Transfer of Training and Awareness of Learning Style: 
The TOTALS Capstone Experience

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Building on the research foundations of the traditional team-based business simulation environment, we present a new Transfer of Training and Awareness of Learning Style (TOTALS) Capstone model that draws from Organizational and Transfer of Training literature. This research-to-practice insight supports and describes how the Capstone simulation is sequenced with a team-based learning experience first and individual application second, thereby mirroring corporate training practices. This approach allows students to collaborate and exchange ideas, emulating workplace dynamics, and then demonstrate their understanding and skills during individual rounds. The model incorporates a reflection exercise to foster self-awareness of students’ learning styles and the best possible self, an important step toward empowering them to implement the skills and knowledge gained while working with a team. Lastly, we present results of an exploratory study that indicate that students of the Accommodator learning type are well-positioned to successfully transfer knowledge from training into individual success.

Keywords: transfer of training, learning style, Capstone simulation, experiential learning, team-based learning

INTRODUCTION

As educators, we seek to empower students with the knowledge and capabilities needed for success in their careers. Among the multitude of pedagogical approaches available to achieve this goal, both experiential learning and student teamwork are commonly used to help bridge the gap between academia and the real world. A highly effective tool to achieve this objective is the CAPSIM Capstone business simulation. Utilized by over 95% of AACSB-accredited institutions (Ahn, 2008), this simulation stands as
a dynamic experiential learning activity that brings realism into the classroom and fosters competition among students who collaboratively work in teams throughout the duration of a course.

Working in teams is a vital experience to prepare students for their careers. The professional work landscape prominently features teamwork in training, projects, and team-based structures, where teams serve as the basic unit for knowledge transfer and retention (Wu et al., 2007). Team membership is fluid and ephemeral, with members rarely working exclusively with the same group over an extended period of time. Successful employees are able to assimilate team-based experiences and transfer new knowledge, skills, and insights into their next endeavor. In a single academic course, with a fixed duration and a smaller member pool compared with most organizations, it is difficult to capture the overarching transient nature of professional teams and the frequent knowledge transfers that occur. Furthermore, in a team-based classroom, assessing individual student performance can be difficult.

Recognizing the pedagogical limitations of the team-based classroom, Thompson and Noble (2017) attempted to replicate real-world experiences by randomly reassigning a student team member midway through the Capstone simulation to target and improve the resiliency of both the existing team and the new member. Similarly, recognizing that student teams are a great experience but imperfectly recreate the workplace, we turn to the professional training literature to inform a novel approach to the traditional team-based business simulation experience.

**FIGURE 1**

**TRANSFER OF TRAINING AND LEARNING STYLE AWARENESS CAPSTONE MODEL**

![Figure 1](image)

Figure 1 depicts the interconnections between experiential learning, team-based learning, organizational training, transfer of training, and learning style, forming the foundation for our novel Transfer of Training and Awareness of Learning Style (TOTALS) model. Retaining the benefits of student teams, the TOTALS model transforms the traditional team-based business simulation environment by integrating a low-stakes team training phase, self-awareness-building reflection task on their own learning style, and a shift to individual performance later in the course. This innovative approach addresses the Transfer of Training challenge by allowing students to transition from team to individual performance.

The TOTALS model offers a well-balanced framework, initiating with teamwork and later emphasizing individual contributions in a business simulation. This integration harmonizes collaboration with individual competence. Importantly, the TOTALS model introduces individual performance metrics, addressing issues of team assessment misalignment with academic standards. Additionally, the reflection facet enhances self-awareness for navigating professional and corporate realms. Aligned with traditional
organizational training, the model encompasses onboarding, team learning, reflective exercises, and independent application, culminating in a comprehensive learning journey that underscores the practical value of the TOTALS model.

RESEARCH-TO-PRACTICE CONNECTIONS

The Traditional Capstone Experience

The first step toward developing the TOTALS model utilizes the traditional business simulation experience, informed by academic literature in the areas of experiential learning and team-based pedagogy.

