



Pearson

MyLab IT

Efficacy Research Report

April 3 2018



Contents

- 03 Introduction
- 05 Findings in brief
- 06 Product design and development
- 08 Intended product implementation
- 09 Product research
- 15 Appendix
- 17 PwC assurance report

The corpus of research for this product includes research conducted by our in-house researchers in partnership with customers, and research conducted by third party researchers. All research included in this report meets the standards we have set out for our own efficacy research. These are informed by and aligned with guidance on educational research quality provided by organisations, such as the American Educational Research Association and the What Works Clearinghouse.

Efficacy statements in this report are subject to independent assurance by PricewaterhouseCoopers LLP (PwC). The PwC assurance report is on page 17 and further details can be found in the [Pearson Efficacy Reporting Framework dated April 3 2018](#).

Introduction

In 2013, Pearson made a commitment to efficacy: to identify the outcomes that matter most to students and educators, and to have a greater impact on improving them. Our aspiration is to put learners at the heart of the Pearson strategy; our goal, to help more learners, learn more. Part of our commitment was to publish research regarding the impact of the use of our products on outcomes, and to have the outcomes subject to independent audit. We call this efficacy reporting. There is no rulebook for how to do this, no model to follow. We've had to learn fast during this journey, we've sought guidance from others including external expertise, and we are now some, but not yet all of the way there.

The road taken and the milestone reached

In a first for the education sector, we have published audited efficacy reports on some of our most widely used products. Together, these products represent 18 million learners. This Research Report includes independently audited efficacy statements that have been prepared using the [Pearson Efficacy Reporting Framework dated April 3 2018](#) — which we have used consistently for the Pearson products we are reporting on.

We have sought to use the efficacy reporting process to amplify existing non-Pearson peer reviewed research about our products. We've also sought to foster innovation in efficacy research by conducting new research and placing value on a range of research methods — including implementation studies, correlational and causal designs — ensuring data is collected, analyzed and presented to agreed standards at the appropriate stages in each product's lifecycle. The research conducted for this report, and the efficacy statements produced as a result, are designed based on international best practices such as those set out by the American Education Research Association and the What Works Clearinghouse. We have synthesized these into a set of standards we hold ourselves accountable for in our research and reporting. These are set out in the [Pearson Efficacy Reporting Framework dated April 3 2018](#).

Furthermore, we adhere to the same peer-review processes as other high quality research in the education sector. Our work was independently reviewed and validated by SRI International, a well-known non-profit research center, and shared for discussion at research conferences organized by, among others, the American Education Research Association.

Our body of research contains evidence of statistically significant relationships between the use of our products and learner outcomes like student achievement. We want to be clear, though, that efficacy is not a quality a digital product can possess in and of itself. We recognize that implementation — the way a product is integrated into teaching and learning — also has a significant impact on the outcomes that can be achieved. Our reports do not yet capture the full range of intended product outcomes, nor the variety of different ways of implementing our products. What we do know is that the more we can engage with our customers about best practices that can support the integration of learning technologies into their teaching, the more likely they will be to achieve their desired outcomes.

We have commissioned PricewaterhouseCoopers LLP ('PwC') to audit the efficacy statements set out in our Research Reports. This is to demonstrate that the statements accurately reflect the research that has been carried out. PwC's audit report can be found at the end of this document.

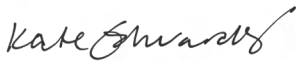
The journey ahead

Delivering on our reporting commitment has never been our ultimate goal; what matters most to us is helping more learners, learn more. Our aspiration is to explore what works, for whom, and why; and to encourage discussion about questions such as: What outcomes matter most to students? What should teaching and learning look like? What evidence should we apply to its design? And how should we evaluate impact?

We are excited to continue partnering with educators and others in the field in order to better understand how interactions between educators, students and learning technology can enhance outcomes. We have also been energized to see others in the education sector begin to focus on efficacy and research — though we recognize that their application in education is still nascent. In order to accelerate the emergence of its full potential we are already developing new ways of partnering with educators, researchers and institutions so we can advance this work together. In doing so, we will continue to advocate for the need to apply rigorous evidence to improve the outcomes of teaching and learning, while also seeking to ensure that evidence captures customers' experiences and is relevant and useful to educators in their practice.

