



NOVEMBER 26, 2018

**WOMEN IN AVIATION**  
AT UNIVERSITY OF DUBUQUE

WRITTEN BY: MEGHANN TOOHEY  
EDITED BY: MALLARY STURTZ AND MOLLY ZOGAS

## WOMEN IN AVIATION ESSAY

Since the Wright brothers made the first sustained, controlled flight in an airplane in 1903, the world of aviation and human flight has been evolving and changing. Early milestones include the use of airplanes to carry mail, in warfare, and of course, their revolution of the transportation industry. Amelia Earhart and Charles Lindbergh became household names as the industry took off in the first half of the 20<sup>th</sup> century. Unfortunately, conditions in the aviation world mirrored those of the culture at large, with discrimination facing aviators of color, and women. The developing field did not see a female pilot until Blanche Stuart Scott in 1910 (Freydberg, 1998). Even though women formed groups such as the Ninety-Nines and the Women's Flying Training Detachment (WFTD) to support females in flight, discrimination remained a part of the industry (Freydberg, 1998). Undeterred in the face of such barriers, women continued to persevere. One such woman was Bessie Coleman, an African American pilot. She faced not only barriers related to her gender, but also barriers stemming from race-based prejudice. Ms. Coleman enrolled in aviation school in France after experiencing discrimination in the United States (Freydberg, 1998). In 1921, she became the first American to receive an international pilot's license (Freydberg, 1998). She performed exhibitions and lectured in the United States, but would not perform before segregated audiences ("Aviation", 2013). She was tragically killed in an aviation accident in 1926 ("Aviation", 2013).

Meanwhile, years before the Wright brothers and the dawn of flight, the University of Dubuque was established. In 1852 Adrian Van Vliet took two men into his home in Dubuque, IA and prepared them to minister to German-speaking immigrants. "Van Vliet's School" quickly grew, as more and more men came to study theology and prepare for lives ministering to immigrant populations. The theological focus of the school broadened as it expanded, and eventually "Van Vliet's School" became the University of Dubuque in 1920, including a

seminary and college and offering multiple degrees. Women were first admitted to the school in 1912. In addition to the theological and ministry programs of the seminary, the liberal arts programs of the college included the natural and applied sciences. By the 1930s, the majors of many graduating seniors included biology, chemistry, and physics.

With the onset of World War II, women took on more roles in multiple industries, including in aviation. Well before the University of Dubuque had an aviation program, one of its female graduates joined the field. According to a 1940s University of Dubuque Alumni Bulletin, Pvt. Annabelle Wieland (married name Wallace), UD class of 1942, was an Air WAC (Women's Army Corps) member during the war. She may have been the first UD alumna to work in aviation. She passed away in 1979, shortly after women began graduating from UD's own aviation program ("Find a Grave", 2017).

After World War II, UD continued to expand to serve students called to a multitude of professions, including careers in scientific and technological fields. Nurses first began taking classes at the University of Dubuque in 1932 through a cooperative program with Finley Hospital in Dubuque. Other cooperative nursing programs existed on campus at various times, ultimately setting the stage for UD's current nursing program, which offers a Bachelor of Science in Nursing degree. In 1960 a new science building, today part of the University Science Center, was built on campus. These developments helped position the University to create an aviation program. In addition to expanding support for scientific and professional programs, the University's mission-centered focus included what is today defined as "a diverse and equitable community", which set the tone for gender equality on campus. Women had been active in the sciences at the university for years. Long-time professors Dorothy Taylor (physics) and Hazel Rothlisberger (mathematics), both began work at the University in the 1940s and ultimately

headed their respective departments. A natural expectation of the institution was that women should be a central part of the success of the university's aviation program.

Outside the University of Dubuque, women continued to open new doors in the growing aviation field. Frontier Airlines became the first US passenger airline to hire a permanent woman pilot in January 1973 (Women in Aviation International, 2003). However, women continued to face obstacles – it wasn't until 1973 that the Navy officially accepted women as pilots, becoming the first military service to do so. (Women in Aviation International, 2003). It was around this time that the University of Dubuque began its aviation program. When the flight school at Parsons College in Fairfield, Iowa ended in the 1970s, the University of Dubuque bought the program and its equipment. A department of Aviation Administration was created at the University of Dubuque, offering a bachelor's degree with a major in Aviation Management and Flight Operations. Advertising for the new program began in 1973. Students who entered the new program in 1974 had fewer than 20 classmates, 2 flight instructors, and 3 airplanes.

