# Using AACSB Best Practices to Improve Project Based Learning Outcomes in Lean Six Sigma Education for Supply Chain Management Majors

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## ABSTRACT

Supply chain management graduates develop a range of skills and knowledge that enable them to support decision making and continuous improvement efforts for the organization. This study examines how the continuous improvement courses in the supply chain management curriculum at a midwestern university were improved by focusing on the project based learning experience. The AACSB best practices for curriculum change proved to be an efficient and effective approach to making these active learning changes, and in providing greater value to the students and other stakeholders.

**Keywords:** Supply Chain, Continuous Improvement, Lean Six Sigma, Yellow Belt Certification, Business Education, Project Based Learning, Active Learning, AACSB

## INTRODUCTION

Competitive pressures within and across all industries require employees to be more efficient and effective through continuous improvement (CI) of processes. This requirement is perhaps most profound within the supply chain management (SCM) profession, where processes cut across inter- and intra- organizational boundaries. SCM professionals can better contribute to CI efforts by utilizing the theories, practices and tools driven by lean six sigma (LSS).

This paper discusses the process and importance of following curriculum change best practices to improve the educational outcomes for students through project based learning (PBL). It examines how a change to the CI component of the SCM curriculum created a more efficient course management process, better aligned the content of a prerequisite course to the subsequent course, emphasized active learning, enabled students to achieve LSS yellow belt certification, and better prepared students for their careers. It also illustrates how student centered changes provided benefits to other stakeholders as well.

This paper is organized as follows. First, a brief literature review discusses the important linkage between SCM and CI, evaluates the effectiveness of project based learning (PBL), and identifies best practices for the curriculum development process. Next, the actual curriculum development and change process is detailed, the resulting change is presented, and an initial stakeholder assessment of the impacts of the change are discussed. The summary section identifies other potential future changes to the CI curriculum.

## LITERATURE REVIEW

The imperative for continuous improvement (CI) in processes, driven by competitive pressures, is acutely felt within the field of Supply Chain Management (SCM) (Kannan and Tan, 2005). These CI initiatives should extend beyond the internal supply chain functions of an organization to all of its supply chain partners (Prado-Prado, 2009). A ten-step solution process for improving supply chain performance through the lean six sigma (LSS) approach has been prescribed (Martin, 2014). This industry imperative to integrate CI and SCM has driven increased academic research into a range of related topics such as applying LSS to mitigate supply chain risks and driving sustainable supply chains (Mahdikhani, 2023).

These trends highlight the importance for SCM professionals to be proficient in CI. Many experts suggest that LSS competency was once a bonus skill for SCM professionals, but is now a necessary one (Six Sigma Daily, 2018). However, both the lack of LSS knowledge and the lack of LSS training create barriers to successful LSS initiatives in SCM (Ali, 2020). It is thus incumbent on higher education to develop the LSS capabilities of SCM students to best prepare them for their careers.

Active learning and project based learning (PBL) are effective tools as they promote student learning, engagement, community and connectedness (Allsop et al., 2020). Active learning within the supply chain discipline fosters critical thinking, teamwork, and project management (Miller et al., 2023). Various studies highlight the positive impact of other related innovative teaching methodologies, including the flipped classroom approach and economical, flexible learning spaces (Kanigolla et al., 2014; Tay, 2021, Vardanega and Fedeli, 2019). Tan and Teo (2009) propose a synergized approach combining problem-based learning and PBL, enhancing the innovativeness in information systems development, which could be applicable to SCM education by fostering innovation through real-world project scenarios. These methodologies not only support the application of LSS in the context of SCM education but also emphasize the importance of critical thinking, teamwork, and project management skills. Active learning in higher education is enhanced through projects developed in partnership with industry (Dinis-Carvalho et al., 2017). PBL significantly impacts educational effectiveness, particularly beneficial in SCM education for providing practical, hands-on experience that complements the LSS foundations (Alacapınar, 2008). Huchting, Zhuplev, and Lee (2021) discuss the essentials of PBL in international business venturing, highlighting the pedagogy's proliferation and current status across disciplines, which aligns with the emphasis on practical, hands-on experience in SCM education.

