

Early Intervention Factors that Influence Language Development in Young Children with Hearing Loss

Faculty: Jean L. DesJardin, Assistant Professor, Education Department

Student: Jaclyn Hudak, 2016
Junior in Psychology and Early Childhood Teacher Education Certification

Start Date: May 26th, 2015 for 10-weeks

Description of the Project

This summer SOAR research project relates to ecological (family and child) factors that influence child development, particularly for young children with hearing loss (HL). With the advent of the Newborn Hearing Screening, we are now able to identify children with HL at birth. This new generation of children has the potential to receive early intervention at much younger ages, with the ultimate goal to achieve age-appropriate language skills. These skills may impact their inclusion into preschool and kindergarten programs for typically-developing hearing children. The results of these investigations could have dramatic implications for how Moravian College's Early Childhood Teacher Candidates work with families and their young children.

Data set. This is a large multi-site (University of Southern California, Los Angeles, CA; San Diego State University, and Indiana University) longitudinal data set investigating parent (SES, self-efficacy and involvement), child (language skills), and school (e.g., early intervention, preschool) factors that impact child language and social-emotional skills. A culturally-diverse sample of parents and their young children with HL and parents of children with normal hearing (NH) (N = 104) were assessed on a variety of parental (e.g., parental stress, self-efficacy) and child (e.g., language, social-emotional, cognition) measures. Parents and children were also videotaped during a ten-minute play interaction. The videotapes will be coded for parents' and children's responsiveness and emotional availability while playing together. This is a NIH published coding scale that has been used in research with normal developing hearing children. I am a consultant on this collaborative project funded by the National Institutes of Health – National Institute on Deafness and other Communication Disorders. I have full access to this data set. This summer, we will be examining factors at the first and second data time point (Time Point 1 and Time Point 2) of a four year longitudinal investigation. This data set is rich for analyses which examine parental influences on early skills for young children with and without HL. The specific factors in which my SOAR student,

Jaclyn Hudak would like to explore specific family factors that impact children's development. Together, we will develop specific research questions, code videotapes, and conduct statistical analyses in order for her to present her own findings. Working together as a team is extremely beneficial. Jaclyn will be able to further understand (1) inter-rater reliability (two independent coders for videotape analyses), (2) how separate parental factors interplay and influence child development, and (3) how family factors relate to the large ecological model. This provides the student with a much broader understanding of child development.

Faculty and Students Collaborative Roles

The identified SOAR student, Jaclyn Hudak, and I will work collaboratively on all aspects of the proposed project. Having Jaclyn in early childhood education classes over the past year and from her LCCC experience in ECE, I feel that she is well-prepared to work on library research, project development, data analysis, and manuscript/conference preparation. Jaclyn demonstrates excitement for the project, initiative to seek out resources and literature, and is very willing to learn new coding schemes and transcription processes. She is very eager to learn the process of presentation at a national conference this fall in the field of Early Childhood Development. She would also like to share her findings with community early childhood programs in the area where she works with young children daily.

Jaclyn and I will meet 3 times weekly to (1) review weekly project goals and objectives, (2) oversee project and mentor as needed, (3) train on new coding scheme and statistical analyses, and (4) establish new weekly goals and specific objectives (see Table 1 for specific student-faculty tasks). As shown in Table 1, Jaclyn will be engaged in the process of cutting-edge early childhood research; from literature review, transcription and coding analyses, data cleaning, statistical analyses, research hypotheses and questions – to final presentation(s). Together, we will work on a manuscript from this summer project which will be submitted into a high impact peer-reviewed journal in the field of Early Child Development (e.g., *Child Development*, *Journal of Early Intervention*). We will need to do a complete literature review, formulate research questions, conduct the analysis plan, and create full Results and Discussion sections. I would hope to have at least a full draft of this manuscript by October 1st, 2015. We will also prepare a presentation for the *Division of Early Childhood Intervention* (DEC) Conference in Atlanta, GA on October 7th-9th, 2015. The proposal for this conference was submitted in January, 2015.