Under the leadership of the first head of the program, Robert Ryder, (formerly chairman of the Department of Transportation at Parsons College), the UD aviation department was quick to take off. The University of Dubuque Expert Flying Team was established in 1975, making its debut at the Iowa State Air Meet in April 1975. The group, today known as the UD Flight Team, established a pattern of success at regional intercollegiate flight competitions. By October 1976, 80 students were enrolled as aviation majors. Aviation generally continued to be a male-dominated field with less than 1% of active airmen certificates held by women in 1974 according to the Federal Aviation Administration (United States Federal Aviation Administration, 1972-1975). However, that didn't stop women at the University of Dubuque from enrolling. Females are listed among the program's earliest graduates. 1976 saw the establishment of the Upsilon Delta chapter of Alpha Eta Rho, an international collegiate fraternity dedicated to advancing the

field of aviation and to bringing together students interested in aviation. The group's first pledge class included multiple women. Mike Glynn, a charter member of Alpha Eta Rho and a December 1976 UD graduate with majors in Flight Operation and Aviation Management, recalls a visit to the newly formed group made to the Chicago Air Route Traffic Control Center. He also remembers using an old Frasca Model 100 flight simulator in the early days of the program, before the University had the advanced aircraft that it does now. As the 1970s came to an end, UD leased facilities near the airport for flight operations, and maintained its own fleet of aircrafts as well as a simulator, allowing students to earn private or commercial pilot certificates with single engine, multi-engine, and instrument ratings. Many of the earliest UD female aviation graduates majored in Aviation Management or Aviation Administration, often pairing the degree with business courses.

By the fall semester of 1980, UD's aviation program had 6 full-time personnel, more than 100 aviation majors, and 7 planes, including 2 new planes, a 1980 Cessna 152 and a 1980 Cessna Cutlass 172 RG. Mike Glynn became a UD flight instructor in 1979, beginning a long-term relationship with the program. Holding many roles throughout the years, his service to the University includes his current role as Chief Flight Instructor. By March 1981, 488 students had enrolled in the UD aviation program since its inception. The UD Flight Team continued to regularly participate in flight competitions, especially the National Intercollegiate Flying Association (NIFA) Region V Air Meet. Their performance there qualified them for the 1982 National competition. In 1981 Robert Ryder, chair of the program, resigned to take a position at Delta State University, and was replaced by Edward (Ted) Rebholz. UD student Kimberly (Riecss) McClung from the class of 1984 was named the Top Female Pilot at the Fall 1983 NIFAs Region V meet. She may have been the first UD female to graduate with a Flight Operations major. In 1985 the UD Flight Team once again qualified for nationals after placing in

the Region five NIFA SAFECON competition. At that regional event, UD female student pilot Mary Maguire took 12<sup>th</sup> out of 32 participants in “short field landing”, and Mary Pregler took 13<sup>th</sup> out of 32 participants in “message drop”. The Flight Team and Alpha Eta Rho continued to be active throughout the 1980s. By 1988 the Aviation Administration Department offered not only majors, but also minors in Aviation Management and Flight Operations, including programs for private flight and commercial flight. By 1988, the program had approximately 100 students, a fleet of aircrafts and a flight operations center. Space for the academics portion of the program was located in the lower level of Smith Hall on UD’s main campus, and hangar space at the Dubuque Municipal Airport was utilized for aircraft. In 1989 the UD Flight Team hosted their first annual Drive In/Fly In breakfast fundraiser, a tradition which continues to this day. While the program continued to advance, in 1989, only 6 of the approximately 80 students enrolled in aviation programs were women. One of those six women was Polly (Rademacher) Kadolph, who would go on to become the first full-time female faculty member in the UD Aviation Department. She stated that when she first came to campus, “I knew I was going to belong, and I was just excited to get started”.

