on the amount of cash available to pay interest and the ability of the MHGE Parent subsidiaries to make distributions and dividends to MHGE Parent to fund such payments. The MHGE Parent Term Loan is unsecured and is not guaranteed by any of the MHGE Parent subsidiaries.

As of March 31, 2019, the unamortized debt discount and deferred financing costs was \$3.4 million and \$2.3 million, respectively, which are amortized over the term of the MHGE Parent Term Loan using the effective interest method.

The MHGE Parent Term Loan contains certain customary affirmative covenants and events of default that are similar to those contained in the indenture governing the MHGE Senior Notes. The negative covenants in the MHGE Parent Term Loan limit MHGE Parent and its subsidiaries' ability to, among other things: incur additional indebtedness or issue certain preferred shares, create liens on certain assets, pay dividends or prepay junior debt, make certain loan, acquisitions or investments, materially change its business, engage into transactions with affiliates, conduct asset sales, restrict dividends from subsidiaries or restrict liens, or merge, consolidate, sell or otherwise dispose of all or substantially all of MHGE Parent's assets.

The fair value of the MHGE Parent Term Loan was approximately \$162.7 million and \$163.2 million as of March 31, 2019 and December 31, 2018, respectively. The Company estimates the fair value of its MHGE Parent Term Loan based on trades in the market. Since the MHGE Parent Term Loan do not trade on a daily basis in an active market, the fair value estimates are based on market observable inputs based on borrowing rates currently available for debt with similar terms and average maturities (Level 2). As of March 31, 2019, the remaining contractual life of the MHGE Parent Term Loan is approximately 3.0 years.

Receivables Facility

On October 29, 2018, MHE Receivables LLC (the “Borrower”), a newly formed special purpose subsidiary of McGraw-Hill Global Education, LLC (“MHGE Global”), entered into a Receivables Financing Agreement (“RFA”) with MHGE Global, as initial servicer, the lenders from time to time party thereto, and PNC Bank, National Association, as administrative agent (the “Administrative Agent”), providing for a receivables financing facility up to a committed principal amount of \$50,000 (the “Receivables Facility”) with a maturity of October 29, 2021.

Furthermore, an additional principal amount of \$100,000 has been committed for an agreed seasonal period, which has a maturity of October 28, 2019 and an annual renewal feature through to October 2021. The borrowing capacity under the Receivables Facility is subject to a borrowing limit that is based on the Borrower’s Eligible Receivables, as defined in the RFA. Under a Purchase and Sale Agreement entered into in connection with the Receivables Facility, with MHGE Global and McGraw-Hill School Education, LLC (“MHSE”), as originators, MHGE Global as initial servicer, and the Borrower, as buyer, all existing receivables of MHGE Global and MHSE have been assigned to the Borrower and all future receivables of MHGE Global and MHSE will be automatically assigned to the Borrower when they are created.

As of March 31, 2019, \$66.3 million was outstanding under the Receivables Facility, of which, \$16.3 million and \$50.0 million is included in the current portion of long-term debt and long-term debt, respectively, within the consolidated balance sheet. Borrowings under the Receivables Facility bear interest at LIBOR plus 2.00%, subject to adjustments, and are payable monthly. In addition, we also incur an undrawn fee of 0.50% on unutilized commitments. As of March 31, 2019, the unamortized deferred financing costs was \$1.0 million which are amortized over the term of the Receivables Facility using the effective interest method.

Scheduled Principal Payments

The scheduled principal payments required under the terms of the MHGE Senior Notes, Senior Facilities, MHGE Parent Term Loan and Receivables Facility were as follows:

(Dollars in thousands)	As of	
	March 31, 2019	
Remainder of 2019	\$	43,280
2020		17,269
2021		67,269
2022		1,797,757
2023		—
2024 and beyond		400,000
		<u>2,325,575</u>
Less: Current portion		(47,597)
	\$	<u><u>2,277,978</u></u>

Cash Flows

Cash flows from operating, investing and financing activities are presented in the following table:

(Dollars in thousands)	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Cash flows from operating activities	\$ (131,994)	\$ (158,940)
Cash flows from investing activities	(32,398)	(34,166)
Cash flows from financing activities	7,807	(11,723)

Net cash flows from operating activities consist of profit after income tax, adjusted for changes in net working capital and non-cash items such as depreciation, amortization and write-offs, and provisions.

