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College of Education
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Cleveland, MS  38733
Dear Colleagues,

Welcome to the first edition of the Delta Education Journal! This initial publication of the College of Education at Delta State University is intended to share research findings, classroom strategies, and other information related to excellence in educational experiences. We hope that the articles shared within the pages of the Journal will interest, inform, and inspire you as we all contemplate ways to better serve the students in our keeping.

The Journal will be published and distributed on a semi-annual basis, and we welcome contributions from those of you in education at the K-12, community college, or senior college level who are interested in the continuous improvement of education in the Delta. We are happy to share our work and thoughts with you! Please consider Delta State University as your partner in meeting the needs of communities across the region!

Regards,

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What does the literature say about year round schools?
Lynn Walton Varner, Ph.D.

Introduction
The percentage of public school students who attended schools with a year round academic calendar rose to five percent of the total number of students in 2002 (National Association for Year Round Education, 2003; Synders & Hoffman, 2003). Originally, many schools experimented with a year round calendar because of overcrowded facility conditions; however, when increases in student academic progress became apparent the reasons for adopting the calendar shifted in that direction (Atwood, 1983; White, 1991; Zykowski, 1991). There has been a great deal of research concerning year round schools which has yielded mixed results; interestingly, the more recent studies have been more favorable toward the year round schools than were the initial studies. This paper offers a brief review of some of the research that has been conducted in the area of year round education. With the newly passed No Child Left Behind Act of 2001, administrators are searching for ways to meet the critical demands for increased student academic achievement. Many are turning to restructured calendars as a part of the reform (Metzker, 2002).

Year Round School Defined
Idol (1998) found that the majority of students who participated in some sort of extended time program, be it after school, extended week, intersession, or summer school, did not need to repeat their current grade, in spite of initially poor academic performance. Although year round schooling is sometimes viewed as an extended school year in which students attend classes for more days than do traditional calendar students, the most common year round school calendar involves a rearrangement of the school calendar with no increase of class days over the traditional calendar (Metzker, 2002). Practitioners and researchers separate year round schools into two main designs: multi-track and single-track. In the multi-track design, students are divided into several tracks; some of the students attend classes while other students are on vacation. The major reason given for the use of a multi-track design is better use of facilities in order to save money and accommodate overcrowded schools (Kratzer, 1996; White, 1991).

In the single-track design, all students follow the same calendar; there are several types of single-track designs including, 60/20, 90/30, and 30/10. The first number indicates the number of days of instruction per block and the second number indicates the number of intersession days between instructional sessions (Kneese, 1994). It appears that, the 45/15 plan in which students attend classes for nine weeks and then have a three-week vacation is the most popular single-track design (DeLaro, 1994; Kanipe, 1998; McMillen, 2001). The single-track design allows additional time for curricular enrichment as well as increased retention of knowledge that is often thought to be lost during the lengthy summer vacation typically found in the traditional school calendar. The three-week intersessions between instructional blocks can be used for remediation for students who are not doing well in their classes and for art courses, theatrical productions, science experiments, and field trips which are difficult to schedule during
regular classes (Ananda, 1997; Haenn, 1996). Those supporting the single-track design cite a superior use of time and improved student achievement as the major reasons for implementing and maintaining a year round school calendar (Kratzer, 1996; White, 1991).

**Year Round School Achievement**

There is a plethora of research addressing the benefits and disadvantages of the year round school as it applies to student academic achievement in comparison with student academic achievement in the traditional calendar school. Studies have shown traditional calendar schools in which students performed better academically than those in year round schools (Johnson, 1984; Marr, 1989). Other studies have reported that there was no difference in the achievement of students from the two types of schools (Kuner-Roth, 1985; Pittman & Herzog, 1998). Additionally, many studies have found that year round schools outperformed traditional calendar schools in terms of student achievement (Lacey & Drees, 1996; Prohm & Baenen, 1996; Roby, 1992). Conflicting studies have supported both traditional calendar schools and year round schools as offering a better choice for students.

In 1993, from a meta-analysis of thirteen previously conducted studies, Six (as cited in Winters, 1995) concluded that ten of the thirteen studies favored year round education and seven of the ten held statistically significant differences favoring year round schools. Six of the studies had inconclusive or non-reported findings. In an earlier study, Harlan (1973) examined student academic achievement of over 400 students in reading, language, and arithmetic, both before and after the adoption of a year round calendar. The students’ test scores were evaluated in grades three through six under a traditional calendar and then again in grades five through eight, two years after the school changed to a year round calendar. This allowed the students to serve as their own control and comparison groups. Analysis of covariance and chi-square tests were performed. After two years under the year round calendar, there was a ten-percent increase in the number of students whose scores were below the district’s norms. Harlan's findings confirmed the traditional calendar supporters’ beliefs.

In a more recent study, Pittman and Herzog (1998) found that although teachers, students, and parents from a rural North Carolina year round school district held positive attitudes about their schools, there was no concrete evidence of superior academic achievement in these year round schools. The researchers suggested that administrators use caution when making decisions concerning a move to a year round school calendar. The findings of Kuner-Roth (1985) failed to support either the year round or the traditional calendar. While investigating two school districts from the suburbs of Chicago, this researcher reported that neither teacher grades nor achievement test scores revealed that students in one type of school outperformed the other. Similar results were concluded by McGee (1999) and Zykowski (1991).