Nationally, as UD’s women continued to advance the program, women across the country continued overcoming challenges in the field. In 1985, Janet Harmon Bragg received the Bishop Wright Air Industry Award in 1985 for her efforts to combat discrimination in the field of aviation (Women in Aviation International, 2003). The first African American woman to earn a commercial pilot’s rating, she was also instrumental in establishing aviation associations and training programs for aviators of color (Women in Aviation International, 2003).

By October 1990, the UD Aviation program boasted 117 students, 10 planes, six full-time and three part-time faculty/staff, and had earned an impressive 16<sup>th</sup> place finish for the UD Flight Team in the 1990 NIFA SAFECON Championships. Individual honors in the Fall 1990 Regional

Flight Meet included some for UD female students Polly Rademacher (married name Kadolph) (Electronic Computer, 4<sup>th</sup> place, Simulator, 8<sup>th</sup> place) and Candace Stender (married name Everts) (Written Exam, 7<sup>th</sup> place, Short Field & Power-Off Landing, 7<sup>th</sup> place). Heidi Newell a UD graduate from the class of 1991 recalls sometimes being one of the only women in her classes. With majors in Aviation Management and Business Administration, she remembers that Airline Management and Airline Safety classes were the most memorable for her. In December 1994, facilities for the program improved with the grand opening of the renovated John and Ruth Garlick Flight Operations Center. John Garlick joined the UD faculty in 1975 and was key in developing the young UD Aviation Administration program. Made possible by a generous donation from Ruth Garlick, the updated center included new additions such as a computer-interfaced satellite weather station, two state-of-the-art classrooms, and all new furnishings. Already existing at the Flight Center were 11 aircraft, two computer-based flight simulators, and flight planning/dispatch facilities. During the 1990s, the University of Dubuque leased a hangar from the airport. In 1995, upon the retirement of Edward Rebholz, Lieutenant Colonel (Ret.) Richard N. Clark took charge of the UD Aviation program. In October 1995, the UD Flight Team placed 3<sup>rd</sup> in the regional NIFA SAFECON competition, with female student pilot Jolene Roling placing 7<sup>th</sup> out of 25 in the navigational competition individual event. UD's program continued to advance with the installation of a new KLN 90B Bendix/King approach certified Global Positioning System (GPS) unit in one of its planes during January 1996. The \$12,000 KLN 90B GPS unit was purchased by Dr. Thomas Greenawalt (c'53) for a Cessna 172 which he leased to the UD aviation program. Dr. Greenawalt, a long-time benefactor of the program, donated and leased airplanes to the University for many years. As UD's program became more cutting edge, women in the industry received more support when Dr. Peggy Chabrian founded Women in Aviation International (WAI) in 1994 (Women in Aviation International, 2003). The

organization is “dedicated to the encouragement and advancement of women in all aviation career fields and interests” (Women in Aviation International, 1996-2016).

As the 1990s drew to a close, UD’s program experienced some changes. Curriculum for the B.S. in Flight Operations and in Aviation Management was updated with new courses in 1998. A new B.S. in Aviation Technology and Management, which merged courses from Business Administration, Aviation Management, and Computer Information Systems, was approved and ready to be implemented in the fall of 1998. UD Aviation programs were selected by the National Business Aviation Association as a provider for Professional Development Program certificates. The Aviation Department developed a special program for students interested in flight training only (non-degree). In February 1998, the department joined the Council for Aviation Accreditation as an education provider member. At the same time, the fall 1998 student newspaper reported that the program faced many problems, including departing faculty, multiple planes down for maintenance, and the lack of FAA approved syllabi. In December 1998, the university suffered an enormous tragedy when Adam Varga, a UD student and flight instructor, was killed in a plane crash. This was the first fatality in the 25 year history of the UD aviation program.

Things looked up for the program as the decade came to a close. By the spring of 1999, Steve Accinelli was hired to direct the program. He implemented monthly safety meetings. Other faculty were hired, aircrafts were up and running, and by September 1999, the FAA had approved the syllabi. Five Cessna 172 aircraft were purchased to replace aircrafts that had previously been leased to UD. The 172s were equipped with a complete Bendix/King avionics package plus a sophisticated, moving-map GPS and single-axis autopilot. The entering class of 1999 was 40% larger than the year before, and the University had 12 full-time and part-time instructors. Throughout this time, the UD Flight Team and Alpha Eta Rho continued to be active.

