

**Evaluating the Effectiveness of the ACT AS IF® Program for Social Communication:
An Outcomes Study
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Laura Wahl McAlpine, M.Ed. CCC- SLP, is Senior Speech Language Pathologist at Interactions Speech Language Pathology in McLean, VA. The practice is a for profit pediatric and adolescent speech language pathology group which provides treatment for speech language impaired individuals whose parents seek treatment privately. Laura Wahl McAlpine and Lisa Jan Sherman, actor, provide social communication intervention through their co-facilitated and co-created ACT AS IF® program. This 2017 study was carried out in order to provide efficacy data on the ACT AS IF® program as an effective treatment for social communication deficits. (*interactionsslp.com and ACTASIFproducts.com*)

Abstract:

Using pre and post treatment scores on the Pragmatics Profile from the *Clinical Evaluation of Language Fundamentals- 5* (CELEF-5), (Wigg, Semel, Secord, 2013), with a sample of 27, scores were analyzed for improvement across domains of: Rituals and Conversation, Asking for and Responding to Information and Nonverbal Communication, with ACT AS IF® as the intervention for social communication improvement. The program was co-created by Lisa Sherman, actor, and Laura McAlpine M.Ed. CCC-SLP, using improvisational acting techniques to target pragmatic language deficits. Participants were screened and grouped according to age and social communication deficit level and enrolled in the ACT AS IF® program. The number of sessions attended between pre and post treatment scoring varied according to clinician and parent decisions for continuing and scheduling variables. Resulting treatment times ranged from 7-68 hours, with a mean of 23 hours, and a Standard Deviation of 14. All participants involved in this study maintain a diagnosis of either a Social Communication Disorder (ICD-10 F 80.89), or an Autism Spectrum Disorder (ICD-10 F84.0), according to the DSM-5 criteria. Participants exhibited an average gain of 15 points on the CELEF - Pragmatics Profile. A paired t-test of participant gains shows that this average gain is significantly different from zero, $p < .00001$. The average gain corresponds to an increase of 0.6 standard deviation in pragmatic functioning.

Background:

Improvisational Acting and Pragmatic Language Treatment

The use of improvisational acting provides the opportunity to keep a communicative exchange moving forward. Both isolated skill building and improvised scene discourse practice is facilitated as a result. Laura Wahl McAlpine, M.Ed. CCC-SLP, and Lisa Jan Sherman, actor, have offered the Act As If® program, at Interactions Speech Language Pathology practice, in McLean, VA, since 2005. According to Lisa Jan Sherman, improvisational actor, co-founder of the ‘Now This’ improvisation Troupe in Washington D.C., and co-creator of the ACT AS IF® program for social communication, “As Actors, we build characters, working from scripted words and dialogue and there isn’t any room for a ‘redo.’ There are actors, there is a director, yet the suggested motivations and outcomes are within the confines of a script. Improvisational acting, allows for individuals to stay true to themselves and their core personality.” With respect to ACT AS IF®, Lisa notes that “The actor and therapist serve more as organic ‘guides’ rather than just direct.” In ACT AS IF®, non-verbal actions or verbal communication choices are ‘in the moment,’ and individuals can renegotiate, and experience an immediate outcome. Improv

keeps interaction in a more natural ‘frame.’ With respect to improvisation, when the choice in communication made is not socially ideal, this practice or rehearsal allows for a ‘do-over’ or ‘fix-it’ with the goal of allowing individuals to feel prepared and more confident in future exchanges.