Traditional calendar fifth grade students fared better than their year round school counterparts in a study conducted by Johnson (1984). In this study students from twelve traditional calendar schools scored significantly higher than did students from twelve year round schools on the Comprehensive Tests of Basic Skills (CTBS) in reading and mathematics. The previously mentioned studies indicate that support for those who oppose the year round calendar is strong. However, at least equal in strength are studies that support the year round school calendar.
For example, using a causal comparative design, Roby (1992) examined the Iowa Tests of Basic Skills (ITBS) scores of students attending an elementary traditional calendar and an elementary year round school in the West Carrollton Ohio School District. Chi Square analysis confirmed that students from the two schools were not significantly different in socioeconomic status or ethnicity. The dependent variable was mean school achievement test scores in reading and mathematics. Additionally, cognitive ability, as measured by the Cognitive Abilities Test was used as a covariate. Of the eighteen data analyses performed, all found statistically and practically significant differences in favor of the year round school students.

Also examining elementary students, this time in Wake County, North Carolina, Prohm and Baenen (1996) found that student achievement scores favored the year round school students after three years of evaluation. Likewise, after two years of evaluation, Lacey and Drees (1996) found that student achievement test scores from a year round school were above the district and national averages. Thirty-four percent of these students were from low-income households and twenty-seven and one half percent were from minority groups.

Over a six-year period of time from 1990 to 1995, achievement test scores of students from a year round school were compared to students from a traditional calendar school in a large Utah school district (Shields, 1996). Scores in reading, mathematics, language, science, social science, and total basic battery were significantly higher for the year round school. Also important was the fact that the scores at the low end of the range improved overall. In yet another study that found academic achievement test scores favoring year round school, Haenn (1996) examined reading scores on the North Carolina End-of-Grade tests for students from two year round schools in Durham City, North Carolina. The schools were attendance zone schools, but parents had the choice of sending their children to other schools when the year round calendar was implemented (159 of 1100 chose to change to a school with a traditional calendar). The pre/post score gains were significantly higher than the state expected gain after the first year of implementation of the year round calendar.

Using comparisons of second and fifth grade students, Marr (1989) found that reading scores significantly increased after the implementation of the year round calendar. She analyzed test scores over a four-year period that included two years before and two years after the school changed to the year round calendar. Interestingly, she reported that second graders from a low SES school showed more improvement in reading scores on the CTBS than second graders from the high SES school. This difference was not found among the fifth graders’ scores.

Third grade students were the subjects of two studies conducted by Costa (1987) and Bechtel (1991). Bechtel reported that year round school students outperformed traditional school students in terms of achievement test mean gain scores. The year round schools that had been following this calendar for one or two years fared better than the traditional calendar schools; but the year round school that had been on the year round calendar for three years did not perform as well as the traditional calendar schools. Bechtel hypothesized that this difference could have been a result of the novelty effect in which the excitement of the new program wore off after two years. Costa stated that statistically significant differences in six of the ten comparisons were found to favor year round schools. Year round school third graders outperformed traditional school third graders in reading, mathematics, and language arts.
Reading achievement test score gains of third grade students were studied by Brekke (1984). Students’ reading scores on the CTBS in first grade and again in third grade were compared. Traditional school students averaged a gain of one year, eight months while year round school students averaged a gain of two and one half years. A thirteen-month gain in favor of the year round school was found. Later, Brekke (1992) reported findings from the Oxnard School District in California. Reading and mathematics achievement test scores for grades three and six showed greater growth for nine years. This growth rate was higher than the state average. In eighth grade, the mathematics and science scores increased more for the year round school district, however, reading and history scores did not increase as much as the state averages. Notwithstanding the conflicting evidence of the year round school calendar versus traditional calendar influence on the academic achievement of students, the majority of researchers contend that the year round calendar, at the least, does not harm student achievement. Of critical importance to educators, is the issue of how this calendar may help traditionally low achieving, disadvantaged students.

**Other Advantages of Year Round Schools**

Numerous factors have been cited as advantages of the year round school other than student achievement. Among these are decreased teacher and student absenteeism; decreased student discipline problems; positive attitudes among teachers, students, parents, and administrators; and decreased costs (Baker, 1990; Christie, 1989; Kinney, 1995; Kocek, 1996; Prohm & Baenen, 1996; Varner, 2001; White, 1991; Zykowski, 1991). Pelavin (1997) reported overall eight percent financial savings for year round schools over traditional calendar schools.

Merino’s (1983) meta-analysis found that in ten of the thirteen studies examined, year round school teachers expressed positive attitudes toward the year round calendar. Improved student achievement, lowered discipline referrals, higher student attendance, lowered amount of time to get students to settle down after vacations, less student burn out, and less learning loss over vacation periods were cited as positive effects of the year round calendar by teachers. Parents whose children were in a year round school also favored the year round calendar. Perceived negative effects of the year round calendar centered mainly on the difficulty of planning family vacations.

Some studies concerning teacher perceptions of the year round school as compared to traditional school (Costa, 1987; Perez, 1995) found that teachers felt there was no difference in the effectiveness of the two schedules. Perez sent questionnaires to middle school principals, athletic directors, and teachers with coaching responsibilities. These adults expressed that they saw no difference in the impact of the year round school calendar on student eligibility or participation in athletic programs or on academic performance from before and after the year round calendar was implemented. Using a sample of teachers from seventy-five elementary schools, sixth grade centers, and middle schools, Costa determined that teacher opinions revealed no differences concerning school climate among those in the year round schools and in traditional calendar schools.

However, positive teacher opinions were expressed in several other studies (Ananda, 1997; Christie, 1989; Curry, Washington, & Zyskowski, 1997; Prohm & Baenen, 1996; Sturdy, 1993; Varner, 2001; Venable, 1996). According to Curry et al. teachers under the year round calendar believed that students retained information better and they were therefore required to do less reteaching of skills than they had done under a
traditional calendar. Likewise, Venable found that teachers reported that students were forgetting less, learning more, and had fewer discipline problems since the elementary school had moved to a year round school. Additionally, Schmieder and Townley (as cited in Kneese, 2000) concluded that overall, teachers believed there was less learning loss among their students after the year round school calendar was implemented. Teachers in Sturdy’s study felt that the more frequent breaks afforded by the year round calendar contributed to an overall perception of greater energy. Shields (1996) reported that interviews of administrators and fifth grade teachers and surveys of fifth grade students and their parents revealed positive attitudes about year round calendar. However, these teachers did express concern that the lack of a long summer break made taking university courses for them more difficult. Parent satisfaction was also found to be favorable in several studies (Atwood, 1983; Baker, 1990; Christie, 1989).