The UD Flight Team regularly hosted its annual Drive In/Fly In breakfast, and participated in flight competitions. Alpha Eta Rho helped with Aviation Awareness Week celebrations and visited regional aviation sites. Their activities included a tour of Northwest Airlines in the spring of 2000, where UD student Rachel Keating served as an intern. Through the early 2000s, female student aviators continued to place in flight competitions, achieve instrument ratings and certifications, and obtain licenses. Nearly 100 years after the Wright brothers' first flight, it became less unusual to see women in the field in public positions of leadership. In 1995, Eileen Collins was the first woman to pilot a space shuttle, *Discovery*, and four years later, she commanded the space shuttle, *Columbia* (Women in Aviation International, 2003). The Senate confirmed the first female Administrator of the Federal Aviation Administration, Jane Garvey, in 1997 (Women in Aviation International, 2003).

In 2000, the program welcomed at least 56 new students, the largest incoming first-year class up to that time. In May 2001, Kim Bruggenwirth joined the department as Aviation Business Office Manager. A new, state-of-the-art Flight Simulator became available at UD in September 2001. The effects of the terrorist attacks of September 11, 2001 had specific consequences for flight school, temporarily grounding flights, preventing normal training operations, and ushering in an era of new restrictions and rules for the aviation industry. However, despite the tragedy, enrollment in UD aviation programs hit a near record high of 125 students in the 2001/2002 academic year. UD continued to modernize its fleet with the purchase of new aircraft. In 2002, Polly Kadolph, UD class of 1991, joined the faculty. Kadolph had been a member of the UD Flight Team during her student years, and served as a flight instructor at UD for four years before going on to fly professionally. She now serves as Associate Professor of Aviation. Even as UD's program thrived, female enrollment remained consistent with national trends. Program faculty, staff, and flight instructors were mostly men, as were the majority of

incoming students in the program. Women continued to join the UD Flight Team, Alpha Eta Rho, and other aviation events. Rachel Keating, a 2001 UD graduate with a Flight Operations major, remembers planning cross country flights and studying together with other Alpha Eta Rho members. One female aviation student profiled in the 2003 student newspaper, Theresa Lynn Reuter, balanced three majors (Aviation Management, Flight Operations, Business Administration) and a minor (Spanish). In addition to leadership roles in many campus organizations, she also served as the Vice President of Alpha Eta Rho during her time at UD.

As of February 2003, over 150 UD aviation students received class instruction from four faculty members and flight training from 24 full and part-time flight instructors. Equipment included a two-seat flight simulator at the UD Flight Center at the Dubuque Regional Airport, a fleet of 19 planes, and two personal computer aviation training devices, (“mini-simulators”) on UD’s main campus. In 2004, a \$200,000 grant from the Roy J. Carver Charitable Trust received by UD was used for the purchase of a new multi-engine 2004 Piper Seminole aircraft to enhance training opportunities for students in the aviation program. UD continued its relationship with the Dubuque Municipal Airport, and in 2005, the airport manager noted that Dubuque was the third busiest airport in Iowa, stating that, “A lot of it is contributed to the University of Dubuque.” (Cooper, 2005).

Even as UD’s program stayed on the cutting edge, the UD aviation community acknowledged the ongoing national trend of aviation as a male-dominated industry. Recognizing potential discrimination and barriers likely to be faced by some of UD’s own students as they entered the professional world of aviation, in the spring of 2005, the UD Aviation Department received a grant to produce a bibliography of writings about and by women and minority aviators. The project was led by Joseph Suarez, Associate Professor of Aviation and Chief Flight Instructor at the time. The completed bibliography is available here:

<http://dev.dbq.edu/media/Academics/VPAcademicAffairs/AcademicDepartments/Aviation/Forms/A-Bibliography-of-Works-About-and-by-Females-and-Minorities-in-Aviation.pdf>

Constantly forging ahead, UD's Bachelor of Science programs in Aviation Management and Flight Operations received full accreditation from the Council on Aviation Accreditation, Inc., an international accrediting body, in 2005. Of the 200 aviation programs available throughout the United States at the time, UD was one of only 21 who had been accredited by the Council. Throughout the 2000s, the UD Aviation Program established many competitive internships with companies across the nation, and female aviation students were among those chosen for these competitive positions. Nationally, women were making strides in the world of corporate aviation. Colleen Barrett, served as the president of Southwest Airlines Company from 2001 to 2008 (Southwest Airlines Media, 2018).

