

Agricultural Communication Students' Media Writing Self-Perception in an Introductory Course



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Abstract

To be successful in the workforce agricultural communication students must develop strong writing skills. Students' self-perception of their media writing plays a large role in both their success and satisfaction with their own writing and the writing process. In this study, students in an introductory agricultural communication course ($n = 30$) were administered a pre- and post-test survey based on the Media Writing Self-Perception instrument developed by Kuehn and Lingwall (2018). Students' total media writing self-perception scores slightly increased between the pre- ($M = 26.833$) and post-tests ($M = 28.100$). This total score suggests that students had neither excessive confidence nor anxiety in their writing abilities. Educators in agricultural communication programs should use this research to offer students opportunities that will improve their writing self-efficacy, and in turn their Media Writing Self-Perception scores.

Keywords: writing, self-efficacy, agricultural communication, education, self-perception

Communication is the process through which information is exchanged between individuals via a verbal or written message (Ahrens et al., 2016). Naturally, communication programs, including agricultural communication programs, tend to have a strong focus on writing skills as these skills are both commonly associated with communications careers and needed for success in agricultural communication professions (Ahrens et al., 2016). Furthermore, faculty and employers have ranked writing skills among the top skills needed by undergraduates (Corder & Irlbeck, 2018; Morgan & Rucker, 2013). But new college graduates often find themselves discouraged and unsatisfied with their writing and the writing process as they enter the workforce (Kavcar et al., 2012; Redwine et al., 2017).

Several studies have examined writing skill rank and

proficiency among other communication skills (Irlbeck & Akers, 2009; Leal et al., 2020;). While others have examined how teaching strategies impact writing (Leggette et al., 2017) or how students develop a writing identity (Leggette & Jarvis, 2016; Leggette et al., 2016), more work is needed to understand students' perceptions of their own writing in the agricultural communication field. Gaining this understanding is important because students' confidence in their writing connects to their success in writing in other academic programs (Leggette et al., 2016). Understanding students' perceptions of their own writing and how it may change throughout a course can provide insight to a students' self-efficacy as it relates to writing and may also provide insight to writing success once the students enter the workforce as well as areas for curriculum enhancement or targeted mentoring. The purpose of this manuscript was to understand how students' perceptions of their writing in an introductory agricultural communication course changed throughout the course of a semester.

Literature Review

Self-efficacy has been defined as one's perceptions of, or confidence in (Bandura, 1997), their own ability to carry out a certain action or skill (Lent & Hackett, 1987). When individuals have evidence of the ability to succeed, they are more motivated and likely to succeed at the action or skill long-term (Bandura, 1997; Saadé & Kira, 1997). Thus, experiences were credited with impacting self-efficacy and leading to behavior changes (Bandura, 1986). Experiences could come in four forms, according to Bandura (1986), including mastery, vicarious, social persuasion, and internal states. Mastery experiences occur when an individual completes a behavior with a level of mastery or success. Vicarious experiences occur when an individual observes the behavior being completed successfully by someone else. Mastery and vicarious experiences can be achieved in the classroom through activities such as peer review (Wagner & Rutherford, 2019). Social persuasion experiences occur when an individual feels supported and receives encouragement from acquaintances about their ability to successfully complete the behavior, which could be enforced through instructor support and encouragement in class and on assignment feedback, using efficacy cues (Merzdorf et al., 2019). Finally, internal states refer to physiological and emotional experiences that may help or hinder completion of the behavior, such as an adrenaline rush or increased anxiety (Bandura, 1986).