Operating Activities

- Cash flows (used for) operating activities for the three months ended March 31, 2019 and 2018 were \$(132.0) million and \$(158.9) million, respectively, a decrease of \$26.9 million. The decrease in cash used for operating activities was primarily driven by:
 - lower accrued expenses driven by a decrease in compensation (including incentives and commissions) related to strategic headcount reductions; and
 - lower accounts receivable growth due to a decline in Billings primarily related to our K-12 segment in the prior year (after considering the impact of the adoption of Topic 606, effective January 1, 2018, which resulted in the reclassification of sales returns from accounts receivable, net to other current liabilities).

Investing Activities

- Cash flows (used for) investing activities for the three months ended March 31, 2019 and 2018 were \$(32.4) million and \$(34.2) million, respectively, a decrease of \$1.8 million. Cash flows used for investing activities decreased primarily as a result of a \$1.8 million decrease in pre-publication investment costs due to the timing of investment activity.

Financing Activities

- Cash flows provided by (used for) financing activities for the three months ended March 31, 2019 and 2018 were \$7.8 million and \$(11.7) million, respectively, a variance of \$19.5 million. Cash flows provided by (used for) financing activities increased primarily due to additional borrowings of \$16.3 million related to the Receivables Facility entered into on October 29, 2018. In addition, the Company paid \$2.1 million in dividends and dividend equivalents in 2018 compared to NIL in 2019.

Capital Expenditures and Pre-publication Expenditures

Part of our plan for growth and stability includes disciplined capital expenditures and pre-publication expenditures.

An important component of our cash flow generation is our pre-publication efficiency. We have been focused on optimizing our pre-publication expenditures to generate content that can be leveraged across our full range of products, maximizing long-term return on investment. Pre-publication expenditures, principally external preparation costs, are amortized from the year of publication over their estimated useful lives, one to six years, using either an accelerated or straight-line method. The majority of the programs are amortized using an accelerated methodology. We periodically evaluate the amortization methods, rates, remaining lives and recoverability of such costs. In evaluating recoverability, we consider our current assessment of the market place, industry trends, and the projected success of programs. Our pre-publication expenditures were \$20.7 million and \$22.5 million for the three months ended March 31, 2019 and 2018, respectively.

Capital expenditures include purchases of property, plant and equipment and capitalized technology costs that meet certain internal and external criteria. Capital expenditures were \$11.7 million and \$11.6 million for the three months ended March 31, 2019 and 2018, respectively.

Our planned capital expenditures and pre-publication expenditures will require, individually and in the aggregate, significant capital commitments and, if completed, may result in significant additional revenues. Cash needed to finance investments and projects currently in progress, as well as additional investments being pursued, is

expected to be made available from operating cash flows and our credit facilities. See “Indebtedness and Liquidity” for further information.

Off-Balance Sheet Arrangements

As of March 31, 2019 we did not have any relationships with unconsolidated entities, such as entities often referred to as specific purpose or variable interest entities where we are the primary beneficiary, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. As such we are not exposed to any financial liquidity, market or credit risk that could arise if we had engaged in such relationships.

Contractual Obligations

We typically have various contractual obligations, which are recorded as liabilities in our consolidated balance sheets, while other items, such as certain purchase commitments and other executory contracts, are not recognized, but are disclosed herein. For example, we are contractually committed to acquire paper and other printing services and make certain minimum lease payments for the use of property under operating and capital lease agreements.

The following table summarizes our significant debt related contractual obligations over the next several years that relate to our continuing operations as of March 31, 2019:

(Dollars in thousands)	Payments due by Period				
	Total	Remainder of 2019	2020-2021	2022-2023	2024 and beyond
Long-term debt, including current portion (1)	\$ 2,325,575	\$ 43,280	\$ 84,538	\$ 1,797,757	\$ 400,000
Interest on long-term debt (2)	586,842	137,673	324,820	108,599	15,750

(1) Amounts shown include principal on the MHGE Senior Notes, Term Loan Facility, Revolving Facility, MHGE Parent Term Loan, and Receivables Facility.