Special thanks

We want to thank all the educators, students, research institutions and organizations we have collaborated with to date. We are spurred on by the growing number of opportunities for us to learn from others in the sector who are beginning to tackle the same challenges. If you are interested in partnering with us on future efficacy research, have feedback or suggestions for how we can improve, or want to discuss your approach to using or researching our products, we would love to hear from you at efficacy@pearson.com. If we, as a sector, tackle this together, we will help more learners learn more.



Kate Edwards

Senior Vice President,
Efficacy and Research, Pearson
April 3 2018

Findings in brief

Pearson sought to explore whether attempting more unique assignments in MyLab IT, an online tutorial and assessment tool used in higher education to teach digital literacy concepts and Microsoft Office application skills, is related to higher exam scores.

This Research Report presents findings from one research study: a correlational study we conducted at a mid-sized university in the midwestern US for students enrolled in Business Problem Solving with IT. Our aim in using a correlational study design was to seek out possible relationships between the use of MyLab IT and students' exam scores to identify areas of focus for potential future research using more rigorous causal study designs.

The findings appear alongside details of the research study, including a description of the sample studied, method of analysis, results, limitations and generalizability, and notes on possible future research.

The report also summarizes the context surrounding the findings, including the research that informed the design and development of the product, the history of the product in the market, how educators use the product, and its intended outcomes.

The findings are inseparable from their surrounding context and the design of the study that produced them. To learn more about these elements, follow the links to our Technical Reports in the **Research studies** section.

In the context of the study at a mid-sized university in the midwestern US, Pearson found that:

- On average, attempting an additional seven unique assignments was associated with an increase in course exam score by half a letter grade (5%).
- In our research, 78% of students who completed the course using MyLab IT passed the course.

The complete statements are set out in the box titled "Efficacy statements" on page 12. These statements have been subject to assurance by PwC, whose report can be found at the end of the Research Report.

Product design and development

Product overview

MyLab IT is an online tutorial and assessment tool for teaching and learning digital literacy concepts and Microsoft Office applications. Its simulation and Grader activities are designed to give students an engaging, integrated learning experience; and automatic feedback aims to create a continuously positive learning environment as students learn the Office productivity and computer concepts skills needed for academic and professional success. MyLab IT is designed to accompany a number of textbooks written in the IT discipline.

MyLab IT is designed to enhance and improve the following outcomes:

- Student engagement and learning experiences
- Proficiency and mastery in the applications
- Student achievement — e.g., in end of course examinations

The full list of the outcomes this product is intended to support, accompanied by a brief description, can be found in the appendix of this report.

Foundational research underpinning the design

Colleges are charged with the challenge of educating students with vastly different levels of exposure to basic software and technology. Yet comfort with applications such as Microsoft Word, Excel, and PowerPoint is a precursor to completing many college assignments. An article in *US News* highlights the nearly universal need among college students to know a word processing program, a spreadsheet program, and a presentation program; the Microsoft Office suite offers both the best known product and knowledge that easily transfers to other platforms (Moll, 2014, January 27).

MyLab IT includes accessible, high-fidelity simulations of the Microsoft Office products that offer training and assessment modes. In addition, auto-graded projects called Grader activities provide homework and assessment options that students carry out live in the actual Microsoft applications. Both of these approaches are predicated on giving students highly-structured authentic tasks to complete in real or simulated environments that match the target environment (i.e., Microsoft Office software).

The design of MyLab IT incorporates numerous principles from learning science, with the goal of providing a training ground where students can master Microsoft Office applications. What follows is a summary of some specific learning science research that underpins the design of MyLab IT.

Practice in authentic contexts

The use of simulations as a learning tool has been shown to help learners build proficiency (de Jong, 2010). Research has demonstrated that simulated practice environments that align closely with authentic, real-world applications can afford deep levels of learning and engagement. One key element this research shows is the importance of balancing realism and functionality, such that the simulation provides adequate development of the skill, while not overloading novice learners' working memory.

MyLab IT enables students to practice realistic tasks in environments that closely mirror the applications they'll be using in the workplace (such as the Microsoft Office suite).

- *Simulations* offer opportunities to practice targeted skills, offering assistance as needed and guiding students to focus only on key actions needed to complete the given task.
- *Grader* activities provide an even more high-fidelity practice experience within the Microsoft Office suite itself. These projects give students a chance to apply what they've learned in an authentic context.
- MyLab IT's functionality matches the learner's level of competence throughout the learning process.

