

**More Than Just Play:  
Enhanced Teacher Preparation  
Through Authentic Learning**

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***Abstract***

*This article describes the research behind and development of Play Lab, a play-based authentic learning environment for university students learning to teach children with developmental disabilities and the case study analysis from the Play Lab's first year of implementation. Data from (a) pre-development surveys which were triangulated with (b) parent and university student surveys, including questions about needs, knowledge, comfort level in working with children with developmental disabilities, (c) university student reflections and survey questions about satisfaction with the course; (d) feedback from parents during Parent Night; and (e) a review of university student projects describe Play Lab's authentic learning environment as reported by the university students.*

# More Than Just Play: University Students Describe Their Authentic Learning Experience at Play Lab

## Introduction

Play Lab was developed in the College of Education at a small liberal arts university in Virginia to help meet the needs involved in training future teachers to work with children with developmental disabilities. With developmental disabilities such as autism on the rise, the demand for trained teachers has not been met (Nougaret, & Scruggs, 2005). In many areas where special education teachers are in high demand, local school systems repeatedly hire special education teachers provisionally, before they complete their full training or receive supervision and feedback on their skills (Katsiyannis, et al., 2003; Nougaret, & Scruggs, 2005). Faculty felt it was imperative to develop a unique opportunity to train teachers by having students participate in a supervised authentic learning experience as part of a course. (Myers, 2009).

The name Play Lab was chosen for this authentic learning experience because it is in fact a “lab” model by which the university students can receive training in working with children with developmental disabilities. “Play” was chosen because each time the lab was offered, the themes were based upon play-based learning. This case study provides an exploration of the Play Lab experience for university students, examining “How did university students experience Play Lab? How did university students describe their experience and what did university students describe as their “take-away” from the experience?

This article begins by describing the research behind Play Lab development, the course in which students ran Play Lab, and the research-based strategies taught in the course. Play Lab set up and university student activities are covered along with results of the case study analysis of the university student experience. The article concludes with a discussion of the need for supervised learning experiences and suggestions for faculty interested in authentic learning.

## Literature Review and Pre-Development Surveys

The literature review was conducted as part of a year-long research fellowship. Peer-reviewed journal articles were examined on several related topics including: teacher preparation, authentic learning programs, developmental disability needs, pre-service special education teacher needs, and trends in special education. Two large disability studies published at the time Play Lab was in development were found to be instrumental in supporting the development of Play Lab. One was the Joint Legislative Audit and Review Commission (JLARC) to the Governor and the General Assembly of Virginia (2009). COMMISSION DRAFT: Assessment of Services for Virginians with Autism (JLARC, 2009), which reviewed services for children with autism in the state and the second was the Living with Disability Survey, a nation-wide disability study (Easter Seals, 2010).

After the literature review was completed, surveys were developed following Mertens and McLaughlin's *Research Methods in Special Education* and Merriam's *Qualitative Research and Case Study Applications in Education* guidelines (Mertens & McLaughlin, 1995, Merriam, 1998). Actual survey questions were based on Fink's "How to Design Surveys," strategies from *The Survey Toolkit* (Fink, 1995). Responders were encouraged to share the survey with others involved in working and/or living with children with developmental disabilities in an effort to reach as many respondents as possible. Surveys examined local, regional, and national needs for training teachers to work with students with developmental disabilities, and university students were surveyed about their current preparation for teaching. Surveys were sent to special education coordinators, parent resource centers, child development centers, and community service boards. In total, 166 people answered the survey used to develop the Play Lab.

Survey findings were consistent with the literature review. 100% of respondents cited lack of services for children with disabilities and a need for improved teacher preparation in working with children with disabilities. 87% of those surveyed indicated it was "extremely important that university students receive supervised experience working with children with

developmental disabilities as part of their preparation” (Myers, 2009).

### **Play Lab: An Authentic Learning Experience**

The definition of authentic learning is “learning by doing, through incorporation of real-world problem-solving” (Lombardi & Oblinger, 2007). Play Lab’s real-world problem is the high number of children diagnosed with developmental disabilities coupled with a shortage of teachers trained to work with children with these disabilities and lack of community programs to serve these children. Play Lab allowed university students to learn how to teach students with disabilities and receive supervision and feedback on their work as part of a university course, while addressing the the real-world problem of addressing how to provide university students with supervised experience within a graduate course.