Summary of Benefits to the Students

The benefits of participation in this project for the student are numerous. This opportunity provides Jaclyn with very clear, specific, scholarly activities which align directly with the field of early childhood education. The dataset has many family and child factors to explore which directly relate to early childhood programs, methods, and specific teaching strategies when working with young children (12-months – 4-years of age) and their families. Jaclyn will have the opportunity to learn child developmental and educational theory and background knowledge in the field, current ways to capture parent-child data via videotape analyses, current child measures used in the field, and how to use the data for research-to-practice dissemination. Additionally, Jaclyn will work on writing her own original research questions/hypotheses and conduct all research procedures to presentation. Jaclyn will have the opportunity to share her work with the Moravian community on Scholar's Day next spring, 2016, share results in a presentation form to an early childhood center in the Bethlehem area, and present with me at a national conference – the Division of Early Childhood – in Atlanta, GA (October, 2015). It is crucial that students not only participate and collaborate with a faculty member on research to gather their own knowledge of the field, but to also learn ways to disseminate this valuable information to a larger audience that work directly with young children and their families. The students and I will, together, present the findings of this research to the teachers of young children and their families at a local Head Start, and/or an early childhood center for at-risk young children through contacts I have made in the Bethlehem area.

Budget

Jaclyn Hudak will work 40 hours per week for 10 weeks; \$300 per week x 10 weeks = **\$3,000 total**. Jaclyn is not requesting on-campus housing.

Related Pertinent Information

Over the past five years at Moravian College, I have had six SOAR students. My first SOAR student presented at an international conference with me in Washington, DC and was second author on a paper on a very high impact journal. The other students presented at national conferences and at local community child care centers, as well as at Moravian College's Scholarship Days. Two students also went on to graduate school due to their experience with summer research. The SOAR program is a wonderful opportunity for students to directly engage with faculty research and explore new opportunities that they may have not thought of previously such as, presenting at national conferences, publication, and graduate school.

Table 1. Proposed Timetable and Project Milestones (start date: May 26th, 2015):

Dates	Students Project(s) and Purpose	Faculty Role Descriptions
May, 2015	<p><u>Literature Review</u> – In order for Jaclyn to establish a strong foundation for the subsequent project, it will be valuable for her to read current literature in the field of audiology, speech-language pathology, and parental contributions in early childhood development to obtain background developmental theory, knowledge, and current perspectives regarding parental involvement, parent-child interactions, and language development for young children and their families. Jaclyn will write her own brief, yet thorough, literature review.</p>	<p>Familiarize Jaclyn with the literature to support the NIH-DCDD multi-site grant in order for each to write a complete and thorough literature review; (1) familiarize her with all specific parental and child measures within the study – many of which she will also read about in the literature review; (2) demonstrate videotape transcription/coding analyses in order to apply it to their readings, and (3) share any background knowledge in order for Jaclyn to write their own brief, yet thorough literature review.</p>
June, 2015	<p><u>Literature Review and Transcription/Coding Training</u> Jaclyn will be trained with two established transcription and coding systems for videotape analyses – these are current procedures used in the field of early childhood education. She will transcribe and code five videotapes for hands-on practice and instruction in inter-rater reliability.</p>	<p>Familiarize Jaclyn with the specific transcription analyses (CLAN program and CHAT format from Carnegie Mellon); train each on transcription analyses in viewing parent-child storybook interaction videotapes; train each on the specific coding scheme for parent-child play behaviors.</p>
July, 2015	<p><u>Development of Hypotheses/Research Questions and Analyses</u> Jaclyn will develop <i>her own original</i> research questions and learn how to use SPSS-20 statistical analyses (correlational, t-tests, and stepwise regression). There are several parent and child factors that may impact children’s oral language and social-emotional skills. She will choose an area of interest (parent and/or child) to further explore data from Time Point 1 to Time Point 2 (child ages 1 year – 2 years).</p>	<p>The NIH dataset is a manageable data set that Jaclyn could easily grasp and conduct analyses. For <u>individual projects</u>, there are a number of interesting questions that could be investigated, such as “<i>What are the relationships between parental self-efficacy, involvement, and responsiveness during play and children’s language skills?</i>” and “<i>How do parents of children with and without HL differ in terms of parent self-efficacy and responsiveness during parent-child play interactions?</i>” Working together, we will clean data, use analytical tools to apply the appropriate analyses to answer specific questions.</p>

Desjardin SOAR Proposal – Summer 2015

<p>August, 2015</p>	<p>Begin collaborative presentations for the Division of Early Childhood conference presentation in Atlanta, GA for October, 2015 – (either oral or student poster presentation); Faculty and student submits a 1-2 page report to the SOAR director assessing the project.</p>	<p><u>Results interpretation</u>— Jaclyn will become well versed in interpreting data analyses and writing up results according to APA style. This will be linked to a Discussion section for the presentation that will explore why the results obtained were what they were (or what they were not).</p>
<p>October, 2015</p>	<p>If funding is available, I would like Jaclyn to participate with me at the DEC conference in Atlanta, GA.</p>	
<p>April, 2016</p>	<p>Students participate in the Moravian College Scholar's Day.</p>	<p>Faculty and Jaclyn participate in Moravian College Scholar's Day with SOAR students.</p>

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Jaclyn R. Hudak – Class of 2016 (Junior)

Psychology Major & Early Childhood Education Teaching Certification

Dr. Jean L. DesJardin, PhD

On-Campus Housing will NOT be requested for the project.

RATIONALE:

My rationale for participating in this summer experience is to build a greater understanding and knowledge of children and their learning. As a future educator, I believe it is crucial to broaden my professional development and recognize that I am a lifelong learner. This includes being an active-researcher daily, which allows me to delve into all aspects of development in children today. Teaching and learning should be transparent in my classroom and by participating in the SOAR project, I am able to experience and research best practices first-hand. Through the summer SOAR project, alongside Dr. DesJardin, I whole-heartily believe in our dedication in building a professional partnership and community in the field of research, which allows me to make connections to prior knowledge gained from Lehigh Carbon Community College and Moravian College Psychology and Education programs. I am eager to develop skills as an educational researcher and finally be able to put my two passions together through such a prestigious opportunity that will only make me grow as a person, both in and outside the workplace.

Specifically in this SOAR project, I will be able to explore the lives of children with hearing loss and parent responsiveness in accordance to coding play samples. I will also be able to research early intervention factors and examine correlations between parental self-efficacy parental involvement, as well as, parental responsivity and sensitivity as they plan with their young children. Finally, I aim to study the correlations between how parents feel about helping their child's language and their responsiveness. While looking at one point at a time, I am able to closely observe children who are 12-24 months old and keep professional records of certain domains. This SOAR project would absolutely broaden my horizons, allow for professional development, and bring forth greater research and graduate opportunities. Most importantly, the

SOAR project will be an experience of a lifetime that I will remember, learn from, and apply in my near future as an early childhood educator of young children.

EXPECTED OUTCOMES:

I expect to further my extensive knowledge in Early Childhood Education from this SOAR project for both myself and my professional development. In working with Dr. Desjardin, I will be able to apply prior research and literature conducted in the field of hearing loss and greater my knowledge in terms of language development in young children. Through a transcription and coding process of the parent-child play interaction video samples, I will be able to gain a broader understanding of how parents incorporating various Early Intervention factors impacts and supports their children's language development. Through this SOAR experience, I will also be able to work closely with family dynamics and become more knowledgeable of Early Intervention techniques for children with hearing loss. Additionally, I hope to apply what I have learned in my Psychology courses with analyzing the data obtained through SPSS. This will allow me to organize and properly analyze correlational results, in order to professionally present the findings at the weekly SOAR meetings, or better yet, at a national level. I truly hope to share our results at a conference with Dr. DesJardin, as this is an extremely passionate research topic that intrigues both of us. This SOAR project will be quite beneficial to me as I further my career as an Early Childhood Educator. This experience already does and will continue to stimulate my mission as an Undergraduate to pursue at a Master's Degree level with much consideration and focus in Special Education.