Summary
Kneese (2000) explained that earlier studies of year round schools had insufficient research designs, which did not use appropriate comparison groups or adequate statistical testing to be of practical use to others in the field of education. In the last decade, however, more research has been conducted with stringent controls. After conducting a synthesis of thirty-six recent studies, Kneese concluded that the overall results of this recent research have been favorable toward year round schools. Kneese made ninety comparisons in all, sixty-one of these used inferential statistics to compare student achievement; forty of the sixty-one (66%) revealed results favoring year round schools, nine of sixty-one (15%) favored traditional calendar schools, and twelve of sixty-one (20%) were mixed. Twenty-nine comparisons were evaluated by Kneese from the descriptive statistics. Twenty-one of the twenty-nine (72%) favored year round schools, five of the twenty-nine (17%) favored traditional calendar schools, and three of the twenty-nine (10%) were mixed.

In fact, the majority of recent studies does support the year round school in the area of student achievement. One reason often given for improved achievement in the year round school is the lack of learning loss because there is no long summer break from instruction. This summer learning loss has been shown to be especially prevalent among students from economically disadvantaged homes. Teacher perceptions have indicated that among teachers working in a year round school, teachers believe that they spend less time reteaching skills and that students forget less in a year round school. As administrators continue to search for ways to improve student academic achievement, a change to a calendar with a year round schedule is a viable option which seems to offer some hope in this area.

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Student learning compared through the use of student PowerPoint presentations and traditional teaching methods
Camille Baker Branton, Ph.D. and Susan Parkinson Lee, Ed.S.

With the advent of technology in higher education, colleges and universities are looking at new and different ways to meet the educational needs of students. Changes in student characteristics and needs mandate those in higher education to look at ways of providing opportunities for improvement of teaching and learning. Accrediting agencies are including the use of technology as an essential component of a well-rounded education. One question that seems to appear quite often is whether technology is being used to comply with standards or to improve teaching. As one begins to research the question, it appears that more information is necessary if one is to make a statement as to the relationship that technology has on the learning process in higher education. Although new teaching methods are essential to the improvement of learning, the educator must also strive to protect the quality of learning in the classroom.

There are many reasons for including technology in classroom instruction. As we move into the age of information and technology, it is essential that our teachers are not only familiar with the use of technology and technological tools, but that they are comfortable with utilizing them on a regular basis. In order to be leaders in their profession, educators must be able to lead using technology as a means of promoting productivity as well as learning (Morrison, 1997). There are many misconceptions as to the abilities of precollegiate students when it comes to technology. There appears to be an acceptance on the part of most universities that students come to college prepared to integrate technology into their learning environment. As a result, many instructors assume students have abilities related to the use of instructional technology, when, in truth, they do not. As a result, many educators are infusing technology into classroom assignments that ultimately may hinder the effectiveness of the instruction (Maus, 1998).

In spite of the rise in the use of technology in the classroom and emphasis placed on technology by accrediting agencies and organizations, evidence has not really been shown that the use of this technology really improves learning. Although many learning theories and methods of effective practice advocate the use of a variety of learning strategies and methods of instruction, how to accomplish this effectively is of constant concern. It is necessary to realize that something new does not necessarily mean better when it comes to teaching and learning (Pence, 1997). Postman (1992) stated that every new technology brings with it both positives and negatives. According to Harry Pence (1997), “Wise technology implementation focuses not only on what the new technology will offer but also on what may be lost when the old methods are abandoned” (para. 1). As a result, it appears that if we are to use technology in its fullest potential we must look at the traditional as well as the new methodologies and determine under what conditions technology improves learning and when it impedes it.

This study is designed to look at the comparison of traditional methods of college teaching and the infusion of collaborative, student initiated use of technology through the use of Microsoft PowerPoint presentations. Students in three undergraduate educational psychology classes participated in the study. Each of the classes had
approximately 35 students and all were sections of the same course. One class was taught in 50 minute blocks using collaborative student initiated PowerPoint presentations and another was taught in 75 minute blocks also using collaborative student initiated PowerPoint presentations. These two classes were compared to a class taught in 50 minute blocks using traditional lecture/discussion methods. The overall grade for the classes were compared to determine differences in the performance outcome. Additionally, graduate classes were utilized to determine if class size might make a difference in the performance outcome when PowerPoint was used in a class of 20 students as compared to a class of 40 students.

**Methodology**

**Introduction**

Three undergraduate educational psychology classes were included in the study to compare the use of PowerPoint technology in 50 minute and 75 minute classes with a traditional 50 minute lecture/discussion class. The PowerPoint classes were compared to each other and to the traditional lecture/discussion class through the use of a t-test using the final class grade as the outcome variable. Two graduate educational psychology classes were compared on the basis of class size. A smaller class of about 20 students was compared to a larger class of about 40 students, with both classes utilizing collaborative student initiated PowerPoint presentations and the outcome variable being the final grade for the course.

**Sample**

The sample included a total of 113 undergraduate students and 61 graduate students at Delta State University, a small regional university in Mississippi. The researcher recognizes the limitation of using pre-existing classes and the inability to generalize the results of the study past the sample. Undergraduate class size ranged from 36 to 40 students and graduate classes ranged in size from 21 to 40 students. There was no predetermination of experience with technology prior to the study, but an attempt was made to include at least one student with previous experience with PowerPoint in each group. Students were randomly assigned to the respective groups. In the undergraduate classes, the groups consisted of three to four students in each group. However, in the graduate class containing 21 students, there were pairs of students in nine groups and one group containing three students. In the graduate class containing 40 students, students were placed in groups of three or four.