Universities that are revising curriculum to incorporate LSS active learning should follow robust processes to ensure student success and stakeholder satisfaction. The Association to Advance Collegiate Schools of Business (AACSB), a business curriculum accreditation agency, identified ten best practices for curriculum redesign that were to be followed during this change: 1) Involve all stakeholders; 2) Make faculty a key part of the process; 3) Minimize "felt losses"; 4) Benchmark against other schools; 5) Allot sufficient resources; 6) Deeply scrutinize each potential change; 7) Set a deadline; 8) Stick to a budget; 9) Start small but start; 10) Build over time. (AACSB, 2017).

The collective insights from these studies identifies a pivotal shift in SCM education towards an experiential learning model that prepares students to meet the evolving demands of the industry. Integrating LSS with PBL in SCM education, aligned with AACSB best practices, underscores a strategic curriculum development approach focused on experiential learning and skill enhancement to meet contemporary industry demands. This comprehensive integration of LSS and PBL methodologies in SCM education not only aims to enhance operational efficiency and effectiveness within higher education institutions but also to align educational outcomes with industry demands, underscoring the critical role of leadership, continuous improvement, and strategic alignment in achieving educational excellence.

## THE CURRICULUM DEVELOPENT AND CHANGE PROCESS

### Impetus for Change

The SCM program at this university has historically been, and at the time of this change, was one of the highest ranked undergraduate SCM programs in the United States. However, as industry responds to competitive pressures, the required skill sets of the SCM professional needs to change. The SCM faculty, through market analysis and benchmarking efforts, determined that to remain a leader in SCM education, changes were needed including the development of two new courses. Specifically, a new advanced logistics and a new advanced sourcing course were to be included in the program. These new courses build upon the content of the existing sourcing and logistics fundamentals courses. A full discussion of that analysis and change to the overall curriculum is beyond the scope of this paper, but the decision to add two new courses necessitated the elimination of other courses, as there are limitations on the number of courses (credit hours) per major.

The prior curriculum included three CI courses. One course was focused primarily on quality management principles, and was not considered a PBL based course. It covered some components of lean systems, but it emphasized quality and six sigma principles. A second course that was PBL based required students to complete industry projects. The main challenge in implementing the course was that it did not require any CI course prerequisites. Students could be put in a position of working on industry projects not knowing which tools they may need to use, or how to use the tools. Though the instructor, students, and industry partners overcame this challenge, it put undue stress on the system, suboptimized the learning experience and project outcomes, and to some extent limited the scope of projects pursued.

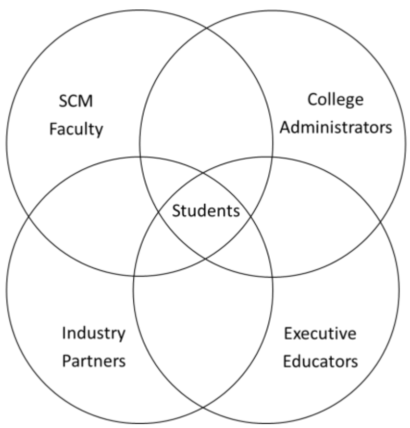
The third course which was also PBL based, focused on the Try-Z training exercise developed by Nissan (Nissan, 2024). After completing the Try-Z training, students applied those principles by conducting a separate team project of their choosing. This was a capstone course, so students needed to be of senior standing, and have completed a number of pre- and/or co-requisites, including the aforementioned quality and project management courses. Though this course provided a great learning experience, there were challenges for both administration and students in scheduling it (it required three consecutive days of 8 to 10 hour meeting time) and there was no dedicated lab space (it requires significant setup). Further, leading the Try-Z training is very demanding and specific, such that only one faculty member had the expertise to teach it.

The SCM faculty voted to retain the industry PBL course, though student preparation for the course needed to be enhanced. It was also decided that the Try-Z course and the quality management course needed to be consolidated into one course. The challenge was to develop a one semester course that both introduced the LSS management system and tools as was done in the prior quality management course, and that delivered a PBL experience which provided benefits similar to those achieved through the Try-Z class. The AACSB ten best practices for curriculum change were followed to make this change.

**Practice #1: Involve All Stakeholders**

The interest and needs of the key stakeholders, as well as the contributions they could make, were considered in developing a solution to that challenge. Each stakeholder sets student success as the priority, as reflected in Figure One. Though student success was the number one objective, each stakeholder had other goals and objectives for the change.