Relevance

Students tend to be more motivated and learn better when they feel like there is value in learning the content. By tying the learning materials to real-world activities and specific job roles, the utility of the skills and knowledge being covered is clearly demonstrated to learners. This kind of increased relevance has been found to be associated with greater interest and achievement (Hulleman et al., 2010).

The content of MyLab IT's capstone Grader activities is based on industry certifications for Microsoft Office specialists. If students achieve a score of 90% or better on one of these projects, they earn a badge. These badges contain metadata that identifies the skills the student has mastered by completing the project. They can be shared on social media sites such as LinkedIn. The projects themselves, created live in the relevant Microsoft Office application, can also be shared with employers in the student's digital portfolio.

These features are designed to highlight the relevance of MyLab IT's activities, and to promote students' career-readiness. The alignment of MyLab IT's content to learning objectives and professional standards, such as industry certifications, is similarly designed to help students transfer what they learn from the classroom to the workplace.

Scaffolding and feedback

Another important element of using simulations as a learning activity is the use of various kinds of instructional support, or scaffolding. Research on simulations and other forms of "learning-by-doing" almost universally find a benefit for some amount of scaffolding. MyLab IT provides a high level of scaffolding, designed to help students attend to key features.

In particular, MyLab IT's simulations provide immediate feedback, which is one of the most effective means for building long-term retention (Van der Kleij, Feskens, & Eggen, 2015). The feedback provided in MyLab IT simulations is clear, concise, and timely. In addition, students have access to hints and guidance when they request them, which has been found to help facilitate skill acquisition (Koedinger & Alevan, 2007).

History and reach of MyLab IT

Currently used by more than 400,000 higher education students a year spanning multiple academic domains, MyLab IT has been used by more than 3.5 million learners in 30 countries since 2007.

MyLab IT has met the following major milestones since its initial launch in 2007:

- August 2007 — MyLab IT for Office 2007 launched with simulation-based training and assessment
- August 2009 — ["Industry First"] Live-in-the-Office-application, auto-graded projects added to MyLab IT for Office 2007
- August 2010 — MyLab IT for Office 2010 launched
- August 2013 — MyLab IT for Office 2013 launched with the first ever HTML5 simulation for Microsoft Office training and assessment, as well as the ability for educators to create their own auto-graded projects
- June 2016 — MyLab IT for Office 2016 launched with all content and features completed in less than half of the amount of time compared to previous product versions
- Releases have been on a three-year cycle and will continue as such based on Microsoft's development cycle for Office

Intended product implementation

We aim to keep MyLab IT flexible enough to allow our customers to make their own choices on how they want to implement it, and to allow them to tweak their practice over time to improve the experience and outcomes.

For example, how educators choose to use simulations and Grader activities in their courses will depend on how they intend students to practice and prove mastery.

Simulations, which take place in a simulated Microsoft Office environment, focus on skills. Grader activities, which students complete using the actual Office applications, focus on outcomes. Each type of activity can function as both a homework tool and an assessment method.

Based on the data we receive from the MyLab IT platform, it appears that most educators use one of five generic implementation models (with slight deviations). Each model is suited to a different pedagogical focus.

	Skills/Enabling Focus	Project/Outcomes Focus	Skills/Enabling-Focused Homework & Project/Outcomes-Focused Assessment	Project/Outcomes-Focused Homework & Skills/Enabling-Focused Assessment	Skills/Enabling & Project/Outcomes-Focused Homework & Assessment
Homework	Simulation	Grader	Simulation	Grader	Simulation and/or Grader
Assessment	Simulation	Grader	Grader	Simulation	Simulation and/or Grader

Model 1: Skills/Enabling Focus — Enables students to practice and prove mastery on individual skills:

- Homework: simulation activities
- Assessment: simulation activities

Model 2: Projects/Outcomes Focus — Enables students to practice and prove mastery in project-based assignments:

- Homework: Grader activities
- Assessment: Grader activities

Model 3: Skills Focus for Homework and Project Focus for Assessment — Enables students to practice on individual skills and prove mastery in project-based assignments:

- Homework: simulation activities
- Assessment: Grader activities

Model 4: Project Focus for Homework and Skills Focus for Assessment — Enables students to practice in project-based assignments and prove mastery on individual skills:

- Homework: Grader activities
- Assessment: simulation activities

Model 5: Skills Focus and Project Focus for Homework and Assessment — Enables students to be exposed to both skills-based and project-based assignments for homework and/or assessment:

- Homework: Grader and/or simulation activities
- Assessment: Grader and/or simulation activities

Product research

The purpose of the research done to date was to explore the relationship between MyLab IT usage and students' timeliness of completion, and standard of achievement or level of competence. Given the alignment of the product with the learning science principles discussed in the **Product design and development** section above, we hypothesize that usage of MyLab IT will have a positive relationship with learner outcomes, particularly in terms of engagement, mastery of Office applications, and achievement (see the Appendix for the full list of intended outcomes).