Improvisation does not incorporate scripted plays. Evidence for such use of drama, was cited in the *Journal of Autism and Developmental Delays* (2011). The SENSE (Social Emotional Neuroscience Endocrinology) Theatre’s program for children with Autism Spectrum Disorder, reported outcomes in a pilot investigation (Corbett, et. al, 2010). Results of this investigation revealed some improvement in face identification and theory of mind skills. The authors also noted “potential promise” in improving the socioemotional functioning in children with autism spectrum disorder. The participants in this study were part of a full musical production of “The Jungle Book Kids.” To date, there is limited information available on the efficacy of improvisation and social skill development using a systematic weekly program such as ACT AS IF®. A 2012 review of evidence-based treatment of school age language impaired children with social interaction difficulties was conducted by Gerber, et.al (2012). The purpose of the study was to assess the efficacy of treatment programs for pragmatic language intervention. The review provided preliminary support for “various” treatment procedures addressing social communication behaviors. Gains were reported for topic management skills, narrative production, and repairs of inappropriate comments, yet concluded with “more research is needed to examine the feasibility of interventions that focus on children’s language use.”

ACT AS IF ® Program:

The ACT AS IF® program, is a weekly, one hour treatment method, integrating pragmatic language targets through improvisational activities, as a therapeutic tool for improved social communication. Improvisation allows for in-the-moment communication, and along with warm-ups, skill practice, and scene work, this specific targeted intervention was created for a co-facilitated group class. While improvisation is the core modality of program, explicit teaching of verbal/nonverbal skills and social cognition is inherent in the program. Core foundational skills are taught through the mnemonics: FEE- which represents securing an initial exchange through: **F**ace your partner(s), **E**ye contact, and **E**ars for listening, NESS- which prompts for ongoing active engagement through: **N**od for affirmation, **E**ye contact, **S**ilent to listen, and **S**peaking when it’s your turn. PESH is a cue for entering a communication scenario, and prompts for establishing a good first impression, denoting: **P**osture, **E**ye contact, **S**mile, and **H**ello (hi, handshake, or some greeting).

Being mindful of the therapeutic process, the program targets objectives moving from imitation to independence in dynamic communication. Students engage in verbal and nonverbal interactive skill building with modeling, prompting, and practice, allowing for replays, and ‘fix it’ scenes. Developing peer/people relatedness skills is an overarching objective of the program. The program addresses: social rituals, conversation, asking/responding to information, nonverbal skills, and engagement in activities to develop communication skills that foster leadership and confidence. The targeted sub-objectives in the ACT AS IF® program are noted in **Table 1**.

During each hour session, three activities take place: a warm-up, a skill rehearsal, and scene work, taken from *Act As If Improvisational Activities for Social Communication* (McAlpine

and Sherman, 2017). The verbal and nonverbal **warm-ups** provide for brief physical movement exercise or verbal activity to direct participants to the communication event. **Skill building/rehearsal** activities are fashioned to practice explicit skills for that class, and **scene work** is used to set up dynamic communication scenes often on “stage.” This scene work allows students to interact and engage in ‘fix it’ scenarios, and replays to reinforce appropriate discourse skills.

Table 1: Treatment Objectives in ACT AS IF ®

CONVERSATIONAL SKILLS
Conversation- initiating/ending
Turn taking/reciprocity
Topics of Conversation - Appropriate, related
Maintaining Conversation with nods, “mm-hmm”
Adding to Conversation
Avoiding redundant information
Adjusting conversation depending upon speaking partner
Jokes- understanding/telling related to situation, nonliteral thinking
Sense of humor
Joining conversation/leaving/sharing the moment
Use appropriate strategy to get attention
Greetings- making and responding to
Interrupting appropriately

ELICITING AND RESPONDING TO INFORMATION
Giving/asking directions
Giving /asking for the time of events
Giving asking for reasons/causes
Giving/ Asking for help from other
Giving/accepting apologies
Giving/asking for advice/suggestions
Asking for permission
Agreeing/disagreeing
Asking for clarification
Accepting rejection
Negotiating- verbal/nonverbal
Reminding others/responding to reminders
Asking others to change their actions-

Accepting and responding to others requests or information;flexibility
Rules-understanding explicit and implied