**Undergraduate Classes**

**Procedure**

The undergraduate study was conducted in the fall semester of 2002. Students were divided into three groups using a convenience sample of three classes. Since the regular class schedule included two classes meeting on a Monday/Wednesday/Friday schedule of 50 minute blocks and one class meeting on a Tuesday/Thursday schedule with a meeting time of 75 minutes, these were the classes utilized in the study. The teaching method utilized in the Monday/Wednesday/Friday classes and the Tuesday/Thursday class consisted of three collaborative, student initiated PowerPoint presentations, while the other Monday/Wednesday/Friday class was taught in the traditional lecture/discussion method.
Students in the classrooms utilizing PowerPoint were assigned to groups at the beginning of the semester. These groups would remain intact for the entirety of the semester. At the beginning of the semester, those students in classes utilizing PowerPoint presentations were given instruction in the use of PowerPoint in the computer laboratory in the Center for Teaching and Learning at Delta State University. This instruction included the basic essentials in PowerPoint construction, handouts of more detailed information on PowerPoint instruction and two class periods of group work on assigned PowerPoint presentations completed in the lab. The instructor was available to assist individual groups and to provide extra assistance in specific problems related to the presentation. Each student within the group was given a specific role. The roles included research, presentation application, and note-taking. Students scored themselves and each other on a Likert type scale based on how well they accomplished their particular roles. Each student had an opportunity to participate in all roles by the end of the semester. During the presentation, the group was scored on a rubric which included ratings of the presentation mechanics as well as the appropriate coverage of the course material. After each presentation, the instructor engaged the class in discussion followed by a question and answer period. If basic material was not effectively covered in the PowerPoint presentation, the instructor made sure that all material included on tests was covered in the discussion. Each module was followed with a 30 to 50 point multiple choice test. The same tests were given to each class.

In the traditional lecture/discussion class, the teacher covered the same modules of information that was covered in the classes using PowerPoint presentations. Information was covered at approximately the same pace for each of the classes. The method of teaching utilized in the traditional method was not strictly lecture. Socratic questioning, discussion and debate, the use of illustrations and examples, and the explanation of key concepts were the principle methods of teaching utilized in the traditional class environment. The same material was covered in all of the classes and the same tests were given in each of the classes.

Results

At the end of the semester after final grades were compiled, the classes were compared using t-tests to determine any differences between either of the PowerPoint groups and the traditional and between the two PowerPoint groups. Results indicated that there was no significant difference between the two Monday, Wednesday, Friday classes where one utilized the PowerPoint instruction and the other utilized the traditional teaching method (p=.12, t=+1.16, 74df.) There were also no significant differences found between the traditional class and the PowerPoint class with 75 minutes of instruction (p=.496, t=0.01, 71df.) When looking at the two PowerPoint classes compared, there was no significant difference noted either (p=1.09, t=-1.24, 75df.) It would appear that in the case of these three classes, no significant differences occurred in the performance outcome of the students. This would validate Pence’s statement related to the lack of evidence available for showing improvement in learning through the use of technology, in particularly, group PowerPoint presentations (Pence, 1997). This would indicate a need for more research on particular methods for using technology in the improvement of learning. It would appear that confounding variables such as the amount of prior experience with the use of technology, how groups are formed, prior knowledge of content material, as well as motivation of the student to provide a quality product must be
addressed. Other issues for study might also include the comparison of teacher infused technology as it compares to student initiated use of technology and the comparison of teacher infused PowerPoint compared to the traditional lecture/discussion method of teaching.

**Graduate Classes**

**Procedures**

Graduate classes included in the study were held in the summer session of 2002 and fall semester of 2002. The summer class consisted of 21 graduate students enrolled in one of the Master of Education programs at Delta State University. The summer class consisted of four weeks of classes meeting for two hours each day. Classes met in the morning. The fall semester class consisted of 40 graduate students enrolled in one of the Master of Education programs at Delta State. This class met in a three hour block one night a week for the duration of the fall semester. It must be noted that the time of day when the class met, as well as the number of students enrolled in the class might have affected the outcome of the study. Students taking the class in the fall semester generally came to class after working all day, while summer school students were in class in the morning hours. This fact could have a confounding effect on the outcome of the study.

In the summer class, students were divided into groups of two and were allowed to work together on their presentations, whereas, the fall class were divided into groups of three. Each class was given basic instruction on the use of PowerPoint, locations for finding information necessary for the presentation, and ways to present information effectively. The summer class met in the computer lab in the Center for Teaching and Learning while the fall semester class met in a large classroom with a mobile computer and projector. Students were assigned topics related to the two modules taught during the semester. Students were evaluated with the use of two multiple choice tests, one at midterm and the other at the end of the semester. As in the undergraduate study, following each of the PowerPoint presentations, the information covered was discussed, any unclear information was explained, and the overall content was discussed within the class. The same information was covered in each class.

