The Underused Capability of Developing Leaders of Character through the use of Simulations at the United States Military Academy

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Abstract

Intended to support the Mission of the United States Military Academy “to educate, train and inspire the Corps of Cadets so that each graduate is a commissioned Leader of Character committed to the Values of Duty, Honor, Country and prepared for a career of professional excellence and service to the Nation as an officer in the United States Army” (USMA, 2018), this paper examines current research and literature to provide a general understanding of opportunities to enhance the efforts of USMA for mission success. This is achieved by reviewing current research about personal development of young people in the general age of the cadets at the USMA in order to align the later discussed approaches with the target group. In the second part, this paper compares the current developments in the training of medical personnel and future Managers in the respective training programs with the efforts of leadership development in the military program of the USMA by reviewing current research on the use of simulations in education, medical and management leadership training programs. This paper concludes with the author’s recommendation on how to use available resources based upon the presented research within the military training of the cadets at the USMA.

Keywords: experiential learning, Problem Solving Skills, Psychological Foundations of Teaching and Learning, Simulations, Games and Role Playing.

Introduction

With more than 23 years of service, the author has been exposed to very different tools in support of his training, which also includes more than three years in business administration prior to being drafted into the Army. During his development, he has used different simulations as student or as instructor to enhance the understanding or increase repetitions in procedures that were not doable in a real world application. This was especially the case in management and medical training, and both fields have seen significant developments in the recent years. His own perception of this type of training has changed due to his experience level, but also due to his personal development. When assuming his position at the USMA, he found himself again in the role as Instructor utilizing simulations for the Military Science 300 – Platoon Operations
course. While simulations can be a great tool to showcase the different types of operations addressed in the course, some aspects of the simulation were not specifically used to enhance leadership abilities for a larger student population. While the Mission of the United States Military Academy is to develop leaders of character, especially the military training pillar of the education faces specific challenges comparable to medical training, as the institution has very limited abilities to expose a larger student population to leadership challenges through the conduct of military operations beside the major training events in the summer weeks between each Academic Year. In every encounter with cadets as teacher or as mentor, the author was exposed to the repeating fear and curiosity of the cadets about how it is to be a real leader in the United States Army.

