Learning Styles and Motivations of Individuals Without Prior Exposure to Augmentative and Alternative Communication

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Purpose: Study purposes were to (a) examine achievement goal tendencies and learning mode preferences of adults who were unfamiliar with augmentative and alternative communication (AAC) facilitation, and (b) determine whether age and gender have an effect on these variables. Recruitment of untrained individuals allowed the researchers to simulate the experiences of individuals in the early stages of AAC facilitation. **Method:** Forty-one adults who were untrained in AAC facilitation completed surveys examining (a) achievement goal tendencies across 3 domains: mastery, performance, and social, and (b) learning mode preference across 4 domains: independent, small group, case study, and step-by-step. Participants were divided into groups on the basis of age (i.e., 26–40 years and 45–65 years) and gender (i.e., 16 males, 25 females). **Results:** Results indicate that participants were motivated to learn for mastery rather than social and performance purposes. In addition, they indicated a preference for learning through case studies. Younger adults rated performance and social learning higher than older adults. Also, women preferred small group instruction. **Discussion/Conclusions:** Facilitators play a vital role in successful AAC intervention, yet they often lack instruction to effectively fulfill this role. Clinicians should consider age and gender when designing instruction programs for these individuals. **Key words:** *augmentative and alternative communication*, *caregivers*, *facilitators*, *instruction*, *learning styles*

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LIFE experiences often create a need for new learning. This is evident for augmentative and alternative communication (AAC) facilitators who must learn to provide the day-to-day, long-term support necessary for those with complex communication needs due to acquired neurological communication disorders. Although most members of the AAC personnel framework (e.g., AAC specialists, general practice clinicians) have participated in formal, specialized instruction and training and may even have years of experience working with individuals with complex communication needs, facilitators typically lack this training and experience (Ball, Schardt, & Beukelman, 2005; Beukelman, Ball, & Fager, 2008). Rather, they assume their role in

response to unforeseen circumstances such as the onset of a neurological event (e.g., traumatic brain injury, stroke) or disease (e.g., amyotrophic lateral sclerosis) of a family member or friend. As such, AAC facilitators are generally selected for their relationship, proximity, and willingness to provide daily support to individuals who rely on AAC, rather than their technological savvy or their educational preparation (Ball et al., 2005).

ROLES OF AAC FACILITATORS

Regardless of their lack of formal AAC instruction, facilitators play a vital role in supporting individuals who rely on AAC (Ball et al., 2005; Beukelman, 1991; Beukelman et al., 2008; Fager, Hux, Beukelman, & Karantounis, 2006; Johnson, Inglebret, Jones, & Ray, 2006; O'Keefe, Kozak, & Schuller, 2007). Beukelman et al. (2008) reported on the varied tasks AAC facilitators assume, including system maintenance for high-technology AAC devices (e.g., updating software, battery charging, and cleaning), addition of new content, and instruction of unfamiliar communication partners. Facilitators may also act as communication liaisons by interacting with device manufacturers and distributors. For those who rely on AAC and also experience concomitant physical disabilities, facilitators may assist with device setup as well. Many facilitators provide assistance in all of these areas. Considering the varied nature of the support that these individuals provide and the importance of the role they play, it is essential that they receive proper instruction and practice to effectively support individuals who rely on AAC.

Properly prepared, motivated facilitators can enable the individuals whom they support to use their AAC systems to communicate wants and needs; participate in medical, legal, financial, and family decisions; share social information; and express their thoughts and emotions. Individuals who effectively utilize AAC are also more equipped for academic (Kravits, Kamps, Kemmerer, & Potucek, 2002), employment (McNaughton, Light, & Arnold, 2002; McNaughton, Light, & Groszyk, 2001), and personal success. In addition, effective use of AAC can lead to improved maintenance of previously held social roles and even aid in the development of new social roles (Dietz et al., 2013).

Lack of facilitator preparation can have serious repercussions for individuals who rely on AAC. When vocabulary is not updated, and systems are not maintained, individuals who rely on AAC may fail to maintain social relationships, report on current events, and communication effectiveness in academic, medical, and employment/volunteer settings could suffer. Ultimately, AAC device abandonment may occur when a facilitator is no longer available (Fager et al., 2006).