**Figure One: Stakeholder Analysis**




For students, enhancing the applicability of course content to real-world SCM challenges was vital. They sought a curriculum that not only offered certification but also instilled confidence in their practical skills through hands-on project experience with actual industry problems. To further enrich their learning experience, students also expressed a strong interest in mentorship programs with SCM professionals, facilitating a smoother transition from academic learning to professional application. They also sought a streamlined program planning process and enrollment process. This feedback was collected from two groups of students, with approximately ten students in each group. All students were either senior or junior level status. One group of students had just completed the CI courses associated with the prior curriculum, while the other group had yet to take any CI courses. The students in the latter group were selected because they already completed one or more internship experiences, so it was expected that they would have a better perspective of the CI skills needed in industry.

For SCM faculty, it was important to foster an environment that encouraged innovation in teaching and collaboration across disciplines. They also sought to integrate cutting-edge SCM software and tools into the curriculum to ensure students gained practical, market-relevant skills. For example, students gain practical skills in advanced analytics, including big data, predictive analytics, database management, and data mining with RapidMiner, SQL, and Python, along with advanced Excel functions, Power Query, Power Pivot, and visualization tools such as Tableau and Power BI. Our program incorporates cloud-based decision support services that enable students to track and analyze raw material market data, simulate purchase scenarios, and prepare for price negotiations with suppliers (n-alpha.com). Through our collaboration with leading companies, students engage in experiential learning projects through ERP system configurations using SAP and ScrimmageSim. Additionally, our curriculum includes training in business data analytics, covering essential skills in Python, Jupyter Notebook, and visualization libraries such as Seaborn, Matplotlib, and Plotly. We also emphasize the importance of geographic information systems (GIS) with courses utilizing ArcGIS Pro to manage supply chain risks and strategic planning. We also offer a specialized AI course tailored for non-technical students, enhancing their ability to apply artificial intelligence in business contexts. Beyond this, faculty members emphasized the need for continuous professional development opportunities to stay abreast of the latest SCM trends and teaching methodologies, ensuring the highest quality of education. All SCM faculty participated in the discussion as part of the overall program change discussion.

The SCM program at this university is supported by an active Industry Council. Industries represented include healthcare, public administration, logistics, aerospace, automotive, industrial equipment, medical equipment, agricultural products, and food retailers for example. Feedback from this group was received during a semi-annual meeting where the overall curriculum change was discussed. Industry partners emphasized the importance of students' ability to work with data analytics and apply LSS principles to complex supply chain challenges. They also valued programs that encouraged students' creativity and strategic thinking in developing solutions to real-world problems, underscoring the need for a curriculum that balances technical skills with soft skills such as leadership and communication. Industry partners were also interested in collaborative research projects with the university, seeing it as a way to innovate within their supply chains while contributing to the educational process. One proposal from the industry partners that was put on hold because it would reduce course scheduling flexibility was to require students to take the two CI courses in consecutive semesters (Fall to Winter) so that they could work as one team on more complex and advanced industry projects.

For college administrators and staff, a seamless integration of the LSS certification into the SCM curriculum without disrupting the existing course structure was crucial. They aimed to leverage this integration as a unique selling point to attract prospective students and enhance the institution's reputation in business education. Furthermore, exploring digital and online platforms for executive education and certification courses was seen as an opportunity to expand reach and increase accessibility. Administrators also explored the potential for cross-disciplinary programs that would combine SCM with fields like data science and sustainability, responding to the growing complexity of global supply chains. Though administration indicate budgetary support would be provided for the change, the faculty and staff were determined to minimize new expenditures. The advising staff also encouraged limited prerequisite restrictions on enrollment to enable flexibility in scheduling courses.

The college has an SCM Center that is independent but supportive of SCM program and curriculum development. The center's main goals are to provide SCM executive education and training to working professionals. The center was already providing LSS yellow and green belt training and certification. It had previously benchmarked other LSS certification programs and university courses, and worked with industry partners to develop the training content. The SCM Center sought to align its executive education offerings more closely with the evolving needs of the industry and the SCM curriculum. A strategic initiative was to develop partnerships with technology providers and other educational institutions to enrich the executive education portfolio with cutting-edge topics such as digital supply chain transformation and sustainability in SCM. Moreover, the center aimed to establish a scholarship fund to support students interested in advanced LSS certification, promoting leadership in SCM innovation. In addition, there was a push to increase the center's visibility through marketing and outreach efforts, aiming to establish it as a leading hub for SCM excellence regionally and nationally.