As part of UD's ongoing efforts to support women in the field, in September, 2005, a group of aviation supporters from the University of Dubuque participated in the Little Cloud Council Girl Scout's "Day of Flight" program. The University of Dubuque hosted a station where Girl Scout participants could try "flying" one of the Aviation program's simulators. In the fall of 2006, approximately 30 years after the establishment of the UD Flight Team and Alpha Eta Rho, a UD chapter of Women in Aviation was formed on campus. The organization, a branch of the Women in Aviation International group, is open to students of any gender, and seeks to support "women's professional growth and enrichment in the aviation industry". (University of Dubuque Women in Aviation Student Chapter, n.d.). In 2007 a group of UD flyers attended the 18th Annual Women in Aviation Conference in Orlando, Florida, where they finalized the paperwork for a provisional student chapter of the internationally recognized organization at UD. Lauren (Smalkoski) Sherrick and Tami Gibbs were founding executives of the Women in Aviation International – UD Chapter. UD is the 49th Chapter and the only chapter

in Iowa. Success was marred by tragedy in September 2008. The UD community suffered a devastating loss when two aviation students flying in a university aircraft suffered serious injuries during an emergency landing. Grant Vogt, one of the victims, ultimately died of his injuries. The tragedy impacted the entire campus and community.

As women continued to push aviation forward, society at large began to acknowledge some of the discrimination female aviators had faced in the past. In 2009, President Barack Obama awarded the surviving Women Air Force Service Pilots (WASPS) from World War II the Congressional Gold Medal (CNN, 2009). At the time the women served, they were not considered part of the military, and therefore received no honors and no benefits (CNN, 2009). The overdue recognition came at a time when the UD Aviation department was making large strides forward.

In 2010/2011 alone, the UD Women in Aviation chapter's many activities included helping local Girl Scout groups gain their mathematics badges, bringing the Tri State Modeler Group to campus to display remote control aircraft, and attending the annual Women in Aviation International Conference in Reno, NV. The 2017-2018 Women in Aviation – UD Chapter President Alicia Loes (UD class of 2019) discussed the annual "Girls in Aviation" day which the group leads to teach 5<sup>th</sup> through 8<sup>th</sup> grade girls about aviation. Faculty and aircraft changes in the department included the retirement of Steve Accinelli as Director of Aviation Programs in 2017. After nearly 20 years of service with the University of Dubuque Aviation program, he was inducted into the UD Faculty Hall of Fame for excellence in teaching and advising. Chaminda Prelis, Associate Professor of Aviation Management at UD, became Director of Aviation Programs upon Accinelli's retirement. Advances for the fleet in the 2010s included the purchase of a new state-of-the-art regional jet flight simulator, three new Piper Arrow, and two new Piper Seminole planes to replace older Trinidad aircraft. Fall enrollment in 2015 was expected to be at

170 Flight Operations students and 70 Aviation Management students. The Flight Operations major now includes a new helicopter track, started in the 2017-2018 academic year. This program is of particular interest to Kylie Hahn, a 2011 UD graduate who flies helicopters for the Navy in San Diego. Her helicopter, the MH60R, is used in deployments related to anti-submarine and anti-surface platforms, electronic warfare, search and rescue, medical evacuations, and logistics, and she has participated in all types of these missions. She says she didn't feel that being a woman in aviation was an issue for her, and while her area is male-dominated, she sees more women joining. Other department news includes the recent announcement that the UD Aviation Department was awarded the 2018 Top Hawk Program from Textron Aviation Inc., which means that UD Aviation took delivery of a new, custom branded Cessna Skyhawk 172 to support flight training, University recruiting efforts and promotional activities from February 2018 – October 2018. In addition to the aircraft, Garmin and Bose will provide a G1000 NXi navigation database subscription, a Garmin Pilot subscription and two Bose A20 Aviation Headsets.