FACILITATOR INSTRUCTION AND TRAINING

In an effort to document the challenges and benefits associated with supporting individuals who rely on AAC, researchers have conducted studies examining the thoughts, opinions, and experiences of facilitators (Angelo, Jones, & Kokoska, 1995; Goldbart & Marshall, 2004; O'Keefe et al., 2007). A common theme that emerged from these studies was the need for more training or instruction than was routinely provided. Specifically, Goldbart and Marshall (2004) found that parents of children who relied on AAC often felt overwhelmed with the high level of responsibility and demands associated with device implementation and indicated a need for increased instruction to improve their ability to support the communication of their children. In addition, Angelo et al. (1995) reported that nearly 50% of facilitators of children who relied on AAC indicated a need for increased knowledge regarding AAC devices. Although a majority of the research reported on AAC facilitators focuses on the parent–child relationship, results from these studies are likely consistent with those experienced by facilitators of adults who rely on AAC; however, further research is necessary.

Most speech–language pathologists (SLPs) are aware of the need for education for inexperienced AAC facilitators (Johnson et al., 2006); however, they may be unsure of the best way to deliver instruction. Researchers have documented instructional programs to be used as models for speech pathologists (Light, Dattilo, English, Gutierrez, & Hartz, 1992; McNaughton & Light, 1989; Starble, Hutchins, Favro, Prelock, & Bitner, 2009). Although informative, these studies focused heavily on how individuals providing instruction prefer to deliver it, whereas little emphasis was placed on the motivations and learning preferences of inexperienced facilitators. Hence, further examination of the learning motivations and instructional preferences of those receiving training is essential to ensure the most effective instruction possible.

ACHIEVEMENT GOAL TENDENCIES

In the early 1980s, researchers began to examine the individual motivations, referred to as achievement goals, associated with learning new information or procedures (Nicholls, 1984). Three specific achievement goal tendency profiles were identified from this research: mastery, performance, and social (Elliot & Harackiewicz, 1996). Mastery-focused individuals are motivated to learn to become competent and master a particular task. Performance learners focus on learning content to perform a task or to reach a goal, and social learners learn in order to avoid social rejection or to gain social acceptance. Thus, those engaged in mastery learning have a desire to learn more to completely understand a task or area of study whereas performance and social learners focus more on learning to be sufficiently competent to perform a task to a particular level of expectation. So, when performance and social learners reach their desired level of competence, their interest and motivation to learn more may taper off, whereas mastery-oriented learners tend to continue learning beyond what is necessary for sufficient performance. Measuring propensity toward these three achievement goal tendencies allows for a clearer understanding of what motivates an individual to learn new information (Elliot & Harackiewicz, 1996).

In an attempt to understand the learning motivations of members of the AAC personnel framework, researchers examined the achievement goal tendencies of AAC specialists (Burke, Beukelman, Ball & Horn, 2002), general practice clinician (Beukelman, Hanson, Hiatt, Fager, & Bilyeu, 2005), and preprofessional students (Beukelman, Burke, Ball, & Horn, 2002). Results from these studies indicate that both AAC specialists and general practice clinicians were motivated to learn more for mastery than performance or social reasons, and social learning was rated lower than either mastery or performance learning (Beukelman et al., 2005; Burke et al., 2002). Results indicated that preprofessional students were motivated more to learn in order to perform a task and were less motivated to master content or for social acceptance (Beukelman et al., 2002). Results from these studies shed light on the learning motivations of select members of the AAC personnel framework; however, little evidence exists regarding the motivation of individuals who have not received training and instruction in AAC.

LEARNING MODE PREFERENCES

In addition to understanding the learning motivations of those involved in the AAC personnel framework, researchers have examined the learning mode preferences, that is, the environment or context in which an individual prefers to learn (Beukelman et al., 2002; Beukelman et al., 2005; Burke et al., 2002). The four specific learning modes outlined in this research include independent, small group, case study, and step-by-step learning. Independent learning refers to learning without the support of others. Small group learning refers to learning in a social context with others. Case study learning refers to learning information that is relevant and can be used for a specific purpose or type of individual. Step-by-step learning refers to supported learning in which information is

presented in a stepwise fashion. Previous research indicates that AAC specialists preferred to learn independently, in groups, and through case studies; however, they rated step-by-step learning as far less preferable (Burke et al., 2002). General practice clinicians also indicated a desire to learn through case studies, yet they did not prefer to learn independently (Beukelman et al., 2005). Finally, preprofessional students preferred to learn independently and rated step-by-step learning relatively low (Beukelman et al., 2002).