Experiential Learning

Experiential learning, a recognized and beneficial pedagogical approach, involves a cyclical process of experience, reflection, and application (Dewey, 1938; Kolb, 1984; Kolb & Kolb, 2005). Rooted in authentic learning principles, it integrates real-world contexts, hands-on activities, and problem-solving to enhance learning effectiveness (Knobloch, 2003). By actively applying knowledge beyond the classroom, students gain insights into careers, establish mentorships (Carter & Yousef-Morgan, 2019), and engage in networking (Ofstad & Brunner, 2013; O’Flynn et al., 2023). This collaborative approach improves critical thinking, motivation, and knowledge retention (Andrade-Silva et al., 2023; Wang & Wen, 2023), making experiential learning a valuable method for practical experience and higher-order learning across diverse educational settings.

Team-Based Learning

Student groups are a vital tool in education, fostering higher-order learning and skills such as self-management, conflict resolution, and communication (Bartel-Radic et al., 2015). Instructors adopt diverse strategies to enhance team cohesion and effectiveness, including team formation and feedback methods (Koppenhaver & Shrade, 2003; Kutz et al., 2022; Zhao et al., 2021). Collaborative learning offers numerous benefits like enhanced communication and interpersonal skills, active learning, increased knowledge acquisition, and motivation. However, challenges like free-riding, inadequate rewards, and behavioral issues can also arise (Hansen, 2006).

Research-to-Practice: The Traditional Business Capstone Setting

Experiential and team-based learning naturally converge in real-world classroom activities like the traditional team-based business simulation. The widely embraced CAPSIM Capstone simulation offers an experiential platform for interdisciplinary strategic decision-making, covering areas such as marketing, production, and finance. Participants manage a sensor manufacturing company, overseeing products across five market segments. This simulation cultivates insights into customer preferences, market dynamics, and strategic decision-making through a balanced scorecard assessment, encompassing financial metrics, internal processes, marketing, and customer satisfaction (CAPSIM, 2023). This comprehensive framework provides valuable insights into strategic effectiveness and operational management.

Organizational Training Model

Following the first step of establishing the traditional Capstone business simulation experience, the next step looks to the research areas of Organizational Training and the Transfer of Training concept. Certainly, the student team experience is worthwhile, valuable for students, and a highly sought skill by employers (Massaro, 2019); however, the limited duration of an academic term, fewer potential team combinations when compared to corporations, and the challenge of teaching effective teamwork alongside the course learning goals is a tall order. Furthermore, the assessment problem of tracking individual contributions to student team submissions requires vigilant and targeted course administration approaches (Morgan & Stewart, 2017). Reframing student teamwork in the domain of corporate training offers a different perspective to the traditional simulation team approach.
Organization Training Research

Organizational training research emphasizes the significance of knowledge, skills, and abilities for organizational success, acquired through various training methods (Yang et al., 2020). In corporate settings, a common approach involves staging events where employees from different divisions collaborate in team-based training to acquire new skills, with the goal of employees applying acquired knowledge individually in their respective roles. Chiaburu and Marinova (2005) found predictors of skill transfer success, such as self-efficacy, motivation, support, and goal orientation, through a survey of 186 employees after a one-day training. This team-learning structure fosters collaboration, effective communication, and diverse perspective sharing, enhancing learning and development (McCarthy & Garavan, 2008).

Transfer of Training

Team training success is measured by the degree to which the training experiences are transferred to an individual and improve performance (Goldstein & Ford, 2002). This concept is called Transfer of Training (TOT) and is studied in conjunction with Transfer of Learning. The tradition of research continually seeks to identify and investigate the factors related to success. Early on, results from studying 102 fast-food franchise trainees in a nine-week assistant manager program indicated learning in training is important to job performance and related to the overarching transfer climate (Rouiller & Goldstein, 1993). A comprehensive meta-analysis of 93 independent samples and 89 academic publications over 20 years reinforced that Transfer of Training is positively related to an individual’s cognitive ability, conscientiousness, motivation, and a supportive work environment (Blume et al., 2010). Recently, both prior knowledge and transfer intention were found as immediate precursors to effective systematic training among 299 members of the Dutch Institute for the Judiciary (de Jong et al., 2023).

Research-to-Practice: Team First Training Model

Taking into account that Organizational Training research often employs the corporate training model of assembling employees from across an organization for a centralized, synchronous training event with the goal of effective transfer of the training into the employee’s job function, the traditional business simulation team environment can be rearranged. Putting student team work first followed by individual student assignments mimics the corporate training model. Figure 1 illustrates the Transfer of Training model of splitting an academic term into team and individual work, respectively. By aligning the business simulation with the typical corporate training structure, participants experienced the benefits of both team-based learning and individual application of acquired skills. This comprehensive approach enhances their overall learning and understanding of the simulation’s concepts, preparing them to make informed decisions and effectively manage real-world business challenges in their future careers.