University students participated in these components of authentic learning at Play Lab:

- (a) collaborating in a community of practice,
  - (b) using multiple sources of data,
  - (c) engaging in reflection,
  - (d) using integrated assessment, and
  - (e) roviding multiple interpretations and outcomes of their work with children.
- (Lombardi & Oblinger, pp. 3-4).

University students were taught research-based teaching strategies and interventions as part of the course. Ways to collect data and the importance of teacher reflection was also emphasized at Play Lab. While university students were not involved in conducting action research while at Play Lab, they did use data collection teachniques they were taught to make data based decisions and reflections.

Play-based activities were chosen as the main technique to support children at Play Lab as they “allow children to practice language, social, and behavioral skills in a relatively safe

environment where mistakes are tolerated and repetition of the practice develops confidence and competence” (Greenspan, & Weider, 2006; Smith, 2001, p.1). University students were also taught some of the more widely used classroom techniques to complement the play-based strategies. These included: using visual supports (Kobot, Reeve, & McBride, 2010), TEACCH/structured teaching (Carnahan, et. al., 2011; Mesibov, Shea, & Schopler, 2004), sensory integration strategies (Pfeiffer, et. al., 2011; White & Wake, 2011), the Model Me Kids social skills curriculum (Hu, 2008), which uses videomodeling (Bellini, & Akullian, 2007), social stories and role plays (Gray & Garand, 1993), and use of the 1 2 3 Magic Behavior Management program (Phelan, 2010).

### **Course Information and Training for University Students**

Participating students were enrolled in a 16 week graduate student course. They participated in six or seven (fall 7, spring 6) class sessions (6:00 p.m.-8:40 p.m.) of course content and training before running Play Lab. Students received in-depth training in teaching social skills, play-based approaches, behavior management strategies and improving communication; they also participated in transdisciplinary collaboration (VAC, 2005).

A break in Play Lab was scheduled for the third week to allow university students to meet again in class. During this class session, students received written feedback on their work, participated in role plays, and faculty spent additional time covering data collection and reflection techniques. In addition to teaching class sessions, coordinators moved throughout each classroom providing guidance, modeling strategies, and assisting in activities. Students met after Play Lab to reflect on the night’s experience, identified areas of strength and for improvement, and came together to work on future goals for the following week. Students received written evaluative feedback on their work at mid-point and at the end of Play Lab.

As part of the course requirements, students developed a parent training binder with strategies they could use to help their child. Included in this binder was a description for the parents of the ways their child enjoyed and participated in Play Lab, a discussion of their strengths and a list of potential ways that the

family could support areas of growth for their child. Anecdotal stories were provided to the parents along with an explanation of the different classrooms and activities in which their child participated. Data collection forms were provided to the parents so they could see how their child progressed in each of the classrooms.

## **Play Lab's First Year of Implementation**

Twenty-one children and families participated in Play Lab. Twenty-four university students participated in the course and Play Lab. One graduate student took the course a second time. Every family received a family training binder and participated in a training specific to their child.

### *Course Information*

The first time the course was taught (fall semester), students met in class for 7 weeks and ran the Play Lab for the remaining 8 weeks. The second time the course was taught (spring semester) an adjustment was made to allow for 6 sessions of class, two Play Lab sessions, one in-class session, and then 6 weeks left of running the Play Lab. This allowed students to gain more in-depth feedback on their work, an evaluation of their performance to date, time for coordinators to train students in data collection and to review requirements for the parent binder.

### *Play Lab Schedule*

Play Lab met weekly at a local occupational therapy clinic for 8 weeks each semester, from 6:00 p.m.-7:15 p.m. After each session, students worked together in groups to reflect on how it went, made suggestions for the following week, and received feedback on their plans.