**Results**

The statistical analysis resulted in a significant difference between the summer class having 21 students and the fall class having 40 students ($p = .03, t=+1.95, 59$df). Although there appears to be a significant difference between the two groups, this difference may or may not be due to the difference in class size. Other mitigating factors were evident in the assessment of the two groups yielding the potential for differences made by factors not considered in the study. For instance, when looking at the motivation of students and success of students, the impact of outside factors can greatly change the results of a study. In this case, the fact that all of the students taking the fall semester class were attending class at night after completing a full day of work might have been a large contributing factor in the lack of success in the larger class. There was also less time between meetings in the summer school classes that met each day for a two hour block of time. Further, the amount of time available to work in groups on the PowerPoint presentation, the motivation to achieve the most effective results, and the attentiveness necessary for self-directed learning could be impaired when using this approach in a night class. Having the opportunity to work on the presentations in pairs,
meeting class at times when groups can work together after class, meeting class during the day when the student’s mind is clear and rested might have resulted in a more successful outcome. These above results might imply that care must be taken to use student initiated technology in a manner that would take these issues into consideration and would provide solutions to some of the problems listed above.

Conclusions

Overall, it appears that little difference occurs between the use of student initiated PowerPoint presentations and the traditional method of lecture/discussion teaching. However, technology is a tool that can provide many different opportunities for improving our skills as educators. It certainly is not the panacea that it was once claimed to be, and yet technology offers many avenues for the inclusion of different modalities of learning and instruction. When instruction can include modalities of visual, auditory, and kinesthetic learning, it is evident that the student will retain a greater amount of information. More research needs to be accomplished to determine what groups will benefit from the use of technology, how to improve delivery system so that technology is used as a tool rather than the focus, and how we should go about infusing technology into our college classrooms in a way that will enhance rather than impede learning. It is our responsibility as educators in higher education to continue to strive to provide the best possible learning environment for our students, and this includes finding better ways to utilize technology in the college classroom.

References


The assistant teacher: Key player in the early intervention literacy program
Leslie Little Griffin, Ed.D.

Even in classrooms where there is an exemplary instructional program, there will likely be students whose individual needs go unmet. In the landmark publication, *Every Child a Reader* (CIERA, 1998), the authors stress the need to provide interventions for these students, lest they fall farther and farther behind. In reading, as in other content areas, the evidence suggests that these interventions should include intensive small group or tutorial support. The assistant teacher is most often charged with conducting these small group and one-on-one tutorial sessions.

Multiple studies have confirmed that early intervention programs (K-3) are more effective than interventions begun later (Pikulski, 1994). Early intervention programs are especially effective in schools that serve large numbers of children who come to school with few experiences with books, stories, and print. Key to the success of the early intervention program is the provision of support that provides targeted children with added instruction in the specific areas listed as problems (Cunningham & Allington, 1999). The professional development of the teacher assistant charged with carrying out the interventions is critical to the success of the intervention program.

In classrooms where teachers are able to prevent reading failure, students work daily with a trained teacher assistant individually or in small groups. While in this setting, the children may be found rereading stories or their personal copies of story summaries. As the teacher assistant listens to children reread new and familiar books, he/she is able to encourage students to use strategies they are learning for decoding and comprehension. The literacy activities also provide a springboard for integrating other content areas in which the student may need specialized attention (Tancock, 1994).

These best practices associated with early intervention programs suggest a model for preparing the assistant teacher to assume the role of literacy tutor in the one-on-one or small group setting. The model essentially has four dimensions, each tied to intensive training of the teacher assistant to engage in quality literacy-building experiences with children. These dimensions are: 1) establishing the role of the tutor in facilitating small group sessions; 2) developing skill in conducting read-alouds; 3) developing skill in the use of informal assessment methods and tools; and 4) planning with the classroom teacher to provide literacy experiences that reflect the dimensions of a literacy program based upon scientific research and that integrate content areas appropriately (Allington & Cunningham, 2002; Armbruster, Lehr, & Osborn, 2001; Cooper & Kiger, 2001; Hiebert, Pearson, Taylor, Richardson, & Paris, 1998; Walker & Morrow, 1998).

**Establishing the role of the tutor in facilitating small group sessions**

The role of the assistant teacher is often vague and, therefore, fails to realize its full potential for helping individual students to progress in their literacy skill development. The essential first step in maximizing the efforts of teacher assistants is clarifying the role. For this model, the role is that of a tutor who delivers interventions. A
tutor helps a child learn in a one-on-one or small group situation, addressing the specific needs of students by supplementing the instructional program. An intervention involves additional instruction, often in reading, designed to accelerate proficiency in an area to an age-appropriate level. The primary goal is to prevent or stop failure on the part of the student; students receive the intervention program only for as long as they need it (Cooper and Kiger, 2001). There are several fundamental beliefs that are prerequisites to success in this setting. First, the children in this setting must see themselves as having the potential to achieve success. Second, a trusting relationship between the tutor (assistant teacher) and child in the small group/one-on-one setting provides the ideal setting for learning to take place. Third, small group sessions focus on specific, identifiable problems. Fourth, help is offered early in a child’s school career, and is viewed as fun, not drudgery (Gallop, 1988).

Small group models for beginning readers are characterized as having three to five students; providing intervention instruction in addition to quality classroom instruction; utilizing simple texts, leveled and sequenced in difficulty; delivering structured and fast-paced lessons that focus on repeated reading of texts, instruction on word parts, and writing; providing ongoing assessment; and building home-school connections. Strong teacher preparation undergirds the model (Hiebert, et al., 1998).

Prior to assuming responsibilities in the classroom, the assistant teacher should receive training via the classroom teacher, the educational team, or professional development to establish the responsibilities the role carries with it. In addition, the skills, knowledge base, and attitudes required for working with students to build literacy skills must be identified, along with a plan for developing those areas that the assistant teacher does not have expertise in. For example, an understanding of phonemic awareness is essential for maximizing the read-aloud in the small-group setting. Simultaneously, viable partners (e.g., special education teachers, speech pathologists, lead teachers, reading coaches, parent volunteers) should be introduced, as well as ways that they can provide services that enhance the work in the small group setting.