Specifically, the activities in MyLab IT and the authentic practice those activities are designed to support, combined with the benefits of scaffolding and immediate feedback, should enhance student learning. As such, we should observe a correlation between students' usage of and performance in MyLab IT, and their achievement on independently administered course exams.

For this first phase of our efficacy journey, we mainly focused on exploring correlational rather than causal relationships between our products and learner outcomes. Demonstrating causation is complex and requires significant investment; our correlational studies identify relationships that may be worth investigating further with causal study designs in future research.

Existing research

In 2018 Pearson researchers completed a systematic search and review of research articles published since 2012 that assessed the impact of MyLab IT on learner outcomes. Our criteria for the review and inclusion of existing published research on our products were designed based on US Department for Education What Works Clearinghouse guidance. Based on these guidelines, in order for research to be included in this Efficacy Report on MyLab IT it needed to meet a number of criteria, including that the study was published in the past five years, examined at least one intended learner outcome category, and reported results in enough detail that the research could be properly evaluated. For more information on this see the [Pearson Efficacy Reporting Framework](#) dated April 3 2018.

In the initial screening, we discovered 44 studies. After an initial review we found that three contained information relevant to MyLab IT. Following an in-depth review, we discovered that no existing published studies met the necessary criteria to be included in this Efficacy Report. For the initial screening list and a list of the subset of studies that contained information relevant to MyLab IT but did not meet the criteria to be included here see the [Pearson Efficacy Reporting Framework](#) dated April 3 2018.

Research studies

There is one new study, conducted by Pearson, that forms the basis of the Efficacy Report for MyLab IT. The research questions and findings for each study are set out in detail below, including the efficacy statements generated by those studies.

Study 1

Study citation	A correlational study of MyLab IT in an introductory information technology course — Pearson — March 2018
Research study contributors	Christine Leow, Yun Jin Rho, Amy Rutledge, Kodi Weatherholtz
Research questions	<ol style="list-style-type: none">1. What is the relationship between performance as measured by MyLab IT practice exam scores and course exam scores?2. What is the relationship between students' MyLab IT usage and their course exam scores, where usage is measured by:<ul style="list-style-type: none">— The number of unique MyLab IT activities attempted— The number of repeated activities in MyLab IT— The amount of time spent in MyLab IT?
Related intended outcomes	Learners complete assignments on time Learners complete the course Learners pass the course (see the Appendix for the full list of intended outcomes)
Study design	Relational (correlational, not predictive) This study examined the association between the use of MyLab IT for Office 2013: Exploring Series + Visualizing Technology, 4th edition and students' academic achievement in Business Problem Solving with IT, an introductory information technology course.
Metrics studied	<ul style="list-style-type: none">— Total number of unique MyLab IT activities attempted— Total number of MyLab IT activity repetitions— Total time spent on MyLab IT activities (hours)
Description of sample	<p>The study is limited to participants at one school: a mid-sized four-year university in the midwestern US. At the time this report went to press, we had not secured permission to refer to the institution by name in our efficacy reporting.</p> <p>The study sample contained seven groups of students who were enrolled in the Business Problem Solving with IT course during the 2015–2016 academic year.</p> <p>The institution aims to make the course challenging, to differentiate itself from nearby two-year schools. It focuses on critical thinking and emphasizes Microsoft Excel and Microsoft Access skills.</p> <p>In this course, the instructor assigned individual activities within MyLab IT as practice and homework exercises and also combined MyLab IT resources to generate course exams designed to assess students' programming skills. Both simulation and Grader activities were used, though with an emphasis on Grader activities. This approach is similar to generic implementation model 5, described in the Intended product implementation section above.</p>
Sample size	Full sample = 315 Analytic sample (students for whom all data necessary for the study was available) = 227 Remainder (students for whom one or more necessary data sources was missing) = 88

Analysis

To assess the relationship between students' usage of and performance on MyLab IT assignments and their achievement in the course, students' average course exam scores were analyzed using a multilevel linear regression model with MyLab IT usage and performance variables as independent variables.