Before this paper can compare the current research about the use of simulations, it is important to define the desired end-state of the 47 month program all cadets have to go through. From a military perspective, there are two goals. The primary defined requirement for every cadet to get commissioned are the so called “Basic Officer Leader Course – A” or common core standards” (Training and Doctrine Command, 2017), which define the military skills training and qualification level for all commissioning sources for the U.S. Army in order for them to commission their cadets at the end of their program. The second is the more holistic definition of the USMA Mission to develop “Leaders of character”. This goal is tried to be achieved by several programs that address multiple aspects of being a military leader and Officer in the U.S. Army. But most of them are not able to expose the majority of the cadets to the challenges of being a leader of real soldiers in training and real missions. This is based on the limited ability to create missions in a realistic environment due to lack of supporting personnel and respective training environment. And they share this aspect with other professional fields like medical and management training, who also struggle to expose their trainees at an early stage to realistic scenarios. Shannon Doak in her dossier about Leadership development for distributed teams for management training (Doak, 2014) and M.E.W. Dankbaar in her study (Dankbaar et al., 2015, p. 512) provide many indicators that the use of simulation does not necessarily improves the learning of facts per se but increased the participation through more interaction and immediate feedback through the effects created in the simulations. While their research provides good and supportive indicators for the use of simulations, they are not able to provide a better definition of what the military training program should achieve in order to develop leaders of character. William Perry’s Scheme of intellectual and ethical development, summarized by William Rapaport (Rapaport, 2013), also used in the USMA Master Teacher Program, provides a better measurable definition, which the author used as guideline to describe educational steps and impacts for this paper. William Perry’s 9 positions, modified by Belenky in 1986 (Belenky et al., 1986), define the intellectual and moral development of students. As Rapaport states, “these stages can be characterized in terms of the student’s attitude towards knowledge.” (Rapaport, 2013). As definition for the level the USMA should try to achieve for future leaders, the highest category “Commitment” was chosen to serve in support of the review of this paper. In summary, Position 6, 7 & 8 states in the domain of decision making “A commitment to personally owned decisions is made. This includes committing to behaviors and consequences resulting from these decisions.” (MTP, 2018). Rapaport summarizes the evolvement of the student from
position 6 “Pre-Commitment”, in which the student sees the necessity of making choices and commits to a solution, to position 7 and 8 as integration. “Integration of knowledge learned from others with personal experience and reflection” (Rapaport, 2013) should be the definition of success of the military training program in reference to Perry’s Scheme in the eyes of the author of this review. The personal ability of a military leader in an ever more complex environment does require more than just knowledge of skills as reaction to specific events in the eyes of this author. Therefore the motivation of this review is to deliver indicators on how to enhance the effects of training based upon research in the medical, educational and training domain. They are also used in the field of medical training. Especially medical emergency skills, who “are critical for patient safety and substantial resources are involved in training this clinical cognitive skill”. As he acknowledges that in the cognitive load theory, the “role of motivation has increasingly been recognized”. This cognitive load theory “assumes that working memory load is affected by intrinsic load (the intrinsic complexity of the learning tasks), extraneous load (the way in which the tasks are presented) and germane load (the cognitive involvement or learning that actually occurs) as stated by Paas et al. in 2003 helps Dankbaar to frame the problem for training medical personnel (Dankbaar, 2015, p. 507). The challenges for the training of medical personnel is comparable with the training of military personnel, as the lack of real patients for training and therefore the need for simulations for specific processes and procedures as a part of the intrinsic load to increase motivation of the students is high. As a result the germane load will increase and allow more learning of medical skills and competencies. Something very desirable if the patients as the problem domain are changed to military problem sets in a realistic environment and the medical skills are exchanged with military skills and leadership competencies. The following chapters will explore several key factors to allow this comparison, and ultimately to showcase the benefits of using simulations in training.

The target group
Looking at the developmental stage of the cadets attending the USMA is required in order to better understand the possible impacts of any adjustments made to programs of instruction before considering any changes. Research in the past twenty years started to focus on a more detailed breakdown of developmental phases while growing up. Starting around 2000, the research of Jeffrey Jensen Arnett has sparked a new part of psychological research to include the establishment of a Society for the Study of Emerging Adulthood with more than 400 members (Arnett, 2014). The general theory distinct a phase named “emerging adulthood” as a separate phase around their early twenties. While Arnett frames this development stage from graduating secondary school at approximately 18 until they commit to structures that define adult life at around 25 years of age, based on cultural changes that for example show later dates for marriages than a few decades ago (Arnett, 2014, Ch.1). Others use medical research which shows the related brain development between 18 and 26 (Committee on Improving the health, safety, and well-being of young adults, 2015, p.2) or as late teens & early twenties by R. Simpson from MIT (Simpson, 2008). Following all these definitions will place the cadets of the USMA right into this very development stage of “emerging adulthood”. The distinguishing features that define this phase are “Identity exploration, Instability, Self-focus, feeling-in-between and Possibilities/optimism” as defined by Arnett (Arnett, p.9, 2014). A. Simpson from
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MIT in reference to brain development defines “greater complexity of thinking, critical thinking, relationships based on shared values and mutuality and Decisions based on future consequences & impact on others” (Simpson, 2008) as main differences to adolescence. The committee on improving the Health, Safety and well-being of young adults summarizes in their report medical and psychological research from multiple researchers. They highlight for that phase in life, “that developmental change should not be underestimated. It is integral to transform children and adolescents into adults. The psychological and brain development that occurs during young adulthood illustrates that point.” (Committee, 2015). They also restate the same findings as Simpson about the relations with peers from other researchers in psychology. As a result of the brain development, “many adolescents tend to be strongly oriented toward and sensitive to peers, responsive to their immediate environments, limited in self-control, and disinclined to focus on long-term consequences, all of which lead to compromised decision-making skills in emotionally charged situations” as stated by Galvan et al. and Steinberg et al.in 2006 and 2008 (Committee, 2015). These researchers in psychology and medicine summarize therefore many indicators, backed by the here named research just to name a few, the special circumstances of the period that was called “emerging adulthood” by Arnett (Arnett, 2006). If we apply those findings to the cadets at the USMA, we will find strong indicators for the following behaviors and challenges. Their age group is developing better decision making skills, as their prefrontal executive levels are close to those of adults. But their monitoring of their own and peer performance is still improving, which could have an effect to decision making in order to not upset or risk the relationship with their peers (Committee, 2015 and Arnett, 2014). This could result in mental obstacles in the development of significant skills needed for leadership in general and military leadership specifically. These obstacles could be reduced by the use of simulations to develop more and better military decision making skills through a widely accepted program that includes all classes of the cadets. Their research also indicates strong positive impacts on personal motivation on learning through the use of simulations in application of learned content.