Of practical necessity is the development of a tutor’s toolkit that contains mobile supplies that will enhance the learning experiences students engage in during the small group setting. Items such as a notebook for tracking the student’s progress, a variety of paper, pencils, and markers for children to use in writing and drawing, and books and other reading materials for reading to and with the child(ren) are but a few of the resources that should be readily available for active learning that maximizes time on task.

Several factors are associated with establishing a climate for successful literacy-building experiences in the small group setting. Foremost, the success of one-on-one and small group instruction is dependent upon the rapport established between the tutor and the tutee. Therefore, one of the first tasks of the assistant teacher when initiating a group is learning about each child. Learning each student’s name (both its spelling and pronunciation) and background information about his family, as well as identifying conversation starters and books for reading to/with the child are essential first steps in getting ready to tutor. During the first small group session, the tutor should take the opportunity to tell about herself, share a favorite book, and conduct icebreaker activities or games. The purpose of sessions should be discussed, and students should understand what to expect in future sessions. Conversation is key to establishing a literate environment for the small group session. Active listening on the part of the assistant teacher, discussion of activities relevant to the child(ren)’s world, and rich conversation
about books (talking about characters, allowing students to share their likes/dislikes and to predict) – all create a climate for literacy building. In establishing this environment, it is also important to consider location. An area that is free of distractions and has comfortable seating, while providing access to a variety of books, establishes an ideal tutoring setting (Walker & Morrow, 1998).

**Developing skill in conducting read-alouds**

The teacher read-aloud is the springboard for the literacy activities that students will engage in during small group sessions. The purposes of the read-aloud, which typically begins each session, are multitudinous. Through the read-aloud, the teacher: advertises a joy of reading; motivates students to read; models thinking processes associated with reading (leading to identification of story elements and increased listening comprehension); demonstrates reading fluency; and improves reading, writing, listening and speaking skills. Furthermore, the read-aloud is applicable to all subject areas.

While there is often a false assumption that anyone can conduct a read-aloud, the task is anything but easy. In fact, it requires a great deal of skill, planning, and rehearsal if the previously cited purposes are to be accomplished. The assistant teacher should have the opportunity to practice read-alouds with informal feedback prior to conducting read-alouds with students. The reader should select a book that will be enjoyable, rehearsing the book with emphasis on fluency and selecting props where appropriate. Children should be comfortably seated in positions that allow them to see the book. In addition to drawing attention to the author/illustrator, the reader should conduct a walk-through of the book, building background and recording children’s predictions about the story. After a purpose for listening has been established, the book should be read orally. Readers should be actively engaged throughout the reading—as they confirm or fine-tune predictions, attend to picture clues, and respond to questions. Readers should have the opportunity to respond to the story through retellings or summarizations. During repeated readings of the book, readers assume more responsibility for reading and telling of the story (Combs, 2002).

**Developing skill in the use of informal assessment methods and tools**

The cornerstone of scientifically-based balanced literacy programs is providing instruction based upon continual assessment of student progress. This is even more critical in implementing prescriptive intervention strategies. While the assistant teacher should not be charged with administering or interpreting formal assessment tools, there are informal means of assessment that provide critical insight into literacy development, and facilitate dialogue and planning between the assistant teacher and the classroom teacher. By assessing students’ needs on a daily basis within the small group setting, specific instructional interventions can be tailored to the individual(s) within the group. Informal assessments that reflect the learner’s ability to perform in an authentic (real) situation are most helpful for the intervention program. Many of them rely on teacher observation. They require the teacher assistant to be a careful observer of students and to develop ways to record information while learners are in the act of learning (Cummingham, Moore, Cunningham, and Moore, 2000).

Two types of assessment processes that are particularly helpful in making decisions about students’ learning on a day-to-day basis are anecdotal records (note-
taking) and story retellings. These assessment strategies are not only useful in reading instruction, but in content areas as well.

Informal observations such as anecdotal records allow the teacher assistant to gather data about a wide range of learner behaviors across all subject areas. Power (1999) describes the practical approaches that teachers use for taking notes as part of their classroom assessment plan. Using the notes to establish baseline data and taking consistent notes throughout the year provides a continuum for planning the instructional program. This same approach is applicable to the small group setting. Yet, meaningful anecdotal records are not randomly noted observations. As with the read-aloud component, they require exacting skill and practice. Parameters should be established for how they will be taken. Extending over a period of time, they should be as objective as possible, recorded exactly as observed as soon as possible after the observation. The date and time should be recorded, for these provide clues about students’ behaviors. The teacher’s interpretation (if given) should be put in brackets off to the side in an effort to maintain objectivity. Over the period of time that observations are made, they should be recorded systematically so that patterns can emerge. Notes should not be limited to unusual behavior, as students’ routine behaviors provide insight into their patterns of thinking and learning. It is important to remember that anecdotal records do not establish cause, but do allow for developing hypotheses that can then be tested, or that suggest interventions. Assistant teachers should keep in mind that anecdotal notes reveal both a child’s strengths and weaknesses, and should take care not to focus on the negative. A variety of systems can provide a means of record keeping, from sticky notes to adhesive labels, to notebooks. With such a system in place, the assistant teacher can provide specific examples of students’ learning behaviors when conferencing with the classroom teacher (Cunningham, et al, 2000).

Story retellings are also powerful assessment tools—they are one of the most authentic techniques available for both instructional and assessment purposes. They can be used with both narrative and expository texts. By comparing retellings over time, those working with students in small groups can tell how they progress over time as readers. The retelling of a story (and identification of story elements – character, setting, plot, mood, theme, conflict, and solution) helps the reader to structure and make sense of (comprehend) the story, and allows the assistant teacher to “look into” students’ thinking processes. The experience may be guided by questions, or accomplished through illustrations, story maps, drawings or dramatizations and the like (Combs, 2002; Cunningham, et al, 2000). Retelling checklists and rubrics that identify key elements being assessed are also recommended for use. These are often identified in the school’s curriculum or can be developed by the classroom teacher and assistant teacher.