The Transfer of Training Problem

Despite the valuable insights and the potential and realized benefits of effective transfer of training, researchers articulated the perennial problem of dismally low transfer rates (Burke & Hutchins, 2007; de Jong et al., 2023). Blume et al. (2010) concluded that because of the high level of investment and expectations in organizational training, there is a “...greater urgency in the search for evidence and tools to improve the transfer of training” (p. 1097). Two promising resources for enhancing the transfer of training include the awareness and understanding of individual learning styles, coupled with a positive psychology exercise that boosts self-efficacy and enables students to visualize the constructive application of their newfound knowledge and skills.

Learning Style

A training program is a structured process of acquiring new knowledge or enhancing existing understanding. Kolb’s (1984) well-established learning theory highlights a cycle of four distinct stages where learners engage and progress. Learners tend to align with one of four distinct learning styles, which correspond to these stages within the learning cycle as shown in Table 1. These intrinsic traits tend to be
stable compared to the adaptable nature of environmental factors that influence learning (Hendry et al., 2005) and research proposed self-assessment as an important part of learning (West et al., 2007).

Self-efficacy is consistently related to an individual’s learning style (Coutinho & Neuman, 2008; Ozaydin Ozkara & Ibili, 2021; West et al., 2007) and involves a learner’s confidence in not only acquiring task-related knowledge, skills, and abilities (KSA) but also collaborating effectively with others. An advantage of Kolb’s learning style model lies in the variation across styles in terms of their emphasis on tasks and relationships. This distinction underlines the model’s ability to capture different approaches and priorities in learning.

**TABLE 1**

<table>
<thead>
<tr>
<th>Learning Style</th>
<th>Preferred Learning Method</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divergers</td>
<td>concrete experience &amp; reflective observation</td>
<td>believed makes them good at viewing a situation from different perspectives to derive more meaning and value seek understanding through consideration of unique personal and cultural perspectives</td>
</tr>
<tr>
<td>Assimilators</td>
<td>reflective observation &amp; abstract conceptualization</td>
<td>generally more interested in the ideas of things rather than their practical applications. tend to be more focused on these rather than on relations with other people</td>
</tr>
<tr>
<td>Convergers</td>
<td>abstract conceptualization &amp; active experimentation</td>
<td>can excel at identifying problems, creating solutions for them, and then implementing those solutions tend to avoid interpersonal issues choose to stay focused on tasks</td>
</tr>
<tr>
<td>Accommodators</td>
<td>active experimentation &amp; concrete experience</td>
<td>learn through practice and taking risks</td>
</tr>
</tbody>
</table>

Kolb, 1984

*Best Possible Self*

The Best Possible Self exercise aligns with positive and cognitive psychology principles, offering valuable implications for transfer of training (Loveday et al., 2018). Envisioning one’s best self aids in effective metacognition and decision-making, guiding learning strategies. Moreover, it nurtures resilience and self-efficacy, enabling students to embrace the challenges of transferring training. By incorporating the exercise, students are empowered by a self-awareness that fuels effective learning strategies, promoting holistic growth and enriched learning outcomes.

*Research-to-Practice: Awareness Reflection*

To translate this research into practical application, we further enhanced our Team-First CAPSIM implementation to incorporate an individual learning style awareness reflection exercise. Midway through the semester, existing CAPSIM teams are dissolved, the simulation scenario is reset, and students work individually from thereon. At this point of transition, they complete a writing assignment designed to guide students to reflect on their experience with their team, their individual learning method, and complete the Best Possible Self writing exercise (Loveday et al., 2018) to prepare for the individual assessment phase.
Research-to-Practice Summary: The TOTALS Capstone Model

The research-to-practice connection of devising our Capstone learning environment finalizes the Transfer of Training and Awareness of Learning Style (TOTALS) model. Experiential and team-based learning set the baseline learning environment for enacting a business Capstone simulation experience which traditionally focuses on team performance. Recognizing the corporate training model of bringing employees together into teams for a new learning experience which they then are expected to transfer back into their daily jobs, we rearranged the traditional team-based business simulation approach for learning as teams (a training period) and performing as an individual (a transfer of training). This team-first approach not only emulates corporate training but also mitigates team-based learning shortcomings (e.g., the free-rider problem) and is conducive to capturing individual efforts for assessment purposes. Lastly, to address the problem of low transfer of training rates and to complete the experiential learning cycle, a reflection activity in which students gain self-awareness of their own learning method, lessons from the team activity, and their Best Possible Self. This activity seeks to equip business graduating students with knowledge of their own personal attributes to devise strategies for navigating teams and assimilating training for future career success.