(2) Amounts shown include interest on the MHGE Senior Notes, Term Loan Facility, Revolving Facility, MHGE Parent Term Loan, and Receivables Facility.

Critical Accounting Policies and Estimates

Critical accounting policies are those that require the Company to make significant judgments, estimates or assumptions that affect amounts reported in the financial statements and accompanying notes. On an on-going basis, we evaluate our estimates and assumptions, including, but not limited to, revenue recognition, allowance for doubtful accounts and sales returns, inventories, pre-publication costs, accounting for the impairment of long-lived assets (including other intangible assets), goodwill and indefinite-lived intangible assets, stock-based compensation, income taxes and contingencies. The Company bases its judgments, estimates and assumptions on current facts, historical experience and various other factors that the Company believes to be reasonable and prudent under the circumstances. Actual results may differ materially from these estimates. For a complete description of our significant accounting policies, see Note 1, "Basis of Presentation and Accounting Policies" of the notes to consolidated financial statements included elsewhere in this Quarterly Report.

Allowance for Doubtful Accounts and Sales Returns

The allowance for doubtful accounts and sales returns reserves methodology is based on historical analysis, a review of outstanding balances and current conditions. In determining these reserves, we consider, among other factors, the financial condition and risk profile of our customers, areas of specific or concentrated risk as well as applicable industry trends or market indicators. The allowance for sales returns is a significant estimate, which is based on historical rates of return and current market conditions. The provision for sales returns is reflected as a reduction to “revenues” in our consolidated statements of operations. Sales returns are charged against the reserve as

products are returned to inventory. Accounts receivable losses for bad debt are charged against the allowance for doubtful accounts when the receivable is determined to be uncollectible.

Inventories

Inventories, consisting principally of books, are stated at the lower of cost or net realizable value. The majority of our inventories relate to finished goods. A significant estimate, the reserve for inventory obsolescence, is reflected in operating and administration expenses. In determining this reserve, we consider management's current assessment of the marketplace, industry trends and projected product demand as compared to the number of units currently on hand.

Consigned Inventory

Consigned inventory consists mainly of books available through our formal rental program stated at the lower of cost or net realizable value. At the time a rental transaction is completed, the book is moved from inventories, net to property, plant and equipment, net. The cost of the book is amortized down to its estimated residual value over the rental period with the related amortization expense included within cost of sales in the consolidated statements of operations. Returns are moved back into inventories, net at the current residual value.

Pre-publication Costs

Pre-publication costs include both the cost of developing educational content and the development of assessment solution products. Costs incurred prior to the publication date of a title or release date of a product represent activities associated with product development. These may be performed internally or outsourced to subject matter specialists and include, but are not limited to, editorial review and fact verification, graphic art design and layout and the process of conversion from print to digital media or within various formats of digital media.

Deferred Technology Costs

We capitalize certain software development and website implementation costs. Capitalized costs only include incremental, direct costs of materials and services incurred to develop the software after the preliminary project stage is completed, funding has been committed and it is probable that the project will be completed and used to perform the function intended. Incremental costs are expenditures that are out-of-pocket to us and are not part of an allocation or existing expense base. Software development and website implementation costs are expensed as incurred during the preliminary project stage. Capitalized costs are amortized from the period the software is ready for its intended use over its estimated useful life, three to seven years, using the straight-line method. Periodically, we evaluate the amortization methods, remaining lives and recoverability of such costs. Capitalized software development and website implementation costs are included in other non-current assets in the consolidated balance sheets and are presented net of accumulated amortization.

Accounting for the Impairment of Long-Lived Assets (Including Other Intangible Assets)

We evaluate long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Upon such an occurrence, recoverability of assets to be held and used is measured by comparing the carrying amount of an asset to current forecasts of undiscounted future net cash flows expected to be generated by the asset. If the carrying amount of the asset exceeds its estimated future cash flows, an impairment charge is recognized equal to the amount by which the carrying amount of the asset exceeds the fair value of the asset. Long-lived assets held for sale are written down to fair value, less cost to sell. Fair value is determined based on market evidence, discounted cash flows, appraised values or management's estimates, depending upon the nature of the assets.