**Practice #2: Make Faculty a Key Part of the Process**

As discussed above, this was done. Not only were the faculty who were likely to teach the CI course involved in the discussion, other SCM faculty were consulted or informed throughout the discussion. Faculty from other disciplines such as leadership, strategy and organizational behavior were also consulted on an as needed basis. Two non-SCM faculty members with expertise in leadership and change, who are also part of the SCM Center team which provides lean six sigma training and certification for working professionals, were specifically consulted. They emphasized that for any CI initiative to be successful it must be supported by management, driven by a communication plan, linked to business strategy and measures, and coordinated through managed change at the individual and team levels. This interdisciplinary approach ensured a holistic curriculum development, reflecting a broad spectrum of insights and expertise. Furthermore, it fostered a collaborative culture among faculty, enhancing the integration of the CI principles across different areas of study.

**Practice #3: Minimize Felt Losses**

The most significant felt loss was the elimination of the Try-Z experience. This course had been a central part of the student experience and was valued by employers. To minimize felt losses, the possibility of including components of the Try-Z experience will again be assessed as the courses are continuously improved. Efforts to incorporate alternative lab-based experiential learning opportunities are underway, aiming to preserve the practical application elements that the Try-Z experience provided. These initiatives are critical in maintaining the program's reputation for hands-on, real-world learning.

**Practice #4: Benchmark Against Other Schools**
Most SCM programs were found to require “experiential learning” as part of the overall program. This requirement could be met through internships, externships, co-ops, PBL based courses, or research for example. Specific to CI, most programs required at least one CI course, but it was unclear if there was a direct connection between such a course and subsequent industry based PBL courses. It was determined that the first CI course was to be a prerequisite for the second CI course, and a direct link had to be made between the content of each course. This alignment ensures a cohesive learning journey for students, building upon foundational CI concepts towards more advanced applications in PBL settings. Additionally, it underscores the program's commitment to a progressive educational model that mirrors the evolving dynamics of the SCM field.

**Practices #5 and #8: Allocate Sufficient Resources, and, Stick to a Budget**
The team was determined to avoid any new investments, at least during the initial changes. Fortunately, within the SCM program there were already a number of CI experts, so no new hires were required. Further, one of the advantages in a university setting is access to subject matter experts (SMEs) across many disciplines that are components of CI, such as change management, leadership, engineering and sustainability. The collaboration with such SMEs strengthened the content of the courses, with no additional costs. This resourceful approach not only optimized the existing talents and knowledge base but also ensured that the curriculum remained dynamic and relevant, reflecting the latest trends and practices in CI without imposing financial strain on the program.

**Practice #6: Deeply Scrutinize Each Potential Change**
For each topic included in the courses, the team asked: 1) how critical was the topic given the aforementioned goals, and 2) compared to other potential topics should this topic be included given the time constraints of a three credit hour course. Given those two screening factors, the final topic list resulted from an analysis of the tools that were often used in the industry PBL course, and the content provided by the SCM center during yellow and green belt training. Each topic was also scrutinized for how it might support PBL. This meticulous approach to curriculum development ensured that each included topic not only met educational objectives but also provided meaningful value to students’ learning experiences, equipping them with the skills and knowledge demanded by today’s SCM professionals.

**Practice #7: Set a Deadline**
The university has a prescribed schedule for when curriculum changes can be made. The team selected the next available cycle as the deadline. This supported the effort to keep the discussions moving at a reasonable pace. Adhering to this deadline fostered a sense of urgency and focus among the team members, facilitating efficient decision-making and ensuring that the curriculum revision process remained on track to meet institutional timelines.

**Practices #9 and #10: Start Small but Start, and, Build Over Time**
The goal was to develop courses given all the factors and goals just discussed, with the understanding that changes may be made as we learn. Many good ideas were proposed for the courses. For example, we discussed if the Try-Z training could be condensed to a shorter time period, perhaps four to six hours. This was considered a significant task that likely could not be made in time for the upcoming curriculum change cycle. So, that idea is still being reviewed. Also, discussions were held to determine if completion of both courses could position students to achieve LSS green belt certification. The addition of topics (e.g., multiple regression, failure mode effects analysis, design of experiments, etc.) and thus green belt certification were determined to be a bonus rather than a necessity for students. Further, such change may have caused undo stress on the entire system. Both ideas are still being reviewed, but we were determined to “start small”. Given the background of the key stakeholders, this change process was always approached with the attitude that the courses will be continuously improved and (re)built over time. This iterative approach to curriculum development allows for flexibility and adaptability, accommodating new insights and feedback from stakeholders, ensuring that the SCM program remains at the forefront of educational excellence and relevance.