Agricultural educators have used self-efficacy frequently to assess student and teacher development (e.g. Haddad & Marx, 2018; McKim & Velez, 2016; McKim & Velez, 2017) and some applications of self-efficacy have been made in agricultural communication (Merzdorf et al., 2019; Bowman et al., 2018; Wagner & Rutherford, 2019). For example, Wagner and Rutherford (2019) examined students' perceived self-efficacy in graphic design. They found that students who participated in a peer review process had higher self-efficacy than those who did not (Wagner & Rutherford, 2019). Participants in a study at Texas Tech University who experienced writing apprehension described

it as an internal, personal struggle that they faced rather than something that they required someone to help them through, however they did identify the classroom as a safe space to overcome this apprehension (Ahrens et al., 2016). Another study that applied self-efficacy to writing apprehension found that completion of a writing intensive course increased students' writing self-efficacy and decreased their writing apprehension (Fischer & Meyers, 2017). Writing apprehension does not only affect students' confidence, but also their success, as found by Ruth and Emmert (2019). In this study, it was found that students with lower levels of writing apprehension had higher expectations for success in their writing (Ruth & Emmert, 2019). Merzdorf et al. (2019) applied the concepts of self-efficacy to recommendations for communicating about climate change. Efficacy cues were recognized as a messaging strategy to help audiences believe they could successfully make a difference in climate change. Efficacy cues could target internal efficacy – the ability of the individual to act, external efficacy – the belief that the action will be recognized and appreciated, and outcome efficacy – the belief that the act would make a difference (Hart & Feldman, 2016; Merzdorf et al., 2019). Bowman et al. (2018) used self-efficacy to explain extension agents' perceptions and adoption of communication technology. Positive feedback on performance was recognized as means to higher self-efficacy associated with technology use (Bandura, 1977; Bowman et al., 2019). The authors concluded that “if personnel perceive[d] themselves to be failing in use of a communication activity, self-efficacy in other areas may also decline” (Bowman et al., 2018, p. 11).

The Media Writer's Self Perception (MWSP) instrument has been used to describe undergraduate students in agricultural communication's writing self-efficacy at other institutions. In a study conducted at Texas A&M University, it was found that students who engaged in metacognitive reflection exercises throughout the semester increased their self-efficacy subscore in the MWSP instrument, as well as their overall score (Leggette et al., 2020). Additionally, this study found that lack of reflection caused students' self-efficacy and overall score to decrease (Leggette et al., 2020). Another study from Texas A&M University found that students who spent time using digital media were able to distinguish between professional writing and more informal writing online (Parrella et al., 2021). This study found that social media usage did not have an impact on students' MWSP scores (Parrella et al., 2021). A final study conducted at Texas Tech University found that students' participation in a writing intensive agricultural communication course specifically changed their writing apprehension, self-efficacy, and elaborative/surface subscores in the MWSP instrument (Lawson et al., 2021). The Texas Tech University study recommended that agricultural communications students' writing self-efficacy and writing subscores continue to be explored in other courses at other universities to increase understanding of student writing self-efficacy (Lawson et al., 2021). Our study is similar to Lawson et al.'s study but offers a look at writing self-efficacy at the introductory level rather than an advanced writing intensive course, meeting their call for additional studies. Understanding writing self-

AGRICULTURAL COMMUNICATION STUDENTS' MWSP

efficacy in an introductory agricultural communication course could provide insight to retention in the major and allow for targeted writing mentoring to those who could benefit from additional self-efficacy.

Purpose and Objectives

The purpose of this study was to understand students' writing perceptions in the context of an introductory agricultural communication course. In the context of this instrument and study, the term perception refers to the way someone views themselves, or in this case, views their own efficacy.

There were two research objectives:

1. Describe students' Media Writer's Self Perception scores at the beginning and end of the semester.
2. Statistically compare Media Writer's Self Perception scores at the beginning and end of the semester.

Methods

Data were collected via a pre- and post-test online survey in an introduction to agricultural communication course including two sections of students ($n = 30$) at The Ohio State University. One section of the course was offered at the main campus of Ohio State ($n = 23$), while the other section was offered at a regional campus ($n = 7$). Thirty-nine students were enrolled in the course but only 30 consented to participate in the research. Students in the course represented various college ranks, despite being an introductory course, as the course was a minor requirement, and this was the first semester the course was offered. Six of the enrolled students were minoring in agricultural communication and had majors in Astronomy and Astrophysics, Plant Health Management, Agribusiness, and Agricultural Systems Management. The majority ($n = 16$) of students enrolled in the course were sophomores, 10 were juniors, eight were seniors, and five were freshmen. The course consisted of five major writing assignments, three of which were journalistic writing assignments. No intervention was implemented, outside of normal class activities such as instruction, assignment feedback, and peer reviews. The lack of intervention was intentional to see how self-efficacy and writing perceptions naturally changed throughout an introductory agricultural communication course, given the emphasis of writing the course, the major, and the minor.