Looking ahead, women in aviation are capturing the attention of today's future aviators. An engine explosion on Southwest Flight 1380 in April 2018 resulted in spotlight on the female pilot, Tammie Jo Shults, who was lauded as a hero for landing the plane amidst the disaster, and whose impressive professional aviation background was detailed in numerous news features about the incident (Calfas, 2018). Meanwhile, the disappearance of early female pilot Amelia Earhart continues to spark interest (Wakatsuki et al., 2017). Iowa astronaut Peggy Whitson joined the ranks of currently well-publicized female leaders in the industry when she was featured on a 2018 cover of the magazine National Geographic (Young, 2018). 2016 UD graduate Ekemini (Kim) Rowe works as the Operations and Safety & Security Coordinator at Gary/Chicago International Airport. When asked if she viewed being a woman in the field as an

obstacle or something that opened doors for her, she said, “It can be an obstacle if you don’t like being in the room by yourself with a whole bunch of men, and yet it can also be to your advantage, because you know when you’re a minority in a field like that, you can make a name for yourself. It depends on how you look at it.”

In June 2018, UD students participated for the first time in an all-women cross country airplane race, the Air Race Classic. Teams of two to three women pilots from around the world competed in the race, which took flyers over 15 states (Ortman, 2018). UD was represented by students Kate Hanley and Monica Skrezyna, along with flight instructor Dallas Syverson (Ortman, 2018). The group placed 29<sup>th</sup>. (Hinga, 2018). Polly Kadolph noted of the Air Race Classic, “It has its origins all the way back to the Powder Puff Derby with Amelia Earhart....I think that it helps those young ladies know going forward there are really strong, strong women behind them, there is a lineage of people that have fought hard for us to be making improvements and be accepted in the industry as women that are strong pilots and know what they’re doing.” A new home for the UD Aviation program is set to be completed by the spring of 2019. The Babka Flight Operations Center at the University of Dubuque Airport, made possible by a generous gift from former University of Dubuque trustee Ed Babka, will include classrooms, offices, advising spaces, and flight simulators.

UD’s women in aviation have gone on to careers that span the field, working as air traffic controllers, commercial pilots, flight instructors, FAA workers, higher education faculty and staff, naval aviators, admissions counselors, flight attendants, aircraft dispatchers, aerospace technical specialists, aircraft mechanics, systems engineers, aviation management professionals, and more. Currently, 30 women are enrolled in UD Aviation programs, representing 11% of the total UD Aviation program (Jacobsen, 2018). Nationally, the FAA reports that as of 2017, approximately 7% of pilots in the United States are women, and approximately 29% of non-pilot

aviation professionals (including flight attendants, mechanics, flight instructors, and dispatchers) are women (Women in Aviation International, 2017). Brenda Nava, a 2015 UD graduate with majors in Flight Operations and Aviation Management, recalls that when she was an analyst at Delta, the ratio of males to females in her position was approximately 20:1, and as a flight instructor now, she estimates maybe 6 out of every 45 instructors at her company are women. While she says she never experienced gender discrimination at UD, she recalls being in a ground class where only two of the 25 students were women. She said that meeting women who were leaders in the field through Women in Aviation conferences inspired her and helped her put things in perspective. She says she'll be forever grateful to her UD professors, who really wanted her to succeed, but unfortunately, outside UD, she does notice subtle sexism in the industry. Alicia Loes, class of 2019, discussed the gender imbalance in the field during her interview. When asked, "Do you talk about it with other women here?" she responded, "I think it is an unspoken reality, we don't need to talk about it, because we already know we are working hard to change it".