THE TOTALS CAPSTONE MODEL IN PRACTICE

The TOTALS model is currently integrated into an undergraduate business strategy Capstone course at an AACSB-accredited regional university. The CAPSIM platform, a widely recognized and robust simulation tool, is held constant while we instead modify the surrounding learning environment as described in the following four modules and shown in Table 2.

Module One: Onboarding

At the start of the course, students are onboarded to the TOTALS model with instruction on registering for the simulation and completing an assessment including demographic information and Kolb and Kolb’s (2005) Learning Style Inventory questionnaire, and assigned to teams of four or five members (as recommended by Parnell and Crandall, 2021). Teams engage in four, ungraded practice rounds before the actual competition commences. These practice rounds provide an opportunity for teams to collaborate and familiarize themselves with CAPSIM. After each round, the instructor provides videos offering feedback and suggestions based on each team’s performance.

Module Two: Team Competition Rounds

Following the completion of the practice rounds, the simulation is reset and starts anew. The competition consists of eight, one-week rounds, and balance scorecard reports are posted weekly to track team performance. Teams receive a final score based on their overall performance in the simulation compared to their peers. Grades are normalized on a 100-point scale; historically, the average team score tends toward a 78.

Module Three: Learning Style Awareness

At the conclusion of the final team competition round, students are tasked with an individual reflection paper summarizing their experiences, their learning process, and key insights throughout the simulation. Additionally, based on the Best Possible Self writing exercise (Loveday et al., 2018), students are prompted to envision completing the simulation again under ideal circumstances where everything goes exceptionally well for them.

Module Four: Transfer of Training

Following the structure of corporate training programs that first provide team training before transitioning to individual application of skills, the students proceed to complete four individual rounds over one week of competition. This module allows students to demonstrate their personal understanding and application of the concepts learned. Furthermore, the individual performance aligns well with AACSB
assurance of learning recommendations to assess individual versus team performance. Historically, student scores are slightly lower for the individual round \( (m \approx 73) \) than the team rounds.

**TABLE 2**

**ADMINISTRATION OF THE TOTALS MODEL IN A CAPSTONE SIMULATION LEARNING ACTIVITY**

<table>
<thead>
<tr>
<th>No.</th>
<th>Module / Activities</th>
<th>Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td><strong>Onboarding</strong></td>
<td>2 weeks</td>
</tr>
<tr>
<td></td>
<td>Students are randomly assigned to 4 or 5 member teams, form their own simulation “company”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Team members receive instruction to the CAPSIM simulation platform and various decision-making strategies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Two unscored CAPSIM team practice rounds</td>
<td></td>
</tr>
<tr>
<td>Two</td>
<td><strong>Team Competition</strong></td>
<td>8 weeks</td>
</tr>
<tr>
<td></td>
<td>CAPSIM is reset to default starting position</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eight, 1-week grade CAPSIM competition rounds</td>
<td></td>
</tr>
<tr>
<td>Three</td>
<td><strong>Learning Style Awareness Reflection</strong></td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td>Reflection for the learning and best possible self</td>
<td></td>
</tr>
<tr>
<td>Four</td>
<td><strong>Transfer of Training</strong></td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td>Existing teams dissolve; student work and are assessed individually</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAPSIM is reset to the default starting position</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Individual students form their own simulated “companies”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Four graded CAPSIM competition rounds</td>
<td></td>
</tr>
</tbody>
</table>

*15-week overall course duration

**CLOSING THE LOOP: AN EXPLORATORY STUDY**

While our focus is to present our research-informed TOTALS Capstone model, the next logical step is to explore connections between the learning style and performance data recorded from the students. We solicited participation from 182 students over four semesters to consent to use of their data in our IRB-approved analysis, with 84% agreeing \( (n = 153) \). The same instructor delivered each course in the same manner. Bonus points were offered for participation. Table 3 provides the descriptive statistics of demographic and learning styles of the respondents.

Next, individual student CAPSIM scores from the Transfer of Training Module were analyzed with their reported Learning Style, using independent \( t \)-tests to compare means between each learning style type. The results reveal a noteworthy disparity between the accommodative learning style and three others: assimilative \( (t = 2.19, df = 36, p = .017) \), convergent \( (t = 2.26, df = 61, p = .014) \), and the divergent \( (t = 1.86, df = 40, p = .035) \). No other statistically significant differences were found between other learning styles and individual performance. While cursory, the results imply that participants exhibiting an accommodative learning style outperformed their counterparts with alternative learning styles in the simulation, indicating those with an accommodative learning style demonstrated a significantly greater amount of retained simulation knowledge and proficiency gained from the team experience.
TABLE 3
PARTICIPANT DEMOGRAPHIC & LEARNING STYLE DESCRIPTIVES

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>153</td>
<td>21.8</td>
<td>2.56</td>
</tr>
<tr>
<td>Work Experience (years)</td>
<td>153</td>
<td>4.5</td>
<td>4.18</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>82</td>
<td>72.29</td>
<td>13.24</td>
</tr>
<tr>
<td>Male</td>
<td>70</td>
<td>73.01</td>
<td>12.57</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>1</td>
<td>79</td>
<td>-</td>
</tr>
<tr>
<td>Grade Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>114</td>
<td>71.89</td>
<td>13.7</td>
</tr>
<tr>
<td>Junior</td>
<td>38</td>
<td>75</td>
<td>9.98</td>
</tr>
<tr>
<td>Sophomore</td>
<td>1</td>
<td>72</td>
<td>-</td>
</tr>
<tr>
<td>Learning Style Inventory Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accommodative</td>
<td>42</td>
<td>77.19</td>
<td>7.48</td>
</tr>
<tr>
<td>Convergent</td>
<td>41</td>
<td>71.61</td>
<td>14.01</td>
</tr>
<tr>
<td>Assimilative</td>
<td>28</td>
<td>70.43</td>
<td>15.13</td>
</tr>
<tr>
<td>Divergent</td>
<td>28</td>
<td>72.36</td>
<td>12.34</td>
</tr>
<tr>
<td>No Dominant Style</td>
<td>14</td>
<td>67.29</td>
<td>15.88</td>
</tr>
</tbody>
</table>

CONCLUSION

The TOTALS (Transfer of Training and Awareness of Learning Style) model offers an innovative approach to enhancing the traditional team-based CAPSIM Capstone business simulation experience. Recognizing the importance of preparing students for the transient and dynamic nature of professional teams in their future careers, the TOTALS model integrates experiential learning, team-based collaboration, and individual performance assessment. By aligning the learning environment with principles of organizational training, the TOTALS model introduces a team-first approach, allowing students to engage in immersive team experiences before transitioning to individual performance. This unique structure not only mirrors the corporate training model but also addresses the limitations of traditional team-based learning approaches, promoting individual accountability and mitigating issues like free-riding.

The incorporation of a learning style reflection component, including the Best Possible Self exercise, further enhances the TOTALS model by fostering self-awareness among students. Recognizing that effective transfer of training relies on both intrinsic and extrinsic factors, the reflection assignment encourages students to understand their own learning preferences and strengths. This awareness equips them with valuable insights into their personal attributes, enabling them to navigate future team dynamics and apply their acquired knowledge more effectively.

Furthermore, an exploratory study conducted in conjunction with the TOTALS model suggests a positive correlation between the accommodative learning style and individual CAPSIM performance. While preliminary, these findings offer a glimpse into how such awareness can impact knowledge retention and application. The TOTALS model not only adapts the traditional Capstone experience to better reflect the challenges and dynamics of the professional world but also integrates pedagogical concepts from experiential learning, organizational training, and learning style awareness. As educators, adopting the TOTALS model offers the potential to equip students with the holistic skills and self-awareness necessary for success in their future careers. In this landscape, where adaptability, teamwork, and individual performance are all pivotal, the TOTALS model could hold the key to their success.
REFERENCES