Data were collected after IRB approval. The pre-test survey was given during week 5 of the semester and the post-test was given during week 15 of the semester. Students earned weekly participation points for their participation in the research and were offered an alternative assignment if they wished to not participate in the research. A faculty member not associated with the course initially recruited students for the research to reduce coercion by the instructor. Additionally, each student was assigned an identification number that was detached from their name to simultaneously allow responses to remain anonymous and account for pre-post test matching.

The survey instruments were identical at the pre- and post-test and were based on the Media Writer's Self-

Perception scale (MWSP; Kuehn & Lingwall, 2018), which includes 50 questions. The MWSP scale measures five subscores of writing self-perception, as well as a total score. The five subscores included the Elaborative/Surface score, Reflective/Revisionist score, Writing Self-Efficacy score, Writing Apprehension score, and Social Media/Professional score. The Elaborative/Surface score measures how much students think about writing and the level they value it, these scores can be between a low of -13 and high of 31. Reflective/Revisionist score measures how much students review, edit, and revise writing before considering it a completed draft, these scores can range between -19 and 25. Writing Self-Efficacy score measures students' degree of confidence in writing skills like grammar, spelling, and formulating a piece of writing, and scores can range between 3 and 39. Writing Apprehension score measures students' writing anxiety and scores range between -13 and 31, while Social Media/Professional score measures a student's perception of social media writing and how important they feel it is to their career choice. Social Media/Professional scores ranges between -4 and 28 (Kuehn & Lingwall, 2018). Some researcher changes were made to the instrument to better align with the course content. These changes included changing specific language in questions that mentioned Facebook and Twitter to "social media." This change was made because students' social media writing in future careers will not be limited to only Facebook and Twitter, but to the broad landscape of all social media platforms. Additionally, the number and popularity of social media platforms, outside of Facebook and Twitter, was rapidly expanding at the time of data collection. A question that read "YouTube videos don't need the "textbook" production techniques taught in my program was also revised. The new questions read "Writing in the workforce doesn't need the "textbook" technique taught in my program." This change was made because the course did not focus on video production and many students would not have taken our video production course prior to taking this class. Each subconstruct was found to be reliable at $\alpha > .730$ except for the Social Media/Professional subconstruct ($\alpha > .601$).

Each subscore was calculated by summing the score from a set of questions and then subtracting the summation of another set of questions. The details of the scale questions and the calculations of each scale can be found in Kuehn and Lingwall (2018). The total MSWP score was calculated through the following equation:

$$MWSP = (ELScore + RRScore + SEScore) - (WAScore + SMPscore)$$

Total MSWP scores can range between a high of 112 and a low of -88. Students with higher total scores are more confident in their writing ability and skills, while students with lower scores are less confident. Kuehn and Lingwall (2018) provide the following interpretation guidelines for the total MWSP score.

The higher the score, the more you enjoy writing; the more you feel confident about your writing skills, the more you like to analyze and learn about your topic; the more you like to write in detail about your topic; the more you like to plan, rework, and

AGRICULTURAL COMMUNICATION STUDENTS' MWSP

revise your writing; and the more you like to take a professional approach to writing in your career. (p. 505)

On the other hand, students with low scores will experience higher writing anxiety and be more comfortable with less formal writing. Students with exceptionally low scores may not care about writing at all.

Data were analyzed using SPSS and descriptive statistics were used to find the average score for each subscore on the pre- and post-test. Normality was then analyzed through histograms and outliers through box plots. Assumptions were met. Finally, paired T-tests were run on the data to compare the pre- and post-test scores of the students. Two of the subscores, reflective/revisionist and social media professional, did not change between the pre- and post-test and therefore a paired T-test statistic was not calculated on these two subscores. T-tests were completed for the remaining three subscores and the total MWSP.

Results

Objective 1: Describe students' MWSP scores at the beginning and end of the semester.

Two of the subscores remained the same from the pre-test to the post-test (Table 1 and 2). The Reflective/Revisionist score and Social Media/Professional score both kept the same maximum, minimum, and average scores from the pre-test to the post-test. The average total MWSP score increased between the pre- (M = 26.833, SD = 22.659) and post-tests (M = 28.100, SD = 23.240). The average Elaborative/Surface score also slightly increased between the pre- (M = 7.766, SD = 6.906) and post-test (M = 7.966, SD = 6.397). Students' Writing Self-Efficacy score increased between the pre- (M = 25.833, SD = 5.948) and post-test (M = 27.033, SD = 6.343). Finally, Writing Apprehension score also increased between the pre- (M = 4.733, SD = 6.781) and post-tests (M = 4.866, SD = 7.398).

Objective 2: Statistically compare MWSP scores at the beginning and end of the semester.

All scores except Reflective/Revisionist score and Social Media/Professional score, which remained the same,

increased from the pre-test to the post-test. The differences observed in the remaining subscores were not significant (Table 3). The mean difference in the total MWSP score was 1.267. This difference was not significant.

Discussion

While there was not a significant difference between pre- and post-test scores for students' self-perception of their writing ability, all the scores did slightly improve on average, except for two subscores which remained the same. However, these increases in scores should be interpreted with caution due to the large standard deviations observed and the lack of statistical difference. The negligible or small differences in the pre- and post-tests could be explained by the varying stages in the academic career of students in the class, or the short time (10 weeks) between when the pre- and post-tests were administered. Furthermore, the wide dispersion of scores between the minimum and maximum for each subscore and total MWSP indicates varying levels of self-efficacy among the students in the class. This could be explained by varying ranks of students and/or minor versus major students, but further examination would be required to confirm these assumptions.

The total MSWP score averaged 28.1 at the end of the course, with the highest possible score being 112. Thus, overall students' perceptions of their writing seem to indicate neither confidence nor excessive writing anxiety (Kuehn & Lingwall, 2018). According to Kuehn and Lingwall (2018) individuals with total MWSP scores between 44 and 10, which is where the pre- and post-test means fell, moderately enjoy writing but may not spend much time writing. From a self-efficacy perspective, the results would suggest that on average students in the class had not experienced the mastery needed to significantly bolster their self-efficacy in writing (Bandura, 1986) and indicates a need for increase in student self-perception of media writing. Those students with lower MWSP scores likely have lower self-efficacy in writing, which may also impact their self-efficacy in other areas of communication (Bowman et al., 2018).

When looking at the subscores specifically, it is important to note that Elaborative/Surface scores and Reflective/Revisionist scores were relatively low in the range of possible scores, indicating that students struggle to think about and value writing and that they dedicate little

Table 1.

Pre-test Score Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Elaborative/Surface score	-6.00	26.00	7.766	6.906
Reflective/Revisionist score	-12.00	19.00	3.633	6.244
Writing Self-Efficacy score	15.00	38.00	25.833	5.948
Writing Apprehension score	-11.00	29.00	4.733	6.781
Social Media/Professional score	-2.00	16.00	5.666	4.079
MWSP Total	-14.00	96.00	26.833	22.659

AGRICULTURAL COMMUNICATION STUDENTS' MWSP

Table 2.

Post-test Score Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Elaborative/Surface score	-4.00	20.00	7.966	6.397
Reflective/Revisionist score	-12.00	19.00	3.633	6.245
Writing Self-Efficacy score	14.00	39.00	27.033	6.343
Writing Apprehension score	-10.00	21.00	4.866	7.398
Social Media/Professional score	-2.00	16.00	5.666	4.079
Total MWSP	-22.00	84.00	28.100	23.240

Table 3.

Pre- and Post-Test Paired Samples T-Tests

	<i>t</i>	<i>df</i>	Sig. (2-tailed)
Elaborative/Surface score	-.233	29	.817
Writing Self-Efficacy score	-1.624	29	.115
Writing Apprehension score	-.195	29	.847
Total MWSP	-.760	29	.453

effort to the review and revision process when it comes to writing. These findings could be reflective of a lack of external efficacy (Hart & Feldman, 2016; Merzdorf et al., 2019). Perhaps the students do not believe that their value in writing or ability to review and revise will make a difference in their success. Furthermore, the Writing Apprehension score slightly increased between the pre and post-test, although this difference was not statistically significant.

The Writing Self-Efficacy score increased by 1.2 from the pre-test to the post-test, but again this difference was not statistically significant. Writing Self-Efficacy scores measure students' degree of confidence in writing skills like grammar, spelling, and formulating a piece of writing. The posttest scores had a minimum of 14 and a maximum of 39, out of a possible range of 3 to 39. Thus, the results show some students reported complete self-efficacy while others were more moderate. While the Writing Self-Efficacy subscore was more focused on the mechanics of writing, the larger study was focused on the self-efficacy of the whole writing process including elaborating, revising, apprehension, mechanics, and different types of writing.

In addition, it is possible that the equation that is used to determine the total MWSP score should be modified because in its current form it subtracts Social Media/Professional score (social media writing) and Writing Apprehension score (writing anxiety) from the sum of the other subscores (Kuehn & Lingwall, 2018). While we are not arguing that the Writing Apprehension score should be moved in the formula, we question whether the Social Media/Professional score should be moved. It is currently subtracted from the

other scores based on the notion that social media writing is informal and does not hold the same professional weight as other writing. However, social media writing may not be appropriately positioned as unprofessional writing due to social media's role in many communication professions.

The lack of significant difference between pre- and post-test sub and total MWSP scores could indicate that information provided in introductory agricultural communication courses is not improving students' writing self-perception or that students overestimated their perceptions at the beginning of the course. Furthermore, the time between pre- and post-tests may not have been sufficient. More insightful results may be produced from conducting a pre-test during students' first semester in the major and the post-test in their last semester.

Recommendations for Practice

Educators in agricultural communication programs should seek to increase activities in their classrooms that give students opportunity for mastery, vicarious, social persuasion, and internal states to improve self-efficacy as described by Bandura (1986). This may include helping students to recognize their improvements and mastery throughout a course, while also helping them to see other's success through activities like peer review (Wagner & Rutherford, 2019). Instructors can also work to improve social persuasion experiences by placing an emphasis on showing support and offering encouragement. This can be done in class and on assignment feedback through the use

AGRICULTURAL COMMUNICATION STUDENTS' MWSP

of efficacy cues (Merzdorf et al., 2019). Lastly, capitalizing on positive internal states and working to reduce negative internal states among students could help to further increase efficacy. In addition, educators should encourage students to think more about their writing process and explain the benefits of revision to increase students Elaborative/Surface scores and Reflective/Revisionist scores. Educators could also use the MWSP results to identify students who need additional mentoring in writing.

Recommendations for Future Research

Future research should administer pre- and post-tests at the beginning and end of students' academic career to determine if their Media Writing Self-Perception score increases or decreases across their entire agricultural communication program. In addition, by administering these tests in introductory and capstone courses, the scores of students who entered college as agricultural communication students could be compared to those who changed majors or transferred to the university to determine if these factors affect students' self-perception of their media writing abilities. We also recommend examining student differences among those with high, moderate, and low scores. Exploration of MWSP scores among alumni who have been employed in the agricultural communication field for a period of time would also be of interest. For a study with alumni, those who are one year, five years, ten years and more post-graduation might be compared to understand if self-efficacy changes over the time spent in a career post-college. In addition, future research should closely assess the questions in the social media writing/professional writing subscore to improve reliability and to determine if these questions are appropriately placed within the MWSP equation for agricultural communication students. Additional research can explore demographic differences among MWSP scores to understand how we may be able to help students achieve overall writing self-efficacy. There may not be one approach to helping all students improve their overall writing self-efficacy. Specific classroom strategies, like the use of efficacy cues, peer reviews, assignment variation, and curriculum enhancements could also be assessed for their impact on MWSP.

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AGRICULTURAL COMMUNICATION STUDENTS' MWSP

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