NONVERBAL SKILLS
Facial cues perception
Expression of facial cues
Vocal intonation/ pitch/ prosody/volume/rate
Nonverbal greetings and farewells
Understanding body language/gesture
Expressing messages using gestures
Integrating gestures/facial expression w/message
Adjust body distance, physical boundaries
Joint attention
Reading social nonverbal intent and responding to it

OTHER SKILLS: RELATEDNESS, TIMING
Using peer's name to initiate, maintain, end interaction
Providing empathy-words, facial expressions, tone of voice
Leading and following others' (directions or suggestions)
Perspective taking/theory of mind
Relating to peer by adding relevant experience
Repeating back information to show active listening
Giving compliments
Providing the appropriate amount of information - holding back OR elaborating on responses
Affection- offering, responding to,
Teasing, anger, disappointment- responding to
Participating/ group activities structured
Participating/unstructured group activities

Participants:

27 subjects participated in the study, all diagnosed with either a Social Communication Disorder or an Autism Spectrum Disorder. Clients were assigned to an ACT AS IF® group after a screening and intake session. Group configuration was based on chronological age and pragmatic language estimated severity level. Ages ranged from 6 years, 5 months to 18 years old, at the start of the program, with 7 girls and 20 boys. According to the Diagnostic and Statistical

Manual for Mental Disorders V (DSM-V, 2013) the following are working definitions for Social Communication Deficit and Autism Spectrum Disorder:

Social Communication Deficit is present when an individual demonstrates:

A. Persistent difficulties in the social use of verbal and nonverbal communication as manifested by all of the following:

1. Deficits in using communication for social purposes, such as greeting and sharing information, in a manner that is appropriate for social context.
2. Impairment in the ability to change communication to match context or the needs of the listener, such as speaking differently in a classroom than on a playground, talking differently to a child than to an adult, and avoiding use of overly formal language.
3. Difficulties following rules for conversation and storytelling, such as taking turns in conversation, rephrasing when misunderstood, and knowing how to use verbal and nonverbal signals to regulate interaction.
4. Difficulties understanding what is not explicitly stated (e.g., making inferences) and nonliteral or ambiguous meaning of language (e.g., idioms, humor, metaphors, multiple meanings that depend on the context for interpretation.)

B. The deficits result in functional limitations in effective communication, social participation, social relationships, academic achievement, or occupational performance, individually or in combination.

C. The onset of the symptoms is in the early developmental period (but deficits may not become fully manifest until social communication demands exceed limited capacities).

D. The symptoms are not attributable to another medical or neurological condition or to low abilities in the domains of word structure and grammar, and are not better explained by autism spectrum disorder, intellectual disability (intellectual developmental disorder), global developmental delay, or another mental disorder.

Autism Spectrum Disorder includes in part of the definition, the social communication deficit in which an individual exhibits:

A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, not exhaustive, see text):

1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.
3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers. (pp 47-51)

Study Objective:

This study was conducted to assess whether gains were achieved by individuals receiving social communication intervention through the ACT AS IF® program which uses

improvisational acting techniques to improve pragmatic language skills. The Pragmatics Profile was completed by the parent when their child started the program and again when services were terminated. The Pragmatics Profile is a subtest on the CELE-5, a norm referenced subtest, which can be used and interpreted independently of the total CELE-5 assessment.

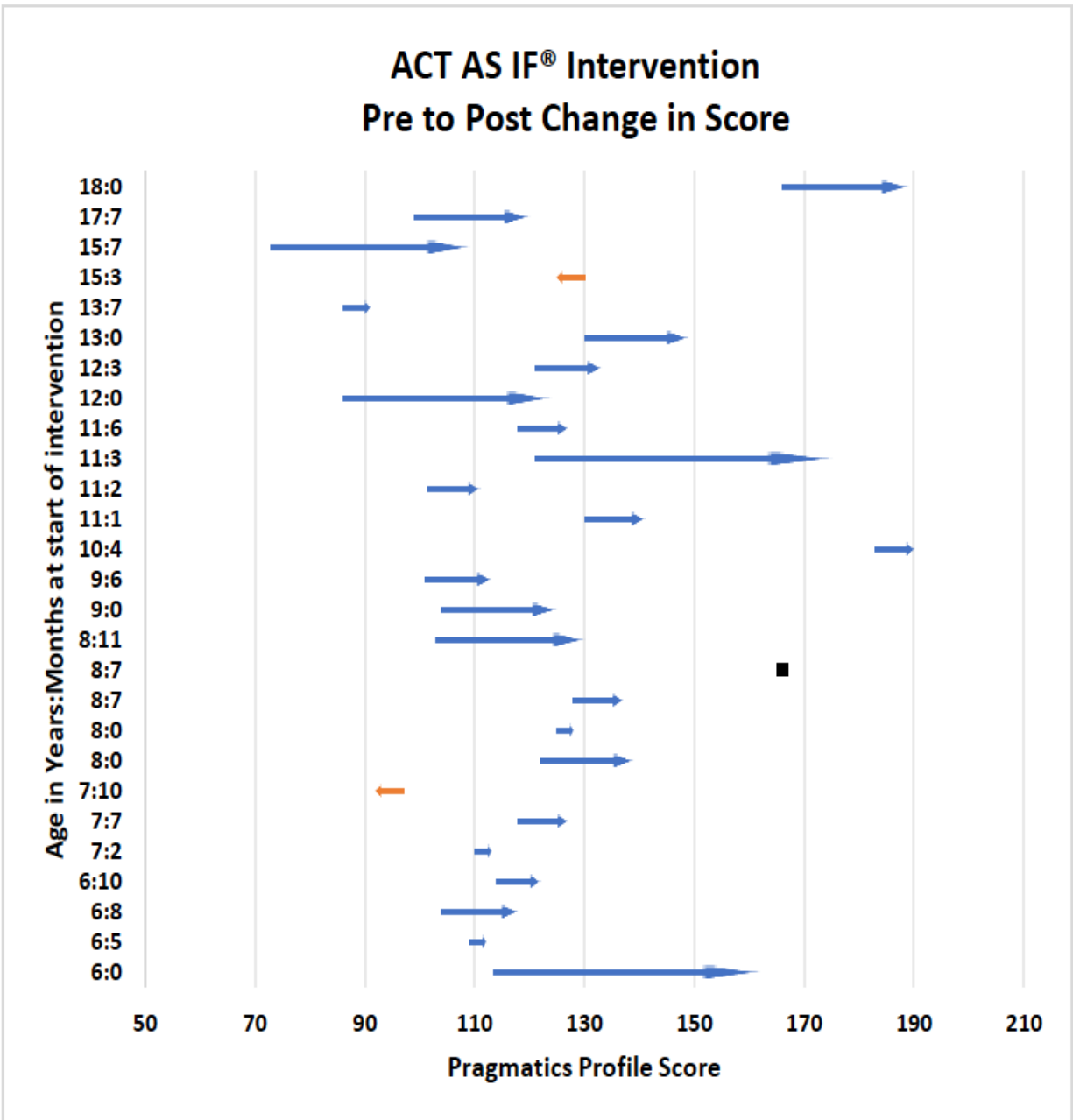
Method:

The subjects that participated in this study enrolled in a course of treatment provided at Interactions Speech Language Pathology group in McLean, VA. The intake session and screening process involved a double interview and conversational sample. Parent ratings on Pragmatics Profile were completed as a pre-treatment baseline measure. These parent ratings are considered reliable and were used for both pre and post treatment scoring. The Pragmatics Profile consists of 50 statements on which the parent rated their child across domains of Rituals and Conversational Skill, Asks For, Gives, and Responds to Information, and Nonverbal Communication Skills. The rating system is as follows: 1- Never or almost never, 2- Sometimes, 3- Often, and 4- Always or almost always. Parents rated their child using observations in a variety of communication scenarios outside the therapy room. After 1 semester, 16 weeks, a decision was made as to whether or not the child would continue. Two subjects discontinued during the semester, one due to scheduling conflicts, and the other child was experiencing behavioral difficulties that could not have successfully been addressed by the program, and so the parent chose to pull him from the program. The post treatment Pragmatic Profile was completed at that completion of each child's intervention cycle. Decisions to continue treatment beyond the 16 weeks were based on clinician feedback, parent input, and whether or not the family was able to logistically maintain the child in the program. The intervention took place after school in a private practice setting. At the completion of each participant's intervention cycle, the parent then completed the Pragmatics Profile as the post treatment measure.

Results:

27 subjects participated in ACT AS IF® treatment for an average of 23 hours, ranging from 7 to 68 hours, with a Standard Deviation of 14. On the Pragmatics Profile, the pre-treatment mean score was 117 with a Standard Deviation of 24 and the post-treatment mean score was 132 with a Standard Deviation of 25. Data analysis reveals a mean gain of 15 points, with a Standard Deviation of 15 on the Pragmatics Profile test of the CELE-5, a validated clinical instrument for assessing language deficits. This mean gain is equivalent to 0.6 of a standard deviation in pragmatic language functioning. The finding of a positive pre-to-post gain was highly statistically significant at $p < 0.00001$. Two students' scores decreased slightly on the post treatment measure, one student's score remained the same, and the 24 other scores increased from pre to post treatment. See **Table 2**.

Table 2



A secondary analysis of treatment hours reveals that there was not a direct correlation between number of hours of treatment and amount of the increase on the post treatment scores. The treatment times were not randomly assigned but rather were determined in consultation with parents and considering several factors.

A post-hoc item analysis of the pre to post gain on the Pragmatics Profile revealed that certain items yielded a high proportion of student improvement as a result of the intervention. This included items that addressed these skills: observing turn taking rules in the classroom or in

social interactions, maintaining eye contact/gaze, maintaining topics using typical responses (e.g. nods, responds with “hmm...”), making relevant contributions to a topic during conversation/discussion, asking for/responding to requests for clarification during conversations, responding to introductions and introducing others, giving/asking for reasons and causes for actions/conditions/choices, asking others for permission when required, making/responding to greetings to/from others, making/responding to farewells to/from others, reading and interpreting facial cues/expressions, and using gestures and/or facial expressions according to the situation. Additionally, three items yielded the highest gains: giving/asking for directions, asking for clarification if he/she is confused or if the situation is unclear, and expressing messages by using gestures or facial expressions. These items likely show such high gain, due to the nature of discourse practice in improvisational activities that directly allow for isolated skill practice as well as providing skill practice in improvised scene contexts. The ACT AS IF® program activities target core foundation skills always, such as eye contact, active listening, and expressing and perceiving emotions/facial expressions and when these skills are used in dynamic communication group scenarios, the facilitators provide in the moment feedback and additional practice so that the individuals experience communication repair and can make a better choice in the exchange. This requires the individual to think about their verbal and nonverbal choices and then practice them.

Discussion:

The data provide evidence that the ACT AS IF® program is effective at both, a highly statistically significant level and a practically significant level, bringing subjects up an average of over a half a standard deviation on an objective measure of pragmatic functioning. There is no evidence that the number of treatment hours is related to program outcomes. This finding should be interpreted with caution because clients’ parents/guardians determined treatment hours based on a number of factors, including professional judgment. Thus, one cannot conclude from these data that, for any particular client, a short program is as good as a longer one. The lack of correlation between treatment time and program outcomes could be a reflection that program duration determinations were successful. Having parents complete the pre and posttest profile enables a broader scope of communication observations across situations and with a variety of communication partners, rather than just a measurement in the treatment room. Along with anecdotal information provided by parents, the ACT AS IF® program has proven to have substantial benefit to participants to improve their pragmatic language skills.

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