### *Play Lab Participants*

Play Lab served children from the local region, which consisted of nine different school districts. Participating children ranged in age from 3 -13 and had diagnoses including autism spectrum disorders, intellectual disabilities, mood disorder, developmental delays, sensory processing disorder, learning disability, attention deficit hyperactivity disorder, visual

impairment, hearing impairment, physical disabilities, cerebral palsy, and hydrocephalus. 85% of children participating at Play Lab also had an intellectual disability, and many of the children participating had been diagnosed with multiple disabilities. Coordinators sent applications to school systems, parent resource centers, and disability agencies to recruit applicants and a university committee determined participants.

*University Student Participants*

Play Lab was a requirement of a 3 credit graduate level course (that could also be taken by senior undergraduates as an elective). The elective course was titled “Special Topics in Special Education.” All students knew at the time of registration that they would run a program for children with disabilities. The first semester the Play Lab class attracted 7 graduate students, all of whom were either teaching general education or training to teach general education. The second semester the course enrolled 17 and attracted a greater variety of students, including beginning special education teachers, more general education teachers, supervisors of special education and teacher trainers, and two students who asked to work at Play Lab for field experience hours for another course.

**Figure 1: University Student Participants**

Play Lab Fall	7 students students already teaching general education or in their final semester of their M.Ed. in general education program.
Play Lab Spring	17 students. 2 undergraduate students took the course (one in education, one in psychology), 1 art teacher, 1 autism coordinator for a local school district, 1 music teacher, 1 supervisor of early childhood programs/teacher trainer, 9 provisional special education teachers (2 of which were also parents of children with special needs) and 2 elementary teachers starting their career.

### *Play Lab Coordinators*

Play Lab was coordinated by the authors. One coordinator was a faculty member in special education and the other a director of a local disability agency. The faculty coordinator had over 20 years of disability experience, a Ph.D. in Special Education and taught the Special Topics in Special Education course. The other coordinator was a licensed professional counselor, who had a M.Ed. in Special Education and over 20 years of experience working in the disability field.

### *Classroom Goals and Description of Activities*

Children spent approximately 15-20 minutes in each classroom at Play Lab. Each classroom allowed for university students to support the children in learning new goals through play-based activities.

**Figure 2: Classroom Activities and Focus Skills**

<b>Classroom</b>	<b>Activity</b>	<b>Focus skills</b>
1.	Social Skills and Snack	Communication, friendship, table manners
2.	Communication, friendship, table manners	Communication, sensory regulation, peer play, attention
3.	TEACCH/ Handwriting	TEACCH/Handwriting
4.	Free Play	Communication with adults and children, typical play with toys, sharing and other peer-play activities
5.	Sensory Area	Sensory regulation, increasing tolerance of textures, emotional regulation through play



## Methods and Analysis

This study employed a phenomenological research design in order to understand the meaning university students made of their experience and contains data from (a) pre-development focus groups and interviews; which were triangulated with (b) parent and university student surveys, including questions about needs, knowledge, comfort level in working with children with developmental disabilities, (c) university student reflections and survey questions about satisfaction with the course; (d) feedback from parents during Parent Night; and (e) a review of university student projects. This case study provides an exploration of the Play Lab experience for university students, examining “How did university students describe their Play Lab experience and what meaning did students make of the experience?”

### *Data Collection and Analysis*

After Play Lab, a follow-up survey (using the same guidelines), was given to those participating in Play Lab. 24 university students, 2 coordinators, and 22 families completed surveys which were analyzed for consistent themes along with a review of student reflections, projects, and student data collection. The constant comparative method of data analysis (Glaser & Strauss, 1967) was used along with the computer program, NVivo, to assist with the development of themes and categories (QSR International, 2003). Analysis of information was “issue focused,” to describe what has been learned from all of the respondents about students in this particular situation and to achieve both local and inclusive integration (Weiss, 1994, p. 153). Analysis was ongoing to identify themes, patterns, and additional questions. Coding matrices were developed and refined through comparison and on-going interaction with all data sources. Categorical examples and non-examples were analyzed and interpreted.

The goal of this study was to examine Play Lab. Researchers could find no similar programs when it was developed. Purposeful sampling was used in this study and Merriam (1998) points out that in “qualitative research, a single case or small nonrandom sample is selected precisely because the researcher wishes to understand the particular in depth, not to find out what

is generally true of the many” (p. 208). Readers will need to determine if their situations are similar and what from the study is applicable to them (Walker, 1980, p. 34)

Questions in the survey were shared with researchers in the field for feedback on question formats and methodology and this was used to make modifications to the surveys. Triangulation was used by (a) using all surveys and information obtained to verify information from participants, and (b) the use of “pooled judgement” through discourse with the university students and peer examination through reviewing study findings with researchers in the field (Denzin, 1970; Merriam, 1998, p. 204). Researchers’s biases were clearly stated to clarify personal assumptions and theoretical orientations and member checks throughout the study served to assure that researcher interpretations were accurate. These steps are considered the “the most important way to rule out misinterpretations and ensure that researchers maintain the correct perspective” (Maxwell, 1996).

The limitations of this study include the small number of participants and that the Play Lab has only run for two semesters. The results will not represent what other university students would experience if they did not take the Play Lab course, however they are important in that they demonstrate what can be developed in a university course.

## **Results**

While not the focus of this article, it is important to note that a review of data collection forms demonstrates that all (100%) of the children progressed (in varying degrees) in each of their target areas throughout the weeks that Play Lab was held. Circles of communication, behavior, and attention improved at Play Lab. Parents indicated they saw many benefits as well. One parent described Play Lab as “the key that opened many doors for my son.”

### *How University Student Experienced Play Lab and the Meaning they Made of the Experience*

Researchers were interested in what meaning the university students made of their experience at Play Lab and what “take-

aways” they gained from the experience. University students were asked about this and their experience running Play Lab. Overall students reported Play Lab being a “positive experience” and that they learned “things they could take to their job.” The only negative response received from a student was “wanting more time to run Play Lab during the semester.” Commonly cited responses included:

- (a) growth in recognizing disability characteristics,
- (b) feeling confident in working with children with developmental disabilities,
- (c) learning how to reflect on children’s performance and data,
- (d) having a variety of strategies they can use,
- (e) understanding how children experience grief in their lives due to working with several children who recently experienced loss, and
- (f) gaining confidence in training parents.

Coordinators reviewed student reflections weekly and found that as the course progressed, student reflection skills greatly improved. Students went from describing how they felt they did to reviewing what worked/what didn’t and to seeking better ways to support their assigned child. Student reflections increased in length and included seeking responses from other group members and looking for references and materials as Play Lab continued.

A sample student group reflection early in Play Lab read:

“Overall the group evening went well. Everyone stayed flexible and switched in and out with the kids in the group as needed. The group made it to all classes but not necessarily with all kids at each station.”

This same group moved beyond making sure each child participated in each classroom and later wrote:

“We are very happy with some of the accomplishments of this group but know that from now on we need to be much

more specific and begin working on detailed mini-plans for the group and for each student in order to achieve the goals by the end of Play Lab. We discussed each of the classrooms and everyone in the group agreed on:

- 1) For TEACCH, we will start next session with the workbook. We feel we need to see how much each student can do and then decide whether the shaving crème or playdough will be a better choice for practicing handwriting.
- 2) For Free Play, we will continue to focus on interactions the kids have while playing and on responding directly to questions about the game, the toy, or the situation.
- 3) For the sensory room, the same kind of interaction will be encouraged but the toys will “go visit” other toys and they’ll “say hello.” We will also give the toys a “shower.” We might even create a story so the students or the toys can act it out.
- 4) For the Social Skills room, we will have the group snack time again and we will continue to encourage good manners at the table. We will focus more attention on the Say Hello video as a group, then imitate those interactions more accurately by turning to the person and responding.
- 5) For the obstacle course, more interaction among students will be designed in order to have a set of three or four activities the students will do as a group working together.
- 6) The use of the clean up song and the it’s time to go song will be practiced to help with transitions whenever necessary.” (Group 3 reflection)

Overall, the feedback from the students was very positive and encouraging. Students identified many things (sensory integration strategies, classroom teaching strategies, and ways to work with non-verbal children) that they would like to use in their own classrooms. They felt that they had “learned patience” and that “play can be used as a way to make learning fun and can initiate many social and academic skills in students.” Learning how to collect data on children was also frequently cited and one student indicated the data sheets “are going to help me most at my job.” TEACCH tasks were also highly valued by the students. One student wrote, “I will use the TEACCH boxes at my job. I personally enjoyed seeing the kids do the tasks.” A student who was a teacher trainer stated they learned “some good ways to supervise teachers for my job.” Another student wrote, “I saw

and learned how to help parents.” All university students described their confidence level as increased in using data collection and sharing training methods with parents. 100% of university students indicated they perceived the experience of running Play Lab as something that would be “beneficial to their career.”

In examining data from all sources, three emergent themes were particularly strong and consistent across sources: appropriate teaching methods, focus on all disability-related impairments, and providing resources to the community.

**Figure 3: Themes**

<b>Appropriate Teaching Methods</b>	<b>Focus on All Disability Related Impairments</b>	<b>Community Service and Parent Training</b>
Related Impairments Community Service and Parent Training Students received supervision and feedback of their work. They reflected on how things went and were given more strategies to try when something was difficult.	Students experienced an increased focus on all difficulties associated with disability. Students saw need for skill development in multiple areas.	Students indicated they enjoyed providing much needed services outside their places of employment.
Students gained knowledge and skill in use of research based strategies	Students were able to see characteristics first hand rather than just learning from lecture or textbook reading.	Students developed resources for the families and community to support children.
Students were trained in how to collect data and use it to make educational decisions	Students learned how to assess students and address delays through data, intervention, and goal development and reflection.	Students trained parents in follow up activities and intervention strategies
Students practiced strategies before using them in a K-12 classroom.	Students practiced strategies before using them in a K-12 classroom.	Students were able to practice collaborating and training parents.

### *Theme 1: Appropriate Teaching Methods.*

University students described benefitting from receiving appropriate training in research-based strategies and the opportunity to practice using them (JLARC, 2009). The ability to see disability characteristics first-hand and implement teaching strategies while receiving supervision (in addition to gaining experience providing consultative services to families) is something university students indicated they did not encounter in a typical course. Students cited receiving feedback on their skills before they tried a strategy in the classroom. They indicated that the training in conducting data collection and reflection allowed them “to better understand how to determine the effectiveness of research-based methods used with the children with disabilities” (JLARC, 2009).

### *Theme 2: Focus on All Disability-Related Impairments.*

Students learned how to address needs, including generalizing new skills through assessments, effective intervention, and goal development. (JLARC, 2009). Students cited “learning teaching strategies to address more than just academic deficits.” They indicated they were able to “see disability characteristics first-hand, rather than just reading about them in a textbook.” Students felt that Play Lab focused on addressing the specific impairments related to disabilities in the following areas: behavior, social skills, sensory integration, communication skills, and academic skills (JLARC, 2009). One student explained, “I didn’t realize just how important reflection was before Play Lab and that they “learned to reflect back on data and the child’s experience to make teaching decisions.”

### *Theme 3: Community Service and Parent Training.*

Students described Play Lab as providing a “much-needed service” to the community. They “enjoyed providing resources to the families and community while learning to teach.” Students indicated being initially “scared to complete the parent training,” and stated the Parent Training was helpful in learning to “collaborate with families” and “collaborate with the community.” All university students indicated that they “learned from this exercise” as they “had little experience collaborating.”

## **Challenges in Implementation and Future Goals**

Due to the limited research on authentic learning, it was initially challenging to convince university administration of the value of the experience and to receive the go-ahead to implement Play Lab. Fundraising was an additional concern in starting Play Lab.

Coordinators would like to find/development instruments that would allow them to collect more quantitative data, including data that explores whether university students make changes in their teaching as a result of Play Lab. Examining if parents continued using strategies at home is another area for exploration. Coordinators would like to examine what the children found most valuable at Play Lab. In addition, coordinators would like to expand data collection and one day have university students complete action research as part of the course.

### **Developing an Authentic Learning Experience within a Course**

Analysis of university student experience provided evidence that described Play Lab as a positive experience. It is important to also note that student course evaluation feedback was extremely positive and that the the second time the course was offered, enrollment more than doubled.

Listed below are suggestions from Play Lab coordinators for faculty interested in developing an authentic learning experience as part of their course.

**Figure 4: Suggestions for Developing an Authentic Learning Experience, such as Play Lab within a Course**

<b>Research Needs.</b>	Research local, regional, state, and national needs to help guide you in developing your authentic learning experience.
<b>Give Time to Practice.</b>	Classroom allowed university students to practice encouraging each other, to better prepare for Play Lab and to get comfortable with receiving coordinator feedback.
<b>Provide Midterm Feedback.</b>	This served as a reminder to students what they were being graded on and it allowed coordinators to provide 1:1 feedback to the university students without children present.
<b>Schedule a Class Meeting.</b>	Schedule a Class Meeting.
<b>Use Highly-Trained Coordinators</b>	Coordinators must be comfortable discussing and demonstrating the use of play-based activities.
<b>Keep numbers low at first.</b>	Keep the number of children low at first to make sure that there are enough students to provide support.
<b>Schedule Time for Administrative issues.</b>	Marketing the program and course, answering questions, and community outreach was vital to the success of Play Lab.
<b>Provide Samples.</b>	Students benefitted from having sample parent binders/parent training rubrics to review as they developed their own assignments and their TEACCH tasks.
<b>Relate Play Lab Activities to Classroom.</b>	Students wanted to know that they were learning K-12 special education research-based practices that were being taught in a community setting, not just community strategies that were only to be used in the community.
<b>Model Reflection.</b>	Coordinators modeled reflection by sharing their experiences and views on each session, and asked students to reflect on what worked, the week's successes/struggles, and then create goals for the upcoming Play Lab.



## Discussion and Implications

University students indicated they were introduced to skills needed to run a classroom for children with a variety of developmental disabilities and learned specific research-based teaching strategies at Play Lab. They described learning “the importance of providing structure in their classrooms through visual supports” and “how data should drive instructional decisions. Several students shared that they were beginning to generalize the knowledge they gained at Play Lab and “put it into their classroom.” Lastly 100% of university students indicated feeling “more confident and comfortable working with children with a variety of challenging developmental disabilities” and “better able to train parents in how to assist their child.”

Teacher preparation programs often struggle to meet the needs of adult learner. Authentic learning environments, such as Play Lab, may serve as a viable tool for training individuals to work with children with disabilities (Muwana & Gaffney, 2011). Play Lab provided beginning and pre-service teachers the opportunity to work 1:1 with children with a variety of disabilities under faculty supervision. Analysis of data provided insight into how university students experienced running Play Lab and what they felt they gained from the experience. Insight into the needs that could possibly be met by authentic learning (pre-service/beginning teacher, parent, child, educator, community, etc.) was also provided .

With the rise of alternative licensure routes for teachers in special education, more research into authentic learning environments as a way to train and supervise beginning teachers who will not have a full student teaching experience will be necessary. Investigation of how authentic learning environments, such as Play Lab, may contribute to current on-going research in the education and teacher education field, along with investigation of the research-based methods used at Play Lab with children with a variety of disabilities should be further explored.

## Conclusion

Authentic learning may serve as a valuable teaching tool at the higher education level, in K-12 classrooms, and in the community. Teacher preparation programs struggle to meet the needs of adult learners needing experience teaching children, especially children with disabilities. In addition research supports the use of authentic learning environments as a viable tool for training individuals to work with children with disabilities (Muwana & Gaffney, 2011). Play Lab provided beginning and preservice teachers the opportunity to work 1:1 with children with a variety of disabilities under faculty supervision. It also provided some disability resources to community children and parents. Additional research on authentic learning is needed to determine how programs such as this may prepare future educators while providing opportunities to support faculty, students, and the community.

At a time when university students are habitually hired as provisional teachers before they complete their entire coursework, our beginning and preservice teachers (especially those teaching students with disabilities) are injudiciously frantic attempting to learn teaching strategies “on the job.” As teacher educators, it is imperative that we consider other options to train teachers, especially those who are career-changers or working adults, outside the typical daytime practicum/student teaching course standards of the past. Play Lab provided an authentic learning environment for adult university students enrolled in the course, allowing university students to actually experience teaching children with developmental disabilities (outside typical public school classroom hours) and receive supervision and feedback on their experience.

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