One could ask why these findings should be considered to change any programs at the USMA, as it is mainly based on observations of the author leading to the research. Beside the strive for excellence, which is one of the main features of the USMA, there are also more and disturbing reasons. In his paper about the annual Center for Army Leadership assessment of attitudes and perceptions on leader development (CASAL) from 2011, Colonel Douglas C. Crissman produced a summary of the findings which showcased that “Develops others” as the lowest-rated leader competency for the fifth consecutive year. (Crissman, 2013). The target group of his research and the assessment are the future junior leaders in the U.S. Army, the group that will be filled with former cadets immediately after graduating from USMA. In his research, COL Crissman stated that the assessment showed that “one-fourth (22-26%) of those surveyed indicated their units placed a “low” or “very low” priority on leader development activities” (Crissman, 2013). He further cites the U.S. Army Doctrine, where Army leader development “is intended to occur three complementary domains (institutional, operational and self-development) through the lifelong synthesis of education, training, and experience” (U.S. Department of the Army, 2012, 7-9). While COL Crissman tracks this development also to the Global War on Terror and the high demands it projects on all units, it also demands further attention on how to develop the future
leaders that come out of West Point. Some of the findings of the assessments he describes can also be observed here in West Point. While the Cadet key-leadership receives a lot of mentorship, the sheer numbers of cadets in some type of leadership position within the Corps of cadets does not allow the same amount of mentorship to happen for all of them. As observed by the author, some of these cadets struggle with the demands of their leadership position and are more than happy to receive support and mentoring in order to know “what right looks like”. Many more cadets simply struggle to expose themselves in front of others and remain in the gray mass during their 47 months at USMA. Considering the need of the U.S. Army for leaders that are able to develop leaders, the USMA could enhance their existing programs especially in the military program, which would support efforts to overcome the issues as stated in the research of COL Crissman.

Why Simulations?

Simulations have seen a significant technical development in the recent years that led to more applications in various fields than ever before. This applied not only to fields where it is not possible to create real life scenarios for the trainees like in medical training, where real patients cannot be used for young trainees for various reasons. But also the leadership development has become a field where more and more simulations can support training efforts. Especially as more and more business leaders are facing increasing challenges as the teams they have to lead are more and more geographically dispersed in the global economic world (Doak, 2014). Leadership in total cannot be trained as a whole as it pertains many aspects, so simulations have focused on certain aspects, which are mostly named as leadership competencies (Putnam, 2012, p.2). Putnam concludes in his study, that virtual simulations can be good experiential learning tools for adult learners to practice the leadership competencies of conflict management” (Putnam, 2012, p. 149).

But what are these competencies and what is the definition of leadership? From the several hundred definitions found during the research, the author decided to use the one of Yukl, who summarizes many definitions, “by stating that leadership involves a process whereby intentional influence is exerted by one person over other people to guide, structure, and facilitate activities and relationships in a group or organization” (Yukl, 2010, p.3). General consensus in the research field of simulations in leadership development is that all those programs cannot teach how to lead but about leading (Putnam, 2012, p.4). Aldrich is cited repeatedly with his suggestion that “it is difficult to learn management and leadership skills well in a linear environment” (Doak, 2014, p.1). These skills are very important, as stated by the Chief of the Development Dimensions International (DDI) 2008/2009 Global Leadership Forecast, where more than 1400 Human Resources Professionals and more than 12000 international leaders from 76 countries were interviewed. The lack of leadership, interpersonal skills and visionary skills were the most cited reasons for failure and therefore leadership development was named as top business priority by 75% of the participants of the summit (Integral leadership preview, 2009). The named leadership and interpersonal skills are the competencies cited by Putnam and Aldrich and are, in the view of the author, also one of the
biggest challenges for the cadets in their leadership development at USMA. If this is true, this would endanger one of the Cadet Development Goals stated in the Military Program Strategic Plan 2017-2022, in which is stated that "USMA graduates will demonstrate effective leadership competencies in accomplishing assigned missions" and "demonstrate superior performance in troop leading procedures" and "an understanding of how to prepare soldiers and build teams" (USMA, 2017). Focusing therefore on the competencies, especially in an institution that develops leaders through various programs like the USMA, would allow to create an effective package in which every individual can grow by improving individual competencies at a time. We increase the tools available to those to be in a leadership role in the future, and through repetition make them available in the future. Liechtenstein et al. focuses in their research on the micro-strategic leadership actions that “occur across all organizational levels and across organizational boundaries” and their key findings are on how leadership emerges - through dynamic interactions (Lichtenstein et al., 2006). This same argument, if transferred to leadership development in education and training is picked up from Putnam in reference to Yukl who stated leadership development practice was to “view people as active players who pursue their own development rather than as passive receivers of whatever training is bestowed upon them” (Putnam, 2012, p. 150). This argument is important as it supports the suggested level of learning for USMA cadets defined by Perry’s position 6-8 in the introduction paragraph of this paper. The importance of these skills is stated by various researchers like Lichtenstein and his team, who use the complexity leadership theory as defined by Carley and Hill in 2001 to describe drivers for adaptive leadership where leaders reduce tensions in their organization that is a result of the pressure on the group from rapid changing conditions. In order to build organizational flexibility to be able to reduce such tensions, their findings sound familiar to the military approach to empower and develop subordinate leaders as they suggest to “own” the leadership “within each interaction, potentially evoking a much broader array of responses from everyone in an organization”(Lichtenstein et al., 2006, p. 5 & 8). Translated into the military world, this is to be found within the Mission Command development, where everyone in a unit, following higher command’s guidance, is asked to execute disciplined initiative to make his or her unit more flexible and achieve mission success. It also supports, that leadership does not rely on one person alone but is needed on every level of an organization, mutually supporting each other.

These competencies, that are so hard to be learned in a linear environment, are being developed in various leadership programs outside of the military world. They are integrated in scenarios related to the respective field of expertise or to what is considered important or vital for the business or our daily life. The range of current use is vast, to include training of pilots, emergency response teams, running a nuclear plant or develop leadership talent. Simulations are used more and more every year. In order to focus on the leadership competencies developed in military leaders, leading soldiers in a stressful environment and assessing and managing developing situations in an adverse environment are the ones that present serious challenges to anyone trying to execute due to the necessary resources needed. The author will therefore focus on comparable simulations in other fields of training and education to showcase the possible advantages simulations could offer for the USMA military training program.
Of note before showcasing existing programs is the associated effects of simulations on learning. Social cognitive theory examines several theories, of which experiential and situated learning are the most important in association with simulations. Situated learning offers very good learning effects due to the social interactions in response to action within a particular group (Committee, 2015). Linking this to the developmental stage of the cadets, allows us to use it as an positive indicator to integrate simulations to overcome the obstacles presented by the awareness of peer opinions, as the simulation would provide a strong framework with good regulations to let these social interactions happen. Carolyn Shaw is cited from her research, that exercises and games are a part of “larger body of teaching strategies labeled as “active learning techniques”” (Denemark, 2010). Denemark comes across his research that in this developing field of research there is not much cross-disciplinary dialogue and therefore only limited knowledge about studies addressing simulations (Denemark, 2010, p. 1). His research found multiple claims but due to the relative short term since when research is being conducted, much of it is anecdotal. But most of these claims still have good weight as indicators for the supportive role simulations could be for the USMA effort to develop leaders of character and future officers of the U.S. Army. The enhancement of student motivation and interest was observed in multiple programs utilizing simulations in comparison to control groups not using them (Denemark, 2010, p. 3). The faculty cited “recognized that simulations and role-play exercises could be used to achieve a variety of different learning objectives, ranging from content and substantive knowledge to critical thinking and problem solving” (Denemark, 2010, p. 6). While Denemark focusses more on the feedback of the educators, Andrew Blum writes in his article for the Oxford Research Encyclopedia of International Studies about Computer Simulations in the classroom, that researchers found for students to “overcome feelings of inadequacy” as one positive side effect (Blum, 2010, p. 12). Blum refers further about positive effects the use of simulations have to “complex nature of social interactions, particularly decision-making” and the forcing effect of them to face “ambiguity and complexity” (Blum, 2010, p. 8). Black et al. in their review of learning outcomes for leader development programs were putting their focus on the CFL, which is “a measure of an individual’s perception of his/her ability to learn within his/her organization” (Black et al., 2006, p.40). The groups that were using simulations and developed good leader training paths reached the highest CFL of all groups. Doak supports that argument in reference to online strategic games where players have to come up in clans / groups. As they have to work together to solve problems, their experiences provide “multiple ways to succeed and offer benefits for the development of distributed team leadership skills” (Doak, 2014, p.3). Dankbaar in the article for the integration of simulations for medical students found that realistic cases for the students facilitated good transfer to practice. Their concerns were the amount of cognitive load of the respective realistic case, which has to be adjusted to the respective student learning level (Dankbaar et al., 2015, p. 2).

In summary of all research reviewed from educational, psychological and medical research, the author found significant amounts of indicators of positive effects from the use of simulations if integrated into the military program of the USMA. The age and developmental stage of the target group, the cadets in their journey to become a leader and officer in the U.S. Army are perceptive to the stimuli provided by simulations. Such effort could also support their efforts to
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overcome age related obstacles that would prevent them from exploring their full leadership capabilities due to fear of peer perceptions. The diversity of the 47 month experience and the related workloads requires the cadets to prioritize their efforts in order to meet timelines. Very often, the military development has not the priority as the academic and sports related requirements supersede for them. By using more simulations in a provided framework could increase the intrinsic motivation of the students significantly and create positive second and third order effects beside the simulations themselves which would support the Military Program Mission and better prepare the graduating cadets for their career as officer in the U.S. Army.

What now?

The U.S. Military Academy should consider to include a new program within the military training program. The author proposes the establishment of a “USMA Virtual Battle League”, which uses the existing Simulations Center with the focus on the Virtual Battlefield Simulation (VBS) 3. This system allows groups of players to coordinate and execute military operations with realistic results in a virtual reality that can be build and modified by the SimCtr personnel, supported by instructors from the Military Science (MS) courses as Simulation Drivers. This Battle League should use one Academic Year for each Season, in which each cadet company within the Corps of Cadets has one Platoon, that then will compete against other companies. The ranks within the Platoon would be filled with cadets from the respective class. The upperclassman (Firsties) would have to select the Platoon Leader and Platoon Sergeants, the next class (Cows) the subordinate leaders (Squad Leaders), the Yuks the Team Leaders and soldiers would be provided from the two lower classes.

Executed like a competition, every company would have to fight with their platoon against another platoon from another company in a tactical mission that could best be described as “capture the flag” mission. Both would have the same equipment and capabilities, so it would come down to leadership and training in order to overcome the “enemy”. The Simulations Drivers, as used in the Military Science 300 “Platoon Operations” would oversee the execution and could grade the mission. Grading criteria would be Leadership performance, Communication within the Platoon, application of doctrine in those offensive missions and performance of the Platoon which could be stated as combat power equivalent.

If such a Battle League would be supported from the Commandant of the Corps of Cadets and receive respective priority as initial motivation for the cadet companies, the expected side effects are increased internal training with all included cadets in every company, in order to develop a good pool of players. In order for a Fire-Team, Squad and ultimately the Platoon to become more combat effective, they have to work on their application skills of doctrine to include the use of right terminology and graphics. The resulting increasing motivation to expose themselves to military doctrine and training by developing their own Mission Essential Training List (METL) could enhance the overall and earlier identification with the profession of arms. The challenges for the Cadet Company leadership would allow more cadets as in the current system
to seek and receive mentorship and development of leadership competencies, which should be supported by the Staff & Faculty in a mentoring role.

Tied up and nested in the Military Training Program, USMA would have another tool which would support the overall mission. It would allow the Commandant of the Corps of Cadets, as the program director for the Military Program, through the guidance he would provide for the type of virtual reality mission used, to force the cadets to stay current on doctrinal developments. It would provide another opportunity to create repetitions in missions that are otherwise only to be experienced during the summer training details.

Summary

The challenge to develop leaders for the modern military has a long tradition with a nearly uniform approach for a long time. As the population changes, as for example depicted by Arnett (Arnett, 2016), outlining several changes in society over time, the change of the target group of the Leadership development forces also the adoption of training and education programs. Based on the current research of the psychological and medical development, certain approaches become visible. Using programs, which can be used by a bigger group at the same time, provide a good framework on how to increase self-motivation and overcome psychological hurdles in leadership competencies development such as negative peer influence which is one of the main differences to the development stages before and after the “emerging adulthood” phase as defined by Arnett.

Several professions are challenged to provide realistic training environments to enhance their training effectiveness, to include education, medical training and management leadership programs. These challenges are based on the fact, that especially at an early stage of their training, the students cannot be exposed to real cases, like patients or customers to get repetitions in processes and increase in their abilities to perform certain tasks.

Simulations have evolved from the rudimentary, unrealistic environments in the early years of their use. Tailored to the specific target groups, modern technology provides a constantly evolving training environment, which can easily be modified by the using entity. By improving the intrinsic load through more realistic simulations and supported by increased personal motivation in using them, the germane load and therefore the learning of the different leadership competencies can be significantly increased. As positive second and third order effects, the author expects an increase of early personal identification with the military profession and increasing doctrinal knowledge within a larger number of the cadets as the target group. This is assumed, as this knowledge provides the necessary foundation to be successful in a competitive virtual battle league as described in the recommendation. The increased presence of not only military theory but application of military operations within the U.S. Corps of cadets could enhance the winning culture and therefore create also positive effects for other programs of instruction at the USMA.
As other simulations are already used within the USMA academic programs, the author also strongly recommends to initiate further research of the use of simulations in support of different programs, as the increasing speed of the simulations development available on the market will allow even better simulations to be used in the very near future. The benefits of increasing repetitions in a more and more realistic environment and the positive second and third order effects described in this review on student motivation and involvement could not only increase Mission Success of the USMA, but also to support to overcome U.S. Army leadership challenges as described in the research of COL Crissman.
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