Goodwill and Indefinite-Lived Intangible Assets

Goodwill represents the excess of purchase price and related costs over the fair value of identifiable assets acquired and liabilities assumed in a business combination. Indefinite-lived intangible assets consist of the Company's acquired brands. Goodwill and indefinite-lived intangible assets are not amortized, but instead are tested for impairment annually during the fourth quarter each year, or more frequently if events or changes in circumstances indicate that the asset might be impaired. We have four reporting units, Higher Education, K-12, International and Professional with goodwill and indefinite-lived intangible assets that are evaluated for impairment.

We initially perform a qualitative analysis evaluating whether there are events or circumstances that provide evidence that it is more likely than not that the fair value of any of our reporting units or indefinite-lived intangible assets are less than their carrying amount. If, based on our evaluation we do not believe that it is more likely than not that the fair value of any of our reporting units or indefinite-lived intangible assets are less than their carrying amount, no quantitative impairment test is performed. Conversely, if the results of our qualitative assessment determine that it is more likely than not that the fair value of any of our reporting units or indefinite-lived intangible assets are less than their respective carrying amounts we perform a two-step quantitative impairment test.

During the first step, the estimated fair value of the reporting units are compared to their carrying value including goodwill and the estimated fair value of the intangible assets is compared to their carrying value. Fair values of the reporting units are estimated using the income approach, which incorporates the use of a discounted free cash flow analysis, and are corroborated using the market approach, which incorporates the use of revenue and earnings multiples based on market data. The discounted free cash flow analyses are based on the current operating budgets and estimated long-term growth projections for each reporting unit. Future cash flows are discounted based on a market comparable weighted average cost of capital rate for each reporting unit, adjusted for market and other risks where appropriate. Fair values of indefinite-lived intangible assets are estimated using avoided royalty discounted free cash flow analyses. Significant judgments inherent in these analyses include the selection of appropriate royalty and discount rates and estimating the amount and timing of expected future cash flows. The discount rates used in the discounted free cash flow analyses reflect the risks inherent in the expected future cash flows generated by the respective intangible assets. The royalty rates used in the discounted free cash flow analyses are based upon an estimate of the royalty rates that a market participant would pay to license the Company's trade names and trademarks.

If the fair value of the reporting units or indefinite-lived intangible assets are less than their carrying value, a second step is performed which compares the implied fair value of the reporting unit's goodwill or indefinite-lived intangible assets to the carrying value. The fair value of the goodwill or indefinite-lived intangible assets is determined based on the difference between the fair value of the reporting unit and the net fair value of the identifiable assets and liabilities of the reporting unit or carrying value of the indefinite-lived intangible asset. If the implied fair value of the goodwill or indefinite-lived intangible assets is less than the carrying value, the difference is recognized as an impairment charge. Significant judgments inherent in this analysis include estimating the amount and timing of future cash flows and the selection of appropriate discount rates, royalty rate and long-term growth rate assumptions. Changes in these estimates and assumptions could materially affect the determination of fair value for each reporting unit and indefinite-lived intangible asset and for some of the reporting units and indefinite-lived intangible assets could result in an impairment charge, which could be material to our financial position and results of operations.

The following table summarizes the changes in the carrying value of goodwill by reporting segment:

	Higher Education	K-12	International	Professional	Total
As of December 31, 2016	\$ 420,681	\$ 30,267	\$ 4,089	\$ 37,078	\$ 492,115
Adjustment to goodwill	5,484	(331)	—	—	5,153
As of December 31, 2017	\$ 426,165	\$ 29,936	\$ 4,089	\$ 37,078	\$ 497,268
Adjustment to goodwill	(1,709)	(1,500)	—	—	(3,209)
As of December 31, 2018	\$ 424,456	\$ 28,436	\$ 4,089	\$ 37,078	\$ 494,059

Goodwill in the table above includes a \$3.2 million and \$5.2 million impact from foreign exchange and other as of December 31, 2018 and 2017, respectively.