**Thank you to everyone who made this project possible...**

UD Aviation Department

Monson Nguyen

Women in Aviation- UD Chapter

Mary Anne Knefel

Christopher Doll

Meghann Toohey

Polly Kadolph

Mallary Sturtz

Kim Bruggenwirth

Rebecca Rosenstiel

Mike Glynn

Reagan Sturgeon

Alicia Loes-Aguiluz

Elizabeth Wichmann

Brenda Nava

Kimberly McClung

Ekemini (Kim) Rowe

Jay Jubeck

Kylie Hahn

Molly Zogas

Rachel Keating

Tom Hogan

Heidi Newell

Katie Kraus

Joe Letriz

Joan Kariuki

Freddy Cordon-Perez

Curt Mitwede- Signature Sign

## References

- Aviation. (2013). In J. C. Smith (Ed.), *Black firsts* (3rd ed.). Canton, MI: Visible Ink Press.
- Retrieved from  
<http://ezproxy.dbq.edu:2048/login?qurl=https%3A%2F%2Fsearch.credoreference.com%2Fcontent%2Fentry%2Fblackfirsts%2Faviation%2F0%3FinstitutionId%3D4075>
- Calfas, J. (2018, April 19). Tammie Jo Shults, who safely landed the deadly southwest flight, has been breaking glass ceilings for years. *Time*. Retrieved from  
<http://time.com/money/5244916/tammie-jo-shults-southwest-pilot/>
- CNN. (2009, July 1). Obama awards WWII-era women pilots congressional medal. *CNN U.S. Edition*. Retrieved from  
<http://www.cnn.com/2009/US/07/01/womens.pilot.medal/index.html>
- Cooper, B. (2005, February 13). Manager guides airport through turbulent times. *Telegraph Herald*, 1A, 4A.
- Find a Grave. (2017). Retrieved June 14, 2018 from  
<https://www.findagrave.com/memorial/176810458/annabelle-marjorie-wallace>
- Freydberg, E. A. H. (1998). Aviation. In W. P. Mankiller (Ed.), *The reader's companion to U.S. women's history*. Boston, MA: Houghton Mifflin. Retrieved from  
<http://ezproxy.dbq.edu:2048/login?qurl=https%3A%2F%2Fsearch.credoreference.com%2Fcontent%2Fentry%2Frcuswh%2Faviation%2F0%3FinstitutionId%3D4075>
- Hinga, Allie. (2018, July 6). Cross-country air race a learning experience for 2 UD students, instructor. *Telegraph-Herald*. Retrieved from <http://www.telegraphherald.com/>
- Ortman, S. (2018, April 18). UD team to participate in all-women cross-country airplane race. Retrieved from <http://www.dbq.edu/NewsandEvents/NewsArchive/2017-18/UD-Team-to-Participate-in-All-Women-Cross-Country-Airplane-Race.cfm>

- Southwest Airlines Media. (2018). Colleen C. Barrett. Retrieved May 10, 2018 from [https://www.swamedia.com/pages/colleen\\_barrett](https://www.swamedia.com/pages/colleen_barrett)
- United States. Federal Aviation Administration. (1972-1975). *FAA statistical handbook of aviation*. Retrieved from <https://catalog.hathitrust.org/Record/001719735>
- University of Dubuque Women in Aviation Student Chapter. (n.d.). Constitution for the Women in Aviation University of Dubuque student chapter. Retrieved from <https://www.dbq.edu/media/campuslife/vpofstudentlife/studentactivities/Women-in-Aviation-Constitution.pdf>
- Wakatsuki, Y., Westcott, B., Levenson, E., & Sidhu, S. (2017, July 13). Amelia Earhart mystery: Photo appears taken 2 years before pilot vanished. *CNN Asia*. Retrieved from <https://www.cnn.com/2017/07/12/asia/amelia-earhart-photo-japan/index.html>
- Women in Aviation International. (2017). Current Statistics of Women in Aviation Careers in U.S. Retrieved May 10, 2018 from <https://www.wai.org/resources/waistats>
- Women in Aviation International. (2003). 100 Most Influential Women in the Aviation and Aerospace Industry. Retrieved May 10, 2018 from <https://www.wai.org/pioneers/100womenscript>
- Women in Aviation International. (1996-2016). About WAI. Retrieved May 10, 2018 from <https://www.wai.org/about-wai>
- Young, A. (2018, March 6). Iowan astronaut Peggy Whitson lands on National Geographic cover. *Des Moines Register*. Retrieved from <https://www.desmoinesregister.com/story/news/2018/03/06/peggy-whitson-national-geographic-magazine-cover/398277002/>