Using information about the number of assignments completed by students, we were able to derive a proxy measure of course completion from the available data. This derived measure was whether students completed all course exams. That is, for the purposes of this study, we considered students to have completed the course if they completed all course exams.

We also derived a proxy measure of whether students passed the course based on the students' scores on course exams. Specifically, students were counted as having passed the course if they completed all course exams and averaged a score of 60% or higher across all exams.

The study design also took into account student-level factors that affect achievement. Throughout the course, students completed MyLab IT pre-test activities before starting new content areas; students' average score on these MyLab IT pre-tests was also included in the analysis as a covariate to statistically control for prior content knowledge. Course section was included as a random effect to account for variability in learner outcomes across course sections.

Results

The number of unique MyLab IT activities that a student attempted was related to their achievement in the course. Students who attempted more MyLab IT activities tended to have higher average course exam scores ($b = 0.77$, $t = 5.91$, $p < .001$). Specifically, every seven additional MyLab IT assignments attempted was associated with an average increase in course exam grades of about 5% (or half a letter grade). To put this into perspective, a typical student in this study completed 23 unique MyLab IT assignments during the semester and averaged a score of 67% across course exams. Students who completed just seven additional MyLab IT assignments (or 30 total during the semester) were found to have an average course exam score of 72% (see Figure 1).

Students' average score on MyLab IT practice exams was related to their achievement in the courses. Students with higher average scores on MyLab IT practice exams tended to have significantly higher scores on course exams ($b = 0.22$, $t = 5.35$, $p < .001$). Specifically, an average score increase on MyLab IT practice exams of 4% was associated with an increase in average course exam score of about 1% (see Figure 2).

The majority of students enrolled in the course completed the course. Of the 315 students enrolled in the course, 12% (39) dropped out of the course before the first exam, 16% (49) did not complete all course exams, and 57% (178) earned a passing grade in the course. 72% (227) completed all course exams and are designated as having completed the course. Focusing only on those 227 students who remained enrolled and completed the course, the pass rate was calculated as 78% (178).

A majority of the students that remained enrolled in the course completed course assignments. From among the 227 students that completed the course, 85% completed at least 65% of all non-extra-credit course assignments.

Students who spent longer on MyLab IT overall tended to earn lower average course exam scores. For each additional hour spent on MyLab IT activities, average course exam scores decreased by 0.64 percentage points. The direction of this effect is not surprising. Although total time on task may be seen as a measure of course engagement, it can also serve as an index of student ability (i.e., struggling students are likely to average longer times overall).

Efficacy statements

In the context of this study, conducted at a mid-sized university in the midwestern US for students enrolled in Business Problem Solving with IT, Pearson is able to make the following relational (correlational, not predictive) statement about the efficacy of MyLab IT:

- On average, attempting an additional seven unique assignments was associated with an increase in course exam score by half a letter grade (5%).

In the same context, Pearson is able to make the following descriptive statement about the efficacy of MyLab IT:

- In our research, 78% of students who completed the course using MyLab IT passed the course.

Limitations and generalizability

Limited statistical controls:

We were unable to obtain student-level data about factors that are known to affect learner outcomes, such as prior achievement and demographic characteristics. Obtaining student-level data on these factors via university transcripts and student/instructor surveys would have allowed a more robust analysis.

Correlational study design does not afford causal conclusions:

Due to data limitations, this study used a correlational rather than a quasi-experimental design, and therefore the results do not afford causal conclusions.

Subset of students in analysis:

Data for only a subset of students out of all students enrolled in the course could be analyzed, because the full set of independent and statistical control variables was not available for all enrolled students.

Future research

Future research could explore whether these findings can be replicated at other schools so we can understand more about what works, when, where, how, for whom and why. Future studies could also examine student engagement within MyLab IT, and whether use of MyLab IT leads to higher mastery of Office applications and higher achievement. Such studies would need to make use of more rigorous research designs. For example, an experimental or quasi-experimental research design could assess whether use of MyLab IT leads to better learner performance — that is, whether the relationship we observed is causal in nature.