Planning with the classroom teacher to provide literacy experiences that reflect the dimensions of a literacy program

The assistant teacher will be working with students in all subject areas/disciplines and will, therefore, need to study the structures of each. Since reading preparation provides the foundation for all that is done in the small group setting, the components of reading instruction should be addressed first: phonemic awareness, phonics instruction, fluency, vocabulary instruction, reading comprehension and writing. Additionally, the structures of science, social studies, mathematics, and fine arts should be explored to emphasize that linking studies in more than one area provides for stronger
connections in students’ thinking, and, therefore, better understanding. Curriculum frameworks typically reflect the prevailing national standards associated with the various disciplines and serve as an excellent source for exploring the nature of the various content areas. From this study, the assistant teacher should draw such generalizations as the following: Once this foundation is provided, the assistant teacher is poised to partner with the teacher in developing plans for the small group tutorial session based on students’ needs. A plan format that incorporates all of the aforementioned dimensions provides a guide for developing the “before, during, and after” phases of reading instruction. Before reading, students should be encouraged to activate prior knowledge and understand the task as well as establish purpose and predict. During reading, the student(s) should focus attention, check predictions, use picture and text context clues, relate to story elements, and apply various skills that have been introduced. After reading, readers should be expected to summarize and retell the story, as well as to extend the story through a variety of activities (Walker & Morrow, 1998).

The assistant teacher cannot be expected to gain proficiency in planning overnight. Only when all dimensions of the model are in place can cogent plans be expected to emerge, and then only through the combined efforts of the classroom teacher and teacher assistant. Further, all members of the educational team must continue to support the assistant teacher as skills are practiced and internalized. Only then will quality instruction be delivered to children in the small group setting, where rapport-building strategies are employed hand-in-hand with literacy-building strategies, ultimately achieving that balance so critical to delivering interventions successfully to targeted students.

References


The importance of stimulation for an infant’s brain development  
Elizabeth McArthur Tibbs, M.D.

Recent research into a child’s growing and developing brain has given many insights into what is taking place during the early years. It has been discovered that brain growth is fastest and learning is the most crucial during the first three years of life. Early stimulation of the infant and toddler translates into better performance in school and later in life (Shonkoff, 651-4). This relates not only to intellectual development, but social and emotional development as well.

Klass et al have stated that as critical as stimulation is to brain growth, lack of stimulation can cause the opposite effect. Just as unused muscles can atrophy in patients with Spina Bifida or Cerebral Palsy, a certain degree of cerebral atrophy can result when the brain is not used. One example is a condition that begins with strabismus, which is commonly referred to as “lazy eye.” Strabismus causes double vision. In attempting to reconcile both images, the brain turns off the image from one eye. If the problem is not corrected, in time, that eye’s visual center in the brain becomes permanently underdeveloped through lack of stimulation, a condition called Amblyopia (Behrman, 2075, 2087; Shonkoff, 189). Similarly, a child tends to adapt to his environment, as we have seen in cases of neglect. If a child is not stimulated, the brain itself, in essence, “shuts down.” This can lead to merely a few points drop in IQ or profound developmental deficits (Klass, 651-4; Shonkoff, 257-260).

Knowing how best to stimulate an infant begins with knowing the developmental processes of infancy and the toddler years. Babies live in an amazing world where play is much more than just for fun, and parents play a critical role in their stimulation. Relationships are the foundation of a child’s healthy development. A child’s relationship with his parents is the first and most important relationship he will ever have. What children experience, including how their parents respond to them, shapes their development as they adapt to the world around them.

Developmental process

0 to 2 Months

Baby is adjusting to her new world. She is learning to regulate her emotions, sleep and feeding schedules. Responding to a crying baby in a loving manner, trying to comfort no matter how frustrating it can be, nurtures her social and emotional development. It makes her feel important and she learns to trust her parents to care for her. This gives her the confidence to trust others, which will help her form healthy relationships as she grows. In addition, being soothed by her parents in these early months will help her learn to soothe herself as she gets older, a very important skill throughout life (Shonkoff, 229-232).

Using his voice and body to communicate is part of a baby’s early language and motor development. He cries to indicate hunger, tiredness or boredom. He indicates over stimulation by looking away, arching his back frowning or crying. Socializing begins by watching your face and exchanging looks. When his parents answer his cries, he learns that his communication efforts are successful. This encourages him to
communicate more; through gestures and sound at first, and then later through words (Shonkoff, 110).

Developing eyesight is indicated as he is beginning to follow objects with limited eye movements. Extremity movements are reflexive at this age, but he has a tight grip and can hold his head up briefly (Gunn, 198). Connecting sounds with sources is evidence of early intellectual development.

2 to 6 months

Infants become increasingly interactive during this time and play becomes an important developmental tool. Social and emotional development is stimulated because the infant is having fun with another person, usually the parent. She can also see how much fun they have being with her. This helps her feel loved and secure, and will help her form other positive relationships as she grows (Shonkoff, 229-232).

Her desire for play leads to the development of new intellectual abilities. An example is learning to play peek-a-boo around five or six months. Learning to anticipate what comes next, mother’s reappearance, is an important skill for helping an infant feel more in control of her world. Knowing what to expect will also help her to more easily deal with separation anxiety as she learns that people exist even when they are out of her sight.

A baby’s language development continues as he squeals, makes sounds and moves his arms to let his parents know that he does not want to stop playing. When play is continued, communication skills are reinforced. While playing peek-a-boo, each time the parent reappears, he learns that he can trust them to always come back. He is beginning to smile and coo, then progresses to babbling. First he will make “oh” and “ah” sounds, which are followed by soft consonants, like D’s, B’s, M’s.