Although previous research has examined the achievement goal tendencies and learning mode preferences of several members of the AAC personnel framework (Beukelman et al., 2002; Beukelman et al., 2005; Burke et al., 2002), limited research exists examining the preferences and motivations of AAC facilitators. Given the essential role that these individuals play in the implementation and upkeep of AAC systems and their need for training and instruction, identifying the learning motivators and preferred learning modes of these individuals is crucial for effective AAC implementation. It is especially critical to examine the learning motivations and preferences of individuals with no prior exposure to AAC, as these individuals could be representative of early-stage facilitators who are naïve to the use of AAC and will likely present with fewer learning biases based on previous experiences. Hence, the purposes of this preliminary, exploratory study were (a) to examine the achievement goal tendencies and learning mode preferences of individuals untrained in AAC, that is, people who have not received training on AAC facilitation, and (b) to investigate the effects of age and gender on achievement goal tendencies and learning mode preferences.

METHODS

Participants

The researchers recruited 41 adults ranging in age from 26 to 65 years ($M = 43.46$, $SD = 12.9$) to participate in this investigation. None of the recruited participants were active AAC facilitators at the time of the study or had direct experience with AAC. Recruiting people who were untrained in AAC facilitation allowed the researchers to study the effects of age and gender on the learning motivations and instructional preferences of individuals who had not yet received training on caregiving and facilitation. As such, participants from this study were more likely to be representative of those individuals in the early stages of facilitating than those with extensive prior experience who may have been biased either in favor or opposition of their prior training. Participants were recruited both through convenience and snowball sampling methods. Thus, initial participants were recruited from the researchers' personal contacts and then further data collection occurred as a result of word-of-mouth recruiting by these participants. Of the 41 participants, 16 were male and 25 were female. The greater percentage of females is reflective of the general trend in facilitators, as females have been shown to act as AAC facilitators more often than males (Ball et al., 2005). Twenty-one participants were between the ages of 26 and 40 years and 20 participants were between the ages of 45 and 65 years. No significant differences were noted in age between the male ($M = 42.94$; $SD = 13.05$) and female ($M = 43.80$; $SD = 13.06$) participant groups, $t(39) = -0.206$, $p = .918$. All participants were native English speakers who had completed a high school education. No participants were preprofessional students, SLPs, nurses, or rehabilitation therapists.

Materials

Participants completed both the Achievement Goal Tendencies Questionnaire and the Learning Mode Preferences Questionnaire (Beukelman et al., 2002; Beukelman et al., 2005; Burke et al., 2002). These questionnaires were developed to examine the learning motivations and the learning mode tendencies of members of the AAC personnel framework.

Achievement goal tendencies questionnaire

The Achievement Goal Tendencies Questionnaire (Burke et al., 2002) evaluates the learning motivation tendencies of people to determine whether they are geared toward learning for mastery, performance, or social reasons. The questionnaire consists of 20 Likert-style questions with 1- to 5-point ratings possible per question. Of the 20 questions administered, eight questions measure mastery learning tendencies (e.g., I learn because I am very curious; I learn because I like to know new things), six measure performance learning tendencies (e.g., I learn because I want to get good evaluations), and six measure social learning tendencies (e.g., I learn because I want to be noticed by my friends; I learn because I want people to see how smart I am). Scores on each item were combined and the averages yield a total score for each domain (i.e., mastery, performance, and social). Higher scores indicate increased tendency toward a particular domain.

Learning mode preferences questionnaire

The Learning Mode Preferences Questionnaire (Burke et al., 2002) was designed to measure individuals' preferences for technology learning style or environment. Previous researchers have assessed various members of the AAC Personnel Framework's preferences for learning AAC technology (Beukelman et al., 2002; Beukelman et al., 2005; Burke et al., 2002), but because participants in this study had no experience with AAC, the current researchers modified the questionnaire to rate participant preference for learning computer technology (see Appendix A). The questionnaire consists of four questions asking participants to rate their preference for independent, small group, case study, and step-by-step learning. Scoring was based on 1- to 6-point Likert-type scale ratings of each learning mode. Higher scores indicated preference for a specific learning mode.

Procedures

The authors made both questionnaires (i.e., achievement goal tendencies questionnaire and learning mode preferences questionnaire) available online through a Web-based survey generator (freeonlinesurveys.com) and sent links to the surveys via e-mail to 68 potential participants of various ages, living in seven Midwestern states within the United States. Although potential participants were invited to complete the survey, they were not required to do so, and, as such, they self-selected for participation in this study. Participants were instructed to complete the surveys at a personally convenient time. Total time for participation was approximately 10 min. Although participants could complete the two surveys at different times, each survey had to be finished in its entirety in one session for the results to be tabulated. After participants completed each survey, the results appeared on the online survey program's results page for later retrieval by members of the research team.

Reliability

Approximately 6 months after initial data collection, the researchers readministered both questionnaires to five participants (12.2% of the sample). Results of Cronbach's α testing revealed a high level of intra-rater reliability both for the achievement goal tendencies questionnaire ($\alpha = .881$) and the learning mode preferences questionnaire ($\alpha = .839$; Nunnally, 1978).

Data analysis

Given that ordinal data were collected for this investigation, completion of parametric statistics such as analysis of variance was not ideal. Rather, the researchers conducted series of nonparametric Friedman's tests, Wilcoxon signed rank tests, and Mann–Whitney U tests to examine the data. Specifically, Friedman's tests were used as omnibus tests to determine whether significant differences existed among scores for each of the domains (e.g., mastery, performance, social) for each of the two questionnaires. Wilcoxon

signed rank tests were employed for post hoc analysis to determine whether significant differences were noted between domains, and Mann–Whitney *U* tests were employed to measure between group differences for age and gender. To control from Type I error, the researchers applied appropriate Bonferroni corrections for each of the tests involving multiple comparisons. Corrected *p* values are presented for each comparison in the "Results" section.

RESULTS

Achievement goal tendencies

Calculation of descriptive statistics revealed that overall, participants tended to rate mastery learning ($M = 3.52$; $SD = 0.72$; median $= 3.63$; range $= 1.75$–4.50) higher than performance ($M = 3.01$; $SD = 0.82$; median $= 2.83$; range $= 1.00$–4.50) or social ($M = 2.03$; $SD = 0.71$; median $= 1.83$; range $= 1.00$–3.67) learning. Computation of a nonparametric Friedman's test revealed a significant effect for achievement goal tendency $\chi^2(3) = 50.398$, $p < .001$. Follow-up testing with a series of Wilcoxon signed rank tests (corrected $p < .017$) revealed that participants rated mastery learning significantly higher than performance learning ($Z = -2.917$, $p = .003$) and social learning ($Z = -5.514$, $p < .001$). In addition, performance learning was rated significantly higher than social learning ($Z = -5.150$, $p < .001$).

Age effects

Descriptive statistic results for achievement goal tendency by age are presented in Figure 1. Calculation of descriptive statistics by age groups revealed that both younger and older participants rated mastery learning higher (younger $= M = 3.51$; $SD = 0.84$; median $= 3.63$; range $= 1.75$–4.50; older $= M = 3.52$; $SD = 0.59$; median $= 3.69$; range $= 2.25$–4.38) than performance (younger $= M = 3.36$; $SD = 0.62$; median $= 3.33$; range $= 2.17$–4.33; older $= M = 2.64$; $SD = 0.86$; median $= 2.67$; range $= 1.00$–4.50) and social (younger $= M = 2.21$;
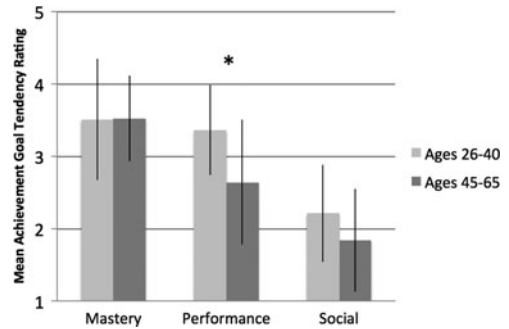

Figure 1. Mean achievement goal tendency scores by age group. Error bars denote standard deviation. Asterisk denotes significance.

$SD = 0.67$; median $= 2.00$; range $= 1.17$–3.67; older $= M = 1.84$; $SD = 0.71$; median $= 1.67$; range $= 1.00$–3.33) learning. Computation of Mann–Whitney *U* testing revealed significant differences between age group for performance learning ($U = 97.00$, $p = .003$), as younger participants rated performance learning higher than did older participants. No significant differences were noted for mastery learning between age groups ($U = 197.00$, $p = .742$) or social learning ($U = 135.50$, $p = .51$); however, results were approaching significance for social learning with younger participants rating social learning higher than older participants.

Gender effects

Descriptive statistic results are presented in Figure 2. Calculation of descriptive statistics by gender revealed that both males and
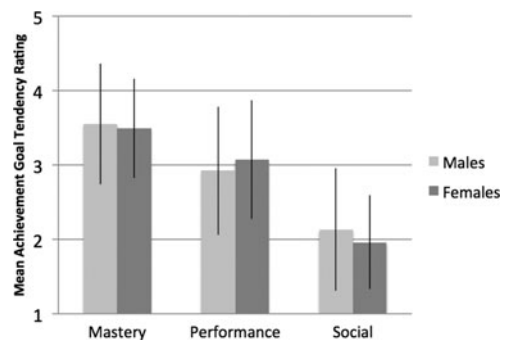

Figure 2. Mean achievement goal tendency scores by gender. Error bars denote standard deviation.

females rated mastery learning higher (males = $M = 3.55$; $SD = 0.81$; median = 3.69; range = 1.75–4.57; females = $M = 3.49$; $SD = 0.67$; median = 3.63; range = 2.25–4.50) than performance (males = $M = 2.92$; $SD = 0.86$; median = 2.92; range = 1.50–4.17; females = $M = 3.07$; $SD = 0.80$; median = 2.83; range = 1.00–4.50) and social (males = $M = 2.13$; $SD = 0.82$; median = 2.00; range = 1.17–3.67; females = $M = 1.96$; $SD = 0.63$; median = 1.83; range = 1.00–3.17) learning. Results from Mann–Whitney U testing to examine the effect of gender on achievement goal tendencies revealed no significant differences between males and females for mastery ($U = 187.00$, $p = .736$), performance ($U = 177.00$, $p = .546$), or social ($U = 184.00$, $p = .676$) learning.

Learning mode preference

Calculation of descriptive statistics for learning mode preference revealed that overall, participants tended to rate case study learning highest ($M = 4.85$; $SD = 1.47$; median = 5.00; range = 1.00–6.00), followed by group learning ($M = 4.05$; $SD = 1.41$; median = 4.00; range = 1.00–6.00), then step-by-step learning ($M = 3.90$; $SD = 1.49$; median = 4.00; range = 1.00–6.00), and finally, independent learning ($M = 3.63$; $SD = 1.45$; median = 4.00; range = 1.00–6.00). Computation of a nonparametric Friedman's test revealed a significant effect for learning mode preference, $\chi^2(4) = 15.097$, $p = .001$. Follow-up pairwise comparisons using a Wilcoxon signed rank test (corrected $p = .0083$) revealed significant differences between case-based learning and the other three learning mode preference types (i.e., independent, group, and step-by-step). Specifically, participants indicated greater preference for case-based learning than independent ($Z = -3.481$, $p < .001$), step-by-step ($Z = -3.330$, $p < .001$), and group learning ($Z = -3.063$, $p = .001$). No significant differences were noted between group and independent learning ratings ($Z = -1.225$, $p = .223$), group and step-by-step learning ratings ($Z = -0.818$, $p = .423$), and independent and step-by-step learning ratings ($Z = 0.668$, $p = .512$).

Age effects

Descriptive statistic results for learning mode preference by age are presented in Figure 3. Descriptive results revealed that both younger ($M = 4.71$; $SD = 1.19$; median = 5.00; range = 1.00–6.00) and older ($M = 5.00$; $SD = 0.97$; median = 5.00; range = 1.00–6.00) participants rated case study learning highest of the four learning mode preferences. In addition, younger participants rated independent learning ($M = 3.76$; $SD = 1.70$; median = 4.00; range = 1.00–6.00) higher than step-by-step learning ($M = 3.43$; $SD = 1.60$; median = 3.00; range = 1.00–6.00) and lower than group learning ($M = 3.81$; $SD = 1.44$; median = 4.00; range = 1.00–6.00). Older adults rated independent learning ($M = 3.50$; $SD = 1.36$; median = 3.50; range = 1.00–6.00) higher than both group ($M = 4.30$; $SD = 1.22$; median = 5.00; range = 1.00–6.00) and step-by-step learning ($M = 4.40$; $SD = 1.35$; median = 5.00; range = 1.00–6.00). Computation of a series of Mann–Whitney U tests revealed no significant differences between younger and older participants for the independent ($U = 187.50$, $p = .552$), group ($U = 168.00$, $p = .261$), case-based ($U = 183.00$, $p = .422$), or step-by-step ($U = 140.00$, $p = .06$) learning modes.

Gender effects

Descriptive statistic results for learning mode preference by gender are presented in Figure 4. Descriptive results revealed that
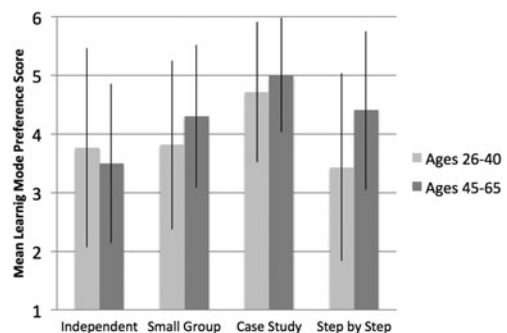

Figure 3. Mean learning mode preference ratings by age group. Error bars denote standard deviation.
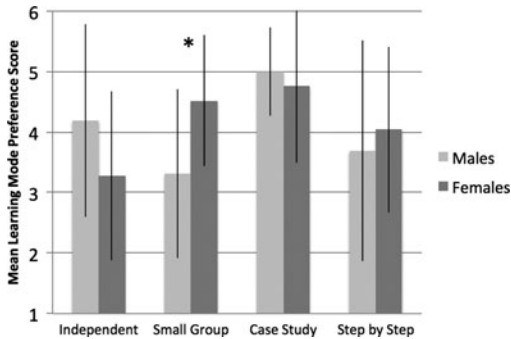
Figure 4. Mean learning mode preference ratings by gender. Error bars denote standard deviation. Asterisk denotes significance.

male participants tended to rate case study learning highest ($M = 5.00$; $SD = 0.73$; median $= 5.00$; range $= 3.00$–6.00), followed by independent learning ($M = 4.19$; $SD = 1.60$; median $= 5.00$; range $= 2.00$–6.00), then step-by-step learning ($M = 3.69$; $SD = 1.82$; median $= 4.00$; range $= 1.00$–6.00), and, finally, group learning ($M = 3.31$; $SD = 1.40$; median $= 4.00$; range $= 1.00$–5.00). This is in contrast to female participants who tended to rate case study learning highest ($M = 4.76$; $SD = 1.27$; median $= 5.00$; range $= 1.00$–6.00), followed by group learning ($M = 4.52$; $SD = 1.08$; median $= 5.00$; range $= 2.00$–6.00), then step-by-step learning ($M = 4.04$; $SD = 1.37$; median $= 5.00$; range $= 1.00$–6.00), and finally independent learning ($M = 3.28$; $SD = 1.40$; median $= 3.00$; range $= 1.00$–5.00). Computation of a series of Mann–Whitney U tests revealed that female participants rated group learning significantly higher than male participants ($U = 102.50$, $p = .008$). No significant differences between males and females were noted for independent ($U = 130.00$, $p = .053$), case-based ($U = 190.50$, $p = .782$), or step-by-step ($U = 180.50$, $p = .606$) learning.

DISCUSSION

The results of this study indicated that individuals without prior training in AAC facilitation were motivated to learn to master content and, to a lesser extent, to perform well on tasks. Learning for social purposes appeared to be somewhat less motivating. Although gender did not appear to affect these results, differences were noted between younger and older participants. Specifically, younger participants indicated a greater preference for learning to perform well on a task and for social reasons.

In addition to learning motivations, examination of learning mode preference results indicated that participants rated learning in the context of a case study higher than all other learning modes. Although age did not appear to be a factor in learning mode preference, gender differences were noted. Specifically, females tended to rate learning in small groups higher than males.

Findings across the AAC personnel framework and clinical implications

The results of this investigation add to a growing body of literature examining the learning motivations and preferences of various members of the AAC personnel framework (Beukelman et al., 2002; Beukelman et al., 2005; Burke et al., 2002). When comparing across these groups, several factors become apparent. First, the high scores in case study learning for individuals without prior training in AAC are representative of previously examined groups including AAC specialists (Burke et al., 2002), regular members of AAC teams (Beukelman et al., 2005), and preprofessional students (Beukelman et al., 2002). Taken together, these scores reflect a unique trait of adult learners—that is, the desire for the knowledge transmitted to be relevant (Knowles, Holton, & Swanson, 1998). As such, those providing instruction to AAC facilitators should avoid teaching extraneous information and focus solely on those elements that are most essential. It may also be beneficial to provide a strong rationale for the relevance of the information presented to facilitators to improve their motivation to learn important information.

The second finding of interest across members of the AAC personnel framework is that as adults age, they appear to become

increasingly less performance motivated and instead, they learn to master content. Perhaps this is due to the fact that younger adults have a need to prove their ability and must perform well for career advancement. Regardless of the reason, motivation is a vital factor in learning (Pintrich, 2003). When motivated to learn a new skill, people are generally more likely to persist in attempts until they can execute that skill. As such, SLPs should examine the motivations of those with whom they are instructing because low levels of motivation may result in decreased follow-through and increased potential for device abandonment. Focusing more on the benefits of AAC for individuals with complex communication needs and less on providing social praise or rewards may be more motivating to these individuals, given their desire to learn relevant information and their reduced need for social accolades.

Many similarities in learning preferences and motivations are noted across members of the AAC personnel framework, as AAC specialists, general practice clinicians, and the current group of participants all rating learning for mastery relatively high and learning for social purposes relatively low. In addition, specialists, general practice clinicians, and the current group of participants all indicated high ratings for case study learning; however, individual differences were also noted. It is for this reason that SLPs must work to identify each individual facilitator's motivations and learning mode preferences before initiating training. It is also essential that SLPs monitor their own learning mode preference biases as this could potentially influence the nature of the instruction they provide to AAC facilitators. Administering the questionnaires utilized in this investigation could be a helpful first step in making many of these determinations.

Study limitations and future research directions

The results of this exploratory study must be considered in light of potential study limitations that could influence the strength of the findings and the nature of future research directions. Specifically, the study population and the application of the findings must be considered. First, participants in the current investigation were not acting as AAC facilitators and likely had limited experience with individuals with complex communication needs. Examining the preferences and motivations of individuals who have not had experience with AAC may seem counterintuitive; however, inclusion of these individuals allowed us to examine learning preferences and motivations without the potential bias that could result from having received previous instruction. In addition, because facilitators typically assume their role in response to unforeseen occurrences and that AAC intervention is often recommended relatively early in the disease progression or recovery process, the participants in this study likely are representative of those whom SLPs encounter when initiating facilitator education.

The second limitation of the recruited participants was that these individuals self-selected to participate in this study. Self-selection could have resulted in a biased sample, which would limit the generalizability of findings. In addition, the lack of data collected regarding participant background and ethnicity could also limit the applicability of the findings, as facilitators are a diverse group with various life experiences that could influence their learning motivations and preferences.

Future research is needed to determine whether the results found in this study are consistent with those of active AAC facilitators. In addition, research investigating the specific achievement goal tendencies and learning mode preferences of various types of facilitators is also necessary. Teachers, parents, friends, and any other people acting as facilitators most likely have different relationships with people who rely on AAC, and as such, they may approach the task of facilitation in a different manner. Finally, future research should be conducted examining the relation between self-efficacy and

learning mode preference, as previous research has indicated that this could be a variable that influences the way in which members of the AAC personnel framework prefer to learn (Beukelman et al., 2005).

A third limitation of the current study is the lack of conclusive evidence to ensure the effectiveness of the various learning modes described in the study. Specifically, the participants were asked to rate their preferences for various learning modes; however, learning preference may not completely align with instructional effectiveness. Future research is necessary to investigate the effectiveness of actual instructional programs for AAC facilitators.

CONCLUSION

Facilitators play a crucial role in assisting individuals who rely on AAC; however, they often lack the necessary education and instruction to completely fulfill this role. The SLPs must identify the most effective methods of instruction for these individuals. The results of this investigation indicate that age may influence the learning motivations and that gender may influence the learning mode preferences of potential facilitators. Further research is necessary to fully understand how and to what extent learning motivations and preferences influence the success of facilitator education and training.

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Appendix A. Learning mode tendencies questionnaire

Please rate how you feel about the 4 technology learning strategies listed below.
1 = Strongly disagree
2 = Disagree
3 = Slightly disagree
4 = Slightly agree
5 = Agree
6 = Strongly agree
NA = Does not apply
_____1. I prefer learning computer technology by myself using available materials—such as the devices, manuals, and tutorials.
_____2. I prefer learning computer technology with a group of others using the available materials—such as the devices, manuals, and tutorials.
_____3. I prefer learning computer technology for a specific purpose.
_____4. I prefer learning computer technology through detailed (step by step) presentations.