Read about this research in more detail in our [Technical Report](#)

Figure 1:

Relationship between students' average course exam scores and their MyLab IT usage, after controlling for prior content knowledge

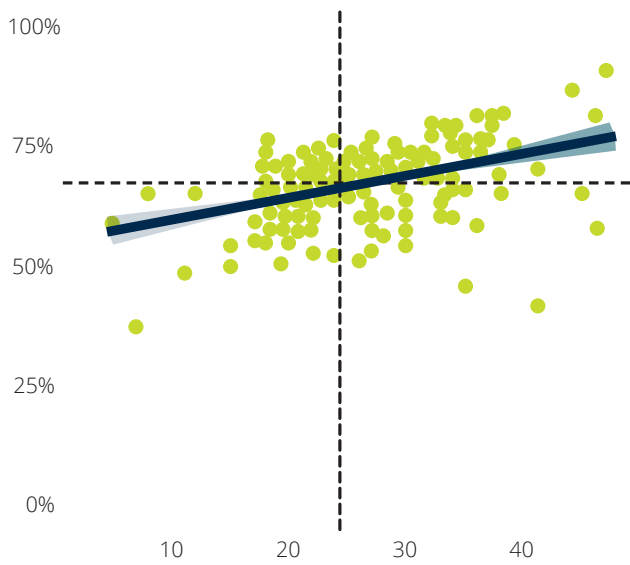
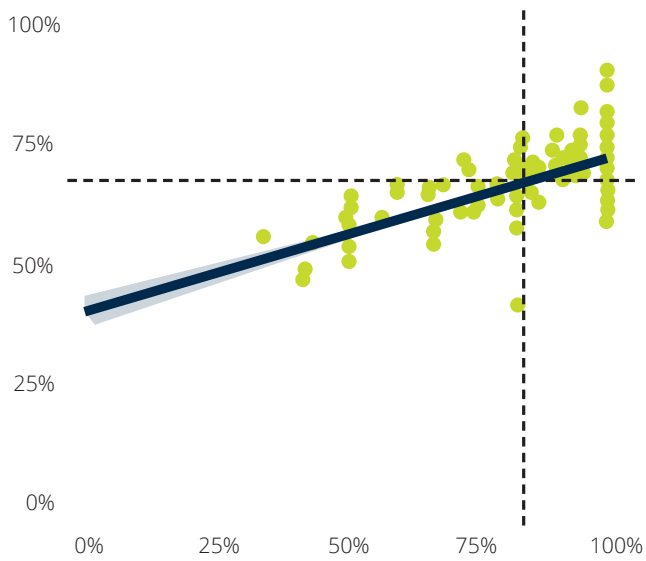


Figure 2:

Relationship between students' average course exam scores and their MyLab IT performance, after controlling for prior content knowledge



References

de Jong, T. (2010). Instruction based on computer simulations. In R. Mayer and P. Alexander (Eds.), *Handbook of research on learning and instruction* (pp. 446–466). Routledge Press.

Hulleman, C. S., Godes, O., Hendricks, B. L., & Harackiewicz, J. M. (2010). Enhancing interest and performance with a utility value intervention. *Journal of Educational Psychology*, 102(4), 880.

Koedinger, K. R., & Alevan, V. (2007). Exploring the assistance dilemma in experiments with cognitive tutors. *Educational Psychology Review*, 19(3), 239–264.

Moll, M. 5 must-have tech skills for college students. *US News*. 27 Jan. 2014. Web.

Van der Kleij, F. M., Feskens, R. C., & Eggen, T. J. (2015). Effects of feedback in a computer-based learning environment on students' learning outcomes: A meta-analysis. *Review of Educational Research*, 85(4), 475–511.

Appendix 1: full list of intended outcomes

Outcomes related to learner access and experience

Intended outcome 1

Learners can access learning anytime, anywhere (digital).

MyLab IT is designed to be accessed remotely and on any device, allowing students to access learning materials from anywhere, at any time.

Intended outcome 2

Learners can successfully use MyLab IT with little or no tech support.

MyLab IT is available and operational consistently. Additionally the training and assessment tools, including simulations and Grader projects, function as intended with the aim of providing students with an uninterrupted learning experience.

Intended outcome 3

Learners are engaged and have a positive learning experience.

MyLab IT provides a variety of learning opportunities including eTexts, videos, presentations (with built-in audio description), and multiple auto-graded projects with immediate feedback, aiming to allow students to stay engaged with learning without waiting for an instructor to grade and provide feedback. In addition, the simulations include integrated learning aids that provide multimodal assistance when a student doesn't understand a step: they can Read, Watch, or Practice. Learners have the opportunity to earn badges on capstone Grader projects with a score of 90% or better. These badges can be shared on social media sites such as LinkedIn, and they provide real-time data about available jobs and salary ranges in their location.

Intended outcome 4

Learners are satisfied with MyLab IT.

Learners have the opportunity to provide feedback through Pearson sponsored surveys on the MyLab platforms. Using this data, their satisfaction is measured using Net Promoter Score (NPS) and other metrics. In addition, customer technical support data is used to measure decreases in tech support questions and issues from students.

Intended outcome 5

MyLab IT learners are getting good value for money.

Market survey data, registration data, NPS and regular student feedback indicate positive student perception of the value of MyLab IT.

Outcomes related to timeliness of completion

Intended outcome 6

Learners complete assignments.

MyLab IT tracks assignment submissions and grades, indicating the number of completed assignments vs. the number of students enrolled. MyLab IT Graders and simulations provide reports that tell students what they did incorrectly. These assignments also allow for multiple attempts so that learners can fix their mistakes and resubmit for completion. In a Grader project, students can submit at any point in the project to get feedback and see details on what they may be doing wrong, allowing them to fix and move on to completion. There are also learning aids in the simulations that assist students if they are struggling with a specific step in a simulation.

Intended outcome 7

Learners complete assignments on time.

MyLab IT has a student view of the assignment calendar that details assignments due, complete, and past due. Students can also view assignments by the To Do/Completed feature. In addition, instructors can run reports to see who has completed assignments, who has not logged into MyLab IT, etc., in order to intervene and contact students directly. Platform reporting indicates the level to which students complete assignments vs. the due dates set.

— We have evidence about how MyLab IT relates to this intended outcome. Find it under [Product research](#).

Intended outcome 8

Learners complete the course.

All of the resources in MyLab IT are intended to support students to persist to completion: multiple attempts; automatic, instant feedback and guidance on errors, and resources to guide learners to correct errors and resubmit; assignment calendar views; and instructor reports to allow for early intervention with students who are falling behind, as well as item analysis to show which assignments/questions students may be struggling with.

—We have evidence about how MyLab IT fulfills this intended outcome. Find it under [Product Research](#).

Outcomes related to standard of achievement or level of competence

Intended outcome 9

Learners reach defined level for proficiency of each application tool.

Capstone Grader projects are offered for the four main applications: Word, Excel, PowerPoint, and Access.

These projects are based on the content of the coverage in the text, which is based on course learning outcomes and industry certifications for Microsoft Office Specialists (MOS). If students achieve a score of 90% or better, they earn a badge. Digital badges contain metadata that identify the skills mastered through completion of the assessment. In addition, instructors can run a new Skill Mastery Report at the end of the semester.

Intended outcome 10

Learners develop the ability to apply tools in other coursework.

Learners are taught skills in the context of real world projects related to tasks they need to do in other course work (i.e., research papers, presentations, spreadsheet calculations, etc.), as well as projects they have to do on the job (budgeting, presentations, creating marketing materials, tracking customers in a database, etc.). Based on surveys, customer feedback, and anecdotal information, learners are able to rate the level to which they have applied what they learned with MyLab IT to other courses and their work.

Intended outcome 11

Learners pass the course.

All of the resources in MyLab IT are intended to support students to persist to successful course completion, including multiple attempts allowed on Grader projects and simulations; automatic, instant feedback and guidance on errors, and resources to guide learners to correct errors and resubmit; assignment calendar views; and instructor reports that inform them of students falling behind to allow for early intervention. Data from institutions regarding passing rates is used to measure this outcome.

— We have evidence about how MyLab IT relates to this intended outcome. Find it under [Product Research](#).

Outcomes related to learner progression

Intended outcome 12

Learners have improved career prospects and opportunities.

The badges in MyLab IT demonstrate skill level mastery for Office applications and are shareable via LinkedIn and other social media. The real-world projects the students create are also shareable to potential employers, as learners can present the projects in a digital portfolio.



Independent limited assurance report to the directors of Pearson plc

The directors of Pearson plc (“Pearson”) engaged us to provide limited assurance over the efficacy statements clearly identified by the box titled ‘Efficacy statements’, including reference to the study design type, in the Pearson MyLab IT Efficacy Research Report dated April 3 2018 (“Research Report”).

Our conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the efficacy statements set out in the Pearson MyLab IT Research Report have not been prepared and reported, in all material respects, in accordance with the Pearson Efficacy Reporting Framework dated April 3 2018.

This conclusion is to be read in the context of what we say in the remainder of our report.

Efficacy statements

The scope of our work was limited to assurance over the efficacy statements clearly identified by the box titled ‘Efficacy statements’, including reference to the study design type, in the MyLab IT Research Report. Our assurance does not extend to other information presented in the Research Report.

Professional standards applied and level of assurance

We performed a limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) *Assurance Engagements other than Audits and Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards board. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal controls, and the procedures performed in response to the assessed risks.

Our independence and quality control

We applied the Institute of Chartered Accountants in England and Wales (ICAEW) Code of Ethics, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

We apply International Standard on Quality Control (UK) 1 and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our work was carried out by an independent and multi-disciplinary team including educators, statisticians, and experts in reporting and assurance.

Reporting and measurement methodologies

The efficacy statements need to be read and understood together with the Pearson Efficacy Reporting Framework dated April 3 2018 (the “Framework”), available on Pearson’s website at <https://www.pearson.com/efficacy-reporting-framework>. The absence of a fully comprehensive set of generally accepted rules for identifying learner outcomes and defining, assessing and reporting the efficacy of educational products allows for different, but acceptable, ways of measuring product efficacy and reporting findings as efficacy statements. This could affect

comparability between Pearson’s efficacy reporting and that of other organisations.

Work done

We are required to plan and perform our work in order to consider the risk of material misstatement of the efficacy statements. A material misstatement would be an efficacy statement that does not reflect the study design and quality of underlying research or the omission of key information from a relevant study.

In doing so, we:

- made enquiries of relevant Pearson management;
- evaluated the design of the Framework including key structures, systems, processes and controls for managing, generating and reporting the efficacy statements;
- tested all 19 controls across the 8 stages of the Framework;
- confirmed that all management reviews were performed by at least two members of Pearson’s Efficacy & Research team;
- performed substantive testing on a sample basis of the data that underpins the research studies and the resulting efficacy statements, and the controls over the completeness and accuracy of that data (supported by Pearson Internal Audit in those instances where student data was subject to confidentiality restrictions);
- assessed the quality and conclusions of the underlying research studies;
- inspected the statistical analysis to assess whether the efficacy statements are valid, supportable and consistent with the underlying research studies;
- independently re-performed screening of relevant external public research studies and compared to that done by Pearson;
- assessed the efficacy statements and underlying Technical Report(s) for consistency with the Framework; and
- reviewed the product’s efficacy web page, Research Report, and Technical Report(s) for alignment of research studies and efficacy statements.

Pearson responsibilities

The directors of Pearson are responsible for:

- designing, implementing and maintaining internal controls over information relevant to the preparation of efficacy statements that are free from material misstatement, whether due to fraud or error;
- establishing an objective framework for preparing and reporting efficacy statements;
- preparing and reporting efficacy statements in accordance with the Framework; and
- the overall content of the Framework and the Research Report.

Our responsibilities

We are responsible for:

- planning and performing the engagement to obtain limited assurance about whether the efficacy statements are free from material misstatement, whether due to fraud or error;
- forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- reporting our conclusion to the directors of Pearson.

Inherent limitations

Efficacy research, and the resulting efficacy statements, reflect the implementation and use of a product in a particular context. It would not be appropriate to assume a product would always generate similar outcomes in other contexts and/or in the future.

Intended users and purpose

This report, including our conclusions, has been prepared solely for the board of directors of Pearson in accordance with the agreement between us, to assist the directors in reporting Pearson MyLab IT efficacy statements, in accordance with the agreement between us dated 9 August 2017. We permit this report to be disclosed onlineⁱ at <https://www.pearson.com/corporate/efficacy-and-research/efficacy-reports> in respect of the MyLab IT Research Report to assist the directors in responding to their governance responsibilities by obtaining an independent assurance report in connection with the efficacy statements. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the board of directors and Pearson for our work or this report except where terms are expressly agreed between us in writing.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Chartered Accountants
London
3 April 2018

ⁱ The maintenance and integrity of Pearson's website is the responsibility of the directors; the work carried out by us does not involve consideration of these matters and, accordingly, we accept no responsibility for any changes that may have occurred to the reported efficacy statements or the Framework when presented on Pearson's website.



Pearson