Motor development is becoming more pronounced at this stage. You will see the baby begin reaching for things and trying to hold onto them at about 3 months. He should be rolling over around 4 months. He may be sitting with assistance by 6 months (Gunn, 198)

6 to 9 months

The stranger anxiety which typically begins around this age can be frustrating at times, but is a perfect example of how all areas of a baby’s development are connected (Shonkoff, 386). The strong bond which forms between mother and infant is demonstrated when the child clings to the mother for safety. This bond, the trust of the baby in her mother, and the fear of the stranger, are part of her social and emotional development. Her intellectual development enables her to tell the difference between whom she knows and whom she doesn’t (Shonkoff, 147), and helps her take steps to obtain the comfort and protection she needs. Allowing a baby to warm up slowly to someone she doesn’t know well, helps her feel loved and secure, which will help her feel more comfortable meeting new people as she grows up.

She will begin to say her first words, typically “mama” and “dada.” Language development is also evident in the sounds, facial expressions and gestures she uses to communicate her discomfort. Her motor development is manifested by those same gestures, as well as her ability to cling to her mother. Sitting alone, and crawling are the major motor milestones during this stage. Baby is now on the move, and can explore the world in new ways. It is time to child-proof the house.
9 to 12 Months

A close and trusting relationship with parents is still a key feature of an older infant’s social and emotional development as baby continues to look to Mom and Dad for comfort. She is increasingly capable of expressing herself with gestures, sounds and facial expressions. She can engage in early conversational patterns such as passing objects back and forth, imitating sounds and actions, and pausing to wait for a response during babbling. She is also beginning to understand “cause and effect,” for example, if she cries, Mommy will come (Shonkoff, 147).

She is beginning to use her intellectual skills for making plans. If she wants a toy, she can begin to work out ways to get it. The concept of object permanence is evident in baby’s new memory skills at this age. It is a very important skill, but can lead to difficulties when you are leaving. It is also what makes playing games like hide-and-seek and peek-a-boo so much fun. Repetition is an essential tool to help him learn. Babies at this age love to do things over and over again because that is the way they figure out how something works. Doing things repeatedly builds their self-confidence, and strengthens connections in their brains. Their ability to move in new ways makes it easier to explore and helps them make new discoveries.

Language development is to a large extent internal at this point. Baby can begin to know the meaning of a word, but may not be able to say it yet. Language often takes a back seat to motor development, which is expanding rapidly now, with standing, cruising and even first steps.

12 to 18 Months

Baby is now a toddler and has reached a developmental level that is both frustrating and exciting. He has learned to depend on his parents to help him as he struggles to communicate what he wants. This signals strong social and emotional development.

Pretend play helps develop important intellectual skills and creativity. Toddlers continue to imitate what they see around them, but now, they are beginning to understand symbols and ideas, not just concrete things they can see and feel. They begin to use objects in new and creative ways. They continue to be able to formulate and carry out plans, but ones that are a little more complex (Shonkoff, 147-148).

Toddlers are actually great communicators. They are learning new words every day, and use them, along with gestures, to indicate thoughts and feelings. She can take your hand, walk you to the refrigerator, and say “ju-ju” to tell you she wants some juice. Toddlers can understand much more than they can say. Language development at this stage also includes the ability to follow one-step instructions such as “Go get your shoes.” By 18 months she may even be able to follow two- or three- step commands. While he may understand “stop” and “don’t touch,” he does not have the impulse control to stop himself the next time temptation appears.

Motor skills continue developing as well. Walking and running opens up a whole new world of exploration for her and a whole new world of watchfulness for parents. Since they are better at doing things than stopping what they are doing, instructions like, “Walk slowly” or “Use walking feet” work better than “Don’t run.”
18 to 24 Months

Toddlers’ vocabularies are growing by leaps and bounds. They are learning new words and putting words together to make sentences, such as “Go bye-bye,” or “Want milk.” This stage can also be a time of frustration, not only in the area of language development as they struggle to make themselves understood, but also socially and emotionally as well. Toddlers become very independent and eager for control. They have not yet learned to properly express their anger and frustration, and their impulse control is still developing. They are beginning to understand the consequences of their actions (Shonkoff, 112-113).

Toddlers are very curious and exploration is one way they learn about the world around them. They like toys that have many different uses; ones that offer them different options for play, such as blocks, cars and stuffed animals. Their imaginations begin to blossom at this stage.

Now that toddlers are walking and running, their motor development is concentrated mostly on fine-tuning. Practicing new moves strengthens brain connections. Coordination and balance are developing more thoroughly. Active play at this stage helps with learning in other areas as well. For example, by swinging and sliding they learn about gravity and the concepts of up and down.

24 to 36 Months

Play is essential for the two-year-old as a learning tool. It helps build all areas of his development. His intellectual development allows him to pretend, using toys in new ways. Creativity and problem solving reach higher levels, and his language skills clearly show what he is thinking and planning. A two-year-old typically can speak between 200 and 300 words. By age three he will be able to put together three and four word sentences (Behrman, 39). In spite of all this, two-year-olds often lack the verbal skills to describe their emotions. This can leave them feeling powerless and frustrated.

The two-year-old is beginning to interact more with friends, instead of side-by-side. This demonstrates his social and emotional development. He uses pretend play to understand things in more complex ways. He is learning important concepts such as big and small and up and down. His emerging creativity and imagination are very important aspects of overall healthy development.

A two-year-old is very active. He is beginning to explore in new ways by running, jumping and climbing. His fine motor skills continue to develop as he uses his fingers and hands to build structures that he pictures in his mind. He can scribble in circles and imitate a horizontal stroke. He can handle a spoon well and is beginning to help undress (Behrman, 39).

Stimulation Techniques

Knowