Increasing Corporate University Training Options within Aerospace

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Abstract

Aerospace companies in Southern California and other places are losing retiring baby boomers and job-switching millennials, putting the industry's future at risk. Engaging employees could address this problem and corporate universities are a unique way of engagement. This study shows how aerospace organizations can develop in-house corporate universities and offer continuing education as part of the corporate benefits offerings. Corporate education can build a stronger organizational culture as a means to increase employee engagement, retain millennials and provide essential industry skills to current and future employees.

Before founding universities, the companies must understand and untangle their current culture and situation and this can be done by using Schmieder's (2007) SPELIT model. Active, adult learners in these corporate universities form Communities Of Practice (COPs) within their specific aerospace field as part of the education process and help make corporate aerospace universities a success.

Historical and current corporate and aerospace education is studied to provide ideas for innovative aerospace corporations to charter these corporate universities and successfully train and retain young employees for future growth.

Introduction

The aerospace and defense industry is currently experiencing significant organizational change at the employee level. Baby boomers near the age of 60 are retiring and young employees near the age of 30 are not staying long-term (Rappaport et al, 2003). Knowledge transfer from baby boomers to younger employees is a best practice to learn proprietary and tribal knowledge and get prepared to carry on the legacy of the retirees. Companies in these technical industries must increase employee engagement, and train their employees with relevant skills and technology in order to move the company forward. Innovative corporate universities can increase engagement and knowledge today and retain employees into the future.

Corporate universities could provide accredited education like traditional non-profit universities. However, even university-sponsored internal training could be beneficial as Hedden and Sands (2015) found that internal training was sometimes looked upon more favorably by employees and employers than outside training from unaffiliated institutions. These aerospace universities could also offer certificates, which HR consultant experts Kimo Kippen, Coline T. Son Lee and Jeff Toister have found leads to retention of top performers (Biech, 2008) and could even attract talent from other companies.

Investments in training increase the value of policies that reduce turnover (Barron et al, 2001) by reducing future recruitment and new hire onboarding costs associated with high employee turnover. The result is that corporate universities could be a cost effective way to maintain long-term in-house talent. Thus, aerospace companies must understand the latest potential in aerospace education and make changes to develop these universities. Furthermore, they must understand and untangle the current organizational and competitive environmental situation before initiating meaningful and relevant change.

SPELIT framework

Pepperdine University's Organizational Leadership faculty (Schmieder-Ramirez & Mallette, 2007) developed the SPELIT model as a way to understand the current organizational environment of an industry or corporation. The acronym's elements are:

- Social
- Political
- Economic
- Legal

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- Intercultural
- Technological

Understanding what the current situation is with its strengths and weaknesses and where an organization should move to maximize strengths and minimize weaknesses can help practitioners to lead future action.

Aerospace companies have the technology to create corporate universities. Organizational leaders could develop a supportive economic rationale that education will reduce costly turnover. Legally and politically, government and civilian aerospace customers could balk at paying additional indirect (non manufacturing production) costs for aerospace education. However, these customers might more easily accept the short-term continuing education costs if it causes increased educational employee engagement and ultimately results in employee efficiencies that drive down long-term product costs. Socially and from an intercultural standpoint, the universities will be a positive force in the organization because the schools will be culturally inclusive like the diverse aerospace industry workforce. Each SPELIT element explored in this analysis results in a compelling case to make the organizational university change and for the industry to increase the number of corporate universities.

Communities of Practice

Aerospace university students will be adult learners actively participating in their education because, as employees, they sometimes know more about how to apply what they learn within the workplace than the academic faculty. In 1991, UC Berkeley Professors Jean Lave and Etienne Wagner proposed the concept of Communities Of Practice (COPs) to ensure that students have a high degree of connectivity (Jonassen & Land, 2012), which is ideal within a technologically advanced corporation looking to engage and educate employees. When there is common interest for a group to gain knowledge in a specific field such as aerospace engineering or government contracting, these COPs will arise.

Aerospace educational curriculum can be highly technical and COPs could be successful at finding practical application of classroom learning theory within the workplace. Cameron et al (2003) note that employees who join, participate in, and informally learn (Bolman & Deal, 2013) from groups of people organized around a socially defined competence can benefit their organization and increase their learning. These COPs would be a major part of the ongoing success of corporate universities and a better engagement culture would thrive under the right environment. Designing an effective aerospace university would further inspire COPs.

Aerospace Education History

In order to understand the ideal aerospace corporate university for the modern day, it is important to understand what has already been done within corporate and aerospace education as a benchmark and to know the industry's best practices. During the 20th century, aerospace universities began providing industry specific Bachelor's degrees to future aerospace talent. France's Ecole nationale de l'aviation civile (ENAC) was founded in 1949 and Embry-Riddle Aeronautical University (ERAU) was founded in Florida in 1925. ERAU now has satellite campus locations, including government sites, and online training and recently started a partnership with Trinity Catholic High School in Florida (Callahan, 2015), which allows high school student to take college aviation courses that are transferable to any accredited university.

In addition to formal education, industry groups offer technical training. The International Air Transport Association (IATA) provides an Airline Business Foundations class in partnership with the University of Geneva's school for aerospace studies and has other curriculum training with ENAC. Domestically, the Aerospace Industries Association (AIA) has seminar partnerships with ERAU. This association training such as that offered by IATA and AIA is current and relevant but does not result in degrees for those who take the classes.

Some traditional universities offer aerospace specific programs alongside general programs. Cranfield University in England has an aerospace school with a variety of engineering and business degrees. In major domestic industry hubs such as Los Angeles and Wichita, local schools like University of Southern California (USC), University of California, Los Angeles (UCLA) and Wichita State University (WSU) have highly regarded aerospace engineering programs. The Naval Postgraduate School (NPS) in Monterey also has similar specific degree offerings for active duty US military. Cranfield, USC, UCLA,

WSU and NPS have generational education requirements and objectives beyond just aerospace and corporate training.

Outside of aerospace, corporations have promoted functionally specific training since the early 20th century. In the United States, General Electric and General Motors in have conducted internal training for employees since as early as 1914. From these training and development applications, companies have started corporate universities (Kwakman & Streumer, 2005). For example, McDonalds opened Hamburger University in 1961 next to their world headquarters to allow advanced vocational training for large numbers of employees. Within defense, the Aerospace Corporation in El Segundo, California created the Aerospace Institute in the late 20th century to provide aeronautical vocational training for its employees. Aerospace Corporation also opened distance-learning classrooms at satellite offices. These classes are offered to their customers (government employees) and the company partners with local universities for accredited faculty staffing for the course offerings.

Many airlines also have in-house universities for training employees on industry and company-specific skills. American Airlines training center near Dallas is so large that the training space, when unused is available as a conference site for other companies. Delta Airlines and Jet Blue Airlines from the United States have created websites separate from their company webpages - Delta University (dluniversity.com) and JetBlue University (jetblueuniversity.com) - which provides evidence of the value these companies place on the corporate universities. JetBlue is also running a pilot training school at JetBlue University. Additionally, Emirates Air based in Dubai has created a higher quality company university with the classroom building shaped like an airline. Yet Emirates, like all other airlines, offers predominantly in-house training rather than an accredited university partnership. Moreover, these airline universities don't offer credible degrees to graduates of their training.

Modern Aerospace Education Innovation

Recently, degree granting accredited educational universities have been partnering with aerospace companies to provide theoretical education that can add to the technical practices of the company. The Boeing Advanced Research Center at the University of Washington provides this type of union between scholar and practitioner (Gates, 2015). Drexel University in Philadelphia recently established the Lockheed Martin Engineering Leadership Program at their College of Engineering. This is a partnership with the world's largest defense contractor and provides industry practices in route to earning degrees that could be used at Lockheed or other aerospace companies.

United Arab Emirates based Etihad Airways helped create bachelors level curriculum for the aerospace academic offerings at the private Abu Dhabi University. This university is also where many company employees studied prior to joining the company and where continuing education takes place. In 2015, Etihad participated in strategic collaboration (Hassan, 2015) with Abu Dhabi University to create a MBA in aviation management and the airline was the only corporate development partner. This type of involvement is very costly, but allows companies to help design useful curriculum.

The world's second biggest aerospace company, Airbus, is raising the standard in Fall 2016 with the multi-site Airbus Group Leadership University. They will be using faculty from multiple universities, near their French production facilities, English business facilities and other sites to be relevant and efficient. Airbus has major facilities globally and could serve as an example on how to provide education to engage younger employees. The table below shows the chronological change with corporate and aerospace education.

	1910-1960	1960-2010	Current Innovation
Aerospace Universities	ENAC, ERAU		
Industry Training	GE, GM	IATA, AIA	
Aerospace Programs		Cranfield, USC, NPG	BARC@UW, AbuDhabiU/Etihad
Airline Universities		Delta, Emirates	
Corporate Universities		Hamburger U, Aerospace Institute	Airbus Group Leadership U

Conclusion

Employee turnover among millennial aerospace employees is high. Academic literature has identified this trend across industries, but aerospace is specifically at risk of being unable to continue operating effectively with the current retirement boom. Corporate Aerospace universities offer an opportunity to engage the young employees and retain their talent long-term. After correctly assessing and understanding the current situation, change models must be employed to inspire benefits changes and make universities a reality. Communities of practice will invigorate this corporate aerospace university training, improving the organizational culture and increasing employee engagement.

Employee engagement is the best way to reduce turnover in aerospace, and the most innovative education will combat this employee retention situation. Aerospace companies should begin to create educational opportunities such as that offered by Airbus Group University, using the most modern proven methods. With an aerospace corporate university training option as robust as this, these organizations can prepare the next generation of highly engaged employees to take over the reins.

References

[1] Barron, J.T, Hannan, M.T., & Burton, M.D. (2001). Labor Pains: Change in Organizational Models and Employee Turnover in Young, High-tech Firms. American Journal of Sociology. P 960-1012

[2] Biech, E. (Ed.), (2008). ASTD handbook for workplace learning professionals. Danvers, MA: ASTD Press.

[3] Bolman, L.G., & Deal, T.E. (2013). Reframing Organizations (5th Edition). San Francisco: Jossey-Bass

[4] Callahan, Joe. (2015, November 17). Trinity Catholic, Embry Riddle partner on new aerospace career academy. Ocala Star Banners. Retrieved from http://www.ocala.com/article/2015151119780

[5] Cameron, K.S., Dutton, J.E., & Quinn, R.E. (2003). Positive Organizational Scholarship. Berrett-Koehler: San Francisco

[6] Gates, Dominic. (2015, January 16). Boeing and UW launch lab so professors, engineers can improve automation. Seattle Times. Retrieved from http://www.seattletimes.com/business/boeing-and-uw-launch-lab-so-professors-engineers-can-improve-automation/

[7] Hassan, Omnia. (2015, October 24). Abu Dhabi University launches MBA in Aviation Management. Zawya. Retrieved from https://www.zawya.com/story/Abu_Dhabi_University_launches_MBA_in_Aviation_Management-ZAWYA20151024073929/

[8] Hedden, C.R. & Sands, C. (2015). A reality check as competition for talent increases. Aviation Week 2015 Workforce Study

[9] Jonassen, D., & Land, S. (2012). Theoretical Foundations of Learning Environments. Routledge: New York

[10] Rappaport, A., Bancroft, E., & Okum, L. (2003). The aging workforce raises new talent management issues for employers. Journal of Organizational Excellence, 23(1), 55-66.

[11] Schmieder-Ramirez, J. & Mallette, L.A. (2007). The SPELIT Power Matrix: Untangling the Organizational Environment With the SPELIT Leadership Tool.