Stock-Based Compensation

The Company issues stock options and other stock-based compensation to eligible employees, directors and consultants and accounts for these transactions under the provisions of Accounting Standards Codification (“ASC”) 718, *Compensation-Stock Compensation*. For equity awards, total compensation cost is based on the grant date fair value. For liability awards, total compensation cost is based on the fair value of the award on the date the award is granted and is remeasured at each reporting date until settlement. For performance-based options issued, the value of the instrument is measured at the grant date as the fair value of the common stock and expensed over the vesting term when the performance targets are considered probable of being achieved. The Company recognizes stock-based compensation expense for all awards, on a straight-line basis, over the service period required to earn the award, which is typically the vesting period.

Revenue Recognition

Revenue is recognized when control of goods or services are transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services. We determine revenue recognition through the following steps:

- Identification of the contract, or contracts, with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, we satisfy a performance obligation.

Arrangements with multiple deliverables

Revenue relating to products that provide for more than one deliverable is recognized based upon the relative fair value to the customer of each deliverable as each deliverable is provided. Revenue relating to agreements that provide for more than one service is recognized based upon the relative fair value to the customer of each service component as each component is earned. If the fair value to the customer for each service is not determinable based on stand-alone selling price, we make our best estimate of the services’ stand-alone selling price and recognize revenue as earned as the services are delivered. Because we determine the basis for allocating consideration to each deliverable primarily on prices experienced from completed sales, the portion of consideration allocated to each deliverable in a multiple deliverable arrangement may increase or decrease depending on the most recent selling price of a comparable product or service sold on a stand-alone basis. For example, as the demand for, and prevalence of, digital products increases, as new sales occur we may be required to increase the amount of consideration allocable to digital products included in multiple deliverable arrangements because the fair value of such products or services may increase relative to other products or services bundled in the arrangement. Conversely, in the event that demand for our print products decreases, thereby causing us to experience reduced

prices on our print products, we may be required to allocate less consideration to our print products in our arrangements that include multiple deliverables.

Subscription-based products

Subscription income is recognized over the related subscription period that the subscription is available and is used by the customer. Subscription revenue received or receivable in advance of the delivery of services or publications is included in deferred revenue. Incremental costs that are directly related to the subscription revenue are deferred and amortized over the subscription period. Included among the underlying assumptions related to our estimates that impact the recognition of subscription income is the extent of our responsibility to provide access to our subscription-based products, and the extent of complementary support services customers demand to access our products.

Service arrangements

Revenue relating to arrangements that provide for more than one service is recognized based upon the relative fair value to the customer of each service component as each component is earned. Such arrangements may include digital products bundled with traditional print products, obligations to provide products and services in the future at no additional cost, and periodic training pertinent to products and services previously provided. If the fair value to the customer for each service is not objectively determinable, we make our best estimate of the services' stand-alone selling price and recognize revenue as earned as the services are delivered.

Rental program

Revenue relating to our rental program is deferred and subsequently recognized over the rental period. The rental period begins when the print product is transferred to the customer and are typically for a one semester. All rental periods are less than one year in duration.

Income Taxes

We determine the provision for income taxes using the asset and liability approach. Under this approach, deferred income taxes represent the expected future tax consequences of temporary differences between the carrying amounts and tax bases of assets and liabilities.

Valuation allowances are established when management determines that it is more likely than not that some portion or all of the deferred tax asset will not be realized. Management evaluates the weight of both positive and negative evidence in determining whether a deferred tax asset will be realized. Management will look to a history of losses, future reversal of existing taxable temporary differences, taxable income in carryback years, feasibility of tax planning strategies, and estimated future taxable income. The valuation allowance can also be affected by changes in tax laws and changes to statutory tax rates.

We prepare and file tax returns based on management's interpretation of tax laws and regulations. As with all businesses, our tax returns are subject to examination by various taxing authorities. Such examinations may result in future tax assessments based on differences in interpretation of the tax law and regulations. We adjust our estimated uncertain tax positions reserves based on audits by and settlements with various taxing authorities as well as changes in tax laws, regulations, and interpretations. The Company recognizes accrued interest and penalties related to uncertain tax positions in income tax (benefit) provision within the consolidated statement of operations.

Recently Adopted Accounting Standards

In February 2018, the FASB issued ASU No. 2018-02, "*Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*", to allow a reclassification from accumulated other comprehensive income (loss) for stranded tax effects resulting from the Tax Cuts and Jobs Act. The Company adopted Topic 220 on January 1, 2019, and elected to not reclassify the income tax effects of the

TCJA from accumulated comprehensive income (loss) to retained earnings. The adoption had no impact on the Company's consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, "*Leases*" (*Topic 842*): The company adopted ASU No. 2016-02, effective January 1, 2019 using the modified retrospective approach. The adoption of Topic 842 resulted in the recognition of lease liabilities of \$56,640 and lease assets of \$48,086 (net of lease incentives and deferred rent), as of January 1, 2019 on the consolidated balance sheet, with no material impact on the consolidated statement of operations. For required disclosures relating to the impact of adopting Topic 842 and a discussion on the Company's updated accounting policies relating to leases, see Note 10, "Leases".

Recently Issued Accounting Standards

In August 2018, the FASB issued ASU No. 2018-13, "*Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*", which modifies the disclosure requirements on fair value measurements. This standard is effective for interim and annual reporting periods after December 15, 2019, with early adoption permitted. The Company is currently evaluating the impact of this guidance on its consolidated financial statements.

In August 2017, the FASB issued ASU 2017-12, "*Derivative and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*", which aligns hedge accounting with risk management activities and changes both how companies assess hedge effectiveness and presentation and disclosure requirements. This standard is effective for interim and annual reporting periods after December 15, 2019, with early adoption permitted. The Company is currently evaluating the impact of this guidance on its consolidated financial statements.

Recently issued FASB accounting standard codification updates, except for the above standards, did not have a material impact to the Company's unaudited consolidated financial statements for the three months ended March 31, 2019.

Item 3: QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

Foreign Exchange Risk

Our exposure to market risk includes changes in foreign exchange rates. We have operations in various foreign countries where the functional currency is primarily the local currency. For international operations that are determined to be extensions of the parent company, the United States dollar is the functional currency. Our principal currency exposures relate to the Australian Dollar, British Pound, Canadian Dollar, Euro, Mexican Peso and Singapore Dollar. From time to time, we may enter into hedging arrangements with respect to foreign currency exposures.

Interest Rate Risk

Term Loan Facility

Borrowings under our Term Loan Facility will accrue interest at variable rates with a LIBOR floor of 1%, and a 100 basis point increase in the LIBOR on our debt balances outstanding as of March 31, 2019 would increase our annual interest expense by \$11.8 million.

From time to time we may enter into hedging arrangements with respect to floating interest rate borrowings. While we may enter into agreements limiting our exposure to higher interest rates, any such agreements may not offer complete protection from this risk. During the first quarter of 2017, the Company entered into interest rate swap agreements with a total notional value of \$500,000 to convert a portion of its variable-rate debt to a fixed rate. For more information regarding the interest rate swap agreements, refer to Note 5, "Interest Rate Hedge" of the notes to the consolidated financial statements included elsewhere in this Quarterly Report. We do not purchase or hold any derivative financial instruments for trading purposes.

PART II - OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

In the normal course of business both in the United States and abroad, we are a defendant in various lawsuits and legal proceedings which may result in adverse judgments, damages, fines or penalties and is subject to inquiries and investigations by various governmental and regulatory agencies concerning compliance with applicable laws and regulations. In view of the inherent difficulty of predicting the outcome of legal matters, we cannot state with confidence what the timing, eventual outcome, or eventual judgment, damages, fines, penalties or other impact of these pending matters will be. We believe, based on our current knowledge, that the outcome of the legal actions, proceedings and investigations currently pending should not have a material adverse effect on the Company's combined financial condition.

Item 1A: RISK FACTORS

There have been no material changes during the period covered by this Quarterly Report to the risk factors previously disclosed in our Annual Report for the year ended December 31, 2018. For more information regarding the risks regarding our business and industry, please see our Annual Report for the year ended December 31, 2018.

Item 2: UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Not applicable.

Item 3: DEFAULTS UPON SENIOR SECURITIES

None.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

Item 5: OTHER INFORMATION

None.