**Resulting Course Design and Structure**

This AACSB curriculum development process resulted in the following course requirements and structure. For ease of discussion, the courses will be referred to as "Course A (CA)" which is now a prerequisite course, and "Course B (CB)" which is an industry based project course.

Both CA and CB needed to provide student value independent of each other. CA was designed to develop the fundamentals of LSS through a "flipped hybrid" approach, and enable students to take the LSS yellow belt certification test administered independently by the SCM Center. Students viewed online lectures on their own time, then participated in discussions or simulations such as the dice game, Deming's Red Bead Exercise, value stream mapping and line balancing during in person meetings. Students who meet specific performance thresholds on assignments and tests in CA can take the certification test at no charge. Certification enables them to list LSS Yellow Belt Certification on their resume prior to graduation. Through industry projects, CB provides students with practical problem solving and management skills that potential employers value.

Both CA and CB were designed to be PBL. In CA, students will follow the A3 process to solve a problem of their choosing. Each week students are introduced to a tool or tools, then they are required to use that tool to analyze and improve their process. At the start of the semester students are presented a short list of project ideas (in the future they will be presented with actual completed project examples). Work related ideas include assembling a product, prepping food at a restaurant, developing/placing/filling purchase orders, and restocking inventory. Personal or non-work related ideas include preparing a full meal, doing a woodworking project, and running a sorority meeting. The students are then required to submit three project ideas where for each idea they need to address the following six questions: 1) What is the general description of the process? 2) Why does this process need improvement (you do not need specific measures at this point)? 3) What is the starting point of the process? 4) What is the ending point of this process? 5) Will you be able to video, and do you have permission to video, this process? 6) Will you be able to implement process changes in accordance with the semester schedule? The instructor reviews all three proposals, then through discussion with the student, one project idea is selected and scoped.

This enables the student to apply the tool in a relaxed and familiar setting. Projects that students have actually undertaken include improving the quality and efficiency of making a spaghetti and meatball dinner, changing the oil on a car, loading and unloading the music gear from the university band truck, and cleaning a saltwater aquarium for example. Student are required to use specific LSS tools such as SIPOC diagrams, spaghetti diagrams, process maps, fishbone diagrams, affinity diagrams, impact effort matrices and poka yokes for example.

In CB, students will also use the A3 process, but will be assigned a project by the industry partner. Students must determine on their own the appropriate tools to use, providing a sense of ownership and responsibility in the project. If they have not previously been exposed to the tool in CA, the instructor will assist and provide training on some of the more advanced LSS tools such as failure mode effect analysis, regression, and ANOVA. Projects that students have completed in CB include creation of new product launch and production ramp-up processes for a manufacturing firm, development of standardized customer service policies and procedures for a discrete parts manufacturer, improvement of trailer maintenance for a logistics firm, creation of an inventory management system and reorder procedures for a local manufacturer, and a new tooling storage procedure and tooling area layout again for an industrial products manufacturer. The topics covered in both CA and CB are listed in Table One and Table Two respectively.

**Table One: Topics Covered in CA**

| |
|---|
| **Continuous Improvement (CI) Culture, Leadership, Change**<br>Shingo Model, Kubler Ross Change Curve, Tuckman's Theory of Group Development, Followership/Leadership |
| **Capacity and Utilization**<br>Cycle time, lead time, Takt time, Capacity, Utilization |
| **Major CI Strategies:** Theory of Constraints; Lean / TPS; Six Sigma; Lean Six Sigma |
| **Decision Making Models**<br>JDI, PDCA, DMAIC, Kaizen |
| **Define**: Voice of customer to metrics; Kano Model, KPIs/KBIs, Leading/Lagging Indicators; Develop problem and goal statements; SIPOC; Value Stream Mapping; A3, Project charters, RACI |
| **Measure**: Wastes (Mura/Muri/Muda); Gemba and Gemba Walks; Process Mapping and Spaghetti Diagrams; Central tendency and variance; Checksheets, Histograms, Scatter Plots, Pareto Diagrams, Box Plots, Run Charts |
| **Analyze**: Brainstorm and Affinity; Root Cause, Fishbone, 5 Why; Impact Effort Matrix; SPC (Central limit theorem, Control Charts overall, p-charts); Capability (Cp, Cpk, Pp, Ppk); Six Sigma Metrics (Defects/Defectives, PPM, Defect opportunities, DPU, DPMO) |
| **Improve**: Cost of Quality; Flow Chart and Swimlane Diagrams; Five S (5S); SMED |
| **Control**: Standard Work; Total Productive Maintenance; Poke Yoke and Jidoka |

**Table Two: Topics Covered in CB**

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|---|
| **Clarify the Problem**<br>Project Selection and Scoping (Identifying the Problem, Defining Project Goals)<br>Initial Project Planning (Creating a Project Charter, Establishing a RACI Matrix)<br>Overview of A3 Problem-Solving (Purpose, Benefits, Structure) |
| **Break Down the Problem**<br>Problem Identification and Statement (Clarifying the Problem, Establishing Scope and Boundaries)<br>Voice of Customer (VOC) Analysis (Gathering and Analyzing Customer Feedback)<br>Current State Analysis (Value Stream Mapping, Process Flow Diagrams) |
| **Target Setting**<br>Establishing Clear Goals (Defining Desired Outcomes, Setting SMART Goals)<br>Baseline Measurement (Current Performance Analysis, Central Tendency and Variance)<br>Identifying Key Performance Indicators (KPIs) (Metrics to Track Progress) |
| **Root Cause Analysis**<br>Data Collection Techniques (Identifying Relevant Metrics, Designing Data Collection Plans)<br>Waste Identification (Mura, Muri, Muda Analysis)<br>Root Cause Analysis Tools (Fishbone Diagram, 5 Whys) |
| **Develop Countermeasures**<br>Hypothesis Development (Identifying Potential Solutions, Impact Effort Matrix)<br>Solution Development and Selection (Brainstorming, Affinity Diagrams)<br>Prioritizing Countermeasures (Evaluating Solutions, Selecting the Best Options) |
| **See Countermeasures Through**<br>Implementation Planning (Creating Action Plans, Flow Charting, SMED Techniques)<br>Pilot Testing (Testing Solutions, Gathering Feedback)<br>Adjustments and Refinements (Fine-tuning Solutions Based on Feedback) |
| **Evaluate Results**<br>Monitoring and Measuring Outcomes (Using Control Charts, Pareto Analysis)<br>Comparing Results to Targets (Assessing Improvement, Identifying Gaps)<br>Documenting Results (Creating Reports, Presenting Findings) |
| **Standardize Successful Processes**<br>Standardization of Solutions (Creating Standard Work Instructions, Poka-Yoke Techniques)<br>Developing Control Plans (Ensuring Sustainability, Total Productive Maintenance)<br>Knowledge Transfer (Training and Documentation for Continued Use) |
| **Review and Reflect**<br>Project Closure and Reflection (Documenting Lessons Learned, Final Project Presentation)<br>Reviewing the A3 Process (Evaluating Process Effectiveness, Identifying Improvements)<br>Celebrating Successes (Recognizing Team Efforts, Sharing Achievements) |
| **Sustain Improvements**<br>Embedding Changes into Daily Operations (Integrating Solutions into Standard Practices)<br>Continuous Monitoring (Regularly Reviewing Performance, Adjusting as Needed)<br>Ongoing Support (Providing Resources for Sustained Success) |
| **Share Knowledge**<br>Sharing Best Practices (Presenting Successful Strategies, Creating Knowledge Repositories)<br>Facilitating Workshops and Training (Educating Peers and New Team Members)<br>Promoting a Culture of Continuous Improvement (Encouraging Ongoing Innovation) |

The prerequisites for each course were revised to ensure they were necessary. For CA, the only restriction now is that the student is an SCM major. It was determined that given the course is a fundamentals course and projects are not industry based, students could learn and apply the principles and tools regardless of prior experiences.

Three prerequisites were added to CB. One, an introduction to business course, is taken in the first year of study. Another, an introduction to SCM is taken during the second year of study. Thus, the first two prerequisites are readily met. The third prerequisite is the newly developed CA, which as discussed this provides the student with fundamental tools that enable them to hit the ground running in CB. Benefits that accrued to other stakeholders from the changes in prerequisite requirements included simplified advising, ease of enrollment, more efficient long term planning of faculty teaching schedules and assignments, and the potential for increased complexity and scope of industry projects.

The changes have been positively received. For example, one student provided this feedback: "*[Dr. XX's]* course has been instrumental in preparing me to successfully continue on in my coursework within the SCM program and to enter into my career. The hands-on, project-based course allowed me to gain a clear understanding of what to expect in a career in SCM and gain the necessary skills and knowledge to complete the Lean Six Sigma Yellow Belt exam and earn the professional certification. The flipped hybrid format of the course allowed me the autonomy to learn the content at my own pace and gain a deeper understanding of the concepts when applied during in-class activities." Another student commented, "Professor XX clearly knows the material and makes sure every lecture is engaging. I like the activities we do in class that gets everyone involved and is more interactive than just listening and watching a lecture." Clearly there is room for improvement, as another student commented "The class seems a bit fast-paced for me due to the abundance of information to absorb. While I believe the current pace is appropriate, one aspect that I found beneficial and engaging in lecture videos is when they are segmented into 10-minute clips, even if it means having multiple videos per lecture. This method has previously enhanced my ability to retain information effectively."

One of our industry partners stated: "Engaging with the curriculum changes at the university has been a transformative experience for our organization. The integration of Lean Six Sigma principles and project-based learning not only enriched the skill set of graduates but also brought invaluable insights into our continuous improvement efforts. This approach bridges the gap between academic knowledge and practical application, preparing students for real-world challenges. Our collaboration has underscored the importance of industry-academia partnerships in fostering innovation and excellence in supply chain management. These projects are not just academic exercises; they are a catalyst for future leaders in our field."

An instructor of record for CB provided these insights: "The recent enhancements to our supply chain management curriculum, deeply rooted in AACSB best practices, have marked a significant milestone in our educational journey. As the instructor of record, I've witnessed first-hand the profound impact of integrating Lean Six Sigma methodologies and project-based learning. This paradigm shift has not only elevated the students' learning experience by aligning it more closely with industry standards but has also rejuvenated my teaching methods and those of my colleagues. The transformation has fostered a more interactive and engaging learning environment, where the theoretical and practical aspects of supply chain management intersect seamlessly. It's been incredibly rewarding to see students tackle real-world problems with confidence and creativity. Moreover, the collaboration with industry partners has enriched the curriculum, ensuring that our students are well-prepared for their future careers. This journey of continuous improvement has been a learning experience for us all, highlighting the symbiotic relationship between teaching, learning, and industry engagement."

Finally, the associate dean of the college commented: "One of the key objectives of the college of business is to support the expansion of real-world experiential learning for our students. It is particularly important for our nationally ranked programs, of which Supply Chain is one, to constantly monitor the skills and knowledge industry expects from our graduates. Based on the information learned from the marketplace, the Supply Chain program has made curriculum modifications, offered LSS Certification to our students, increased our industry partnerships in order to provide real-world projects in the classroom, and procured more internship and employment opportunities for our students. The administration has played a limited but supportive role in the positive changes to the program. The driving force for change has come from an engaged and expert group of faculty and a strong advisory board. Overall, with the leadership of top faculty in the college, the Supply Chain program continues to respond to the changing needs of the marketplace to ensure that their national-reputation for quality continues into the foreseeable future."

## CONCLUSION

The best practices for curriculum developed recommended by the AACSB were followed to change the active learning experience in the continuous improvement courses of the supply chain management curriculum at a major midwestern university. Following these practices proved to be efficient and effective. Students more readily understand and thus apply the concepts, earn LSS yellow belt certification, and demonstrate their ability to solve real industry problems. Benefits realized by other stakeholders were streamlined registration and enrollment, strengthening of industry partnerships, recognition of trainings offered by the SCM Center, and rewarding teaching assignments for faculty. As more is learned, continuous improvement opportunities of the project based learning approach will be explored, such as adding content to one or both courses to enable green belt certification, and restructuring the Try-Z experience to further enhance student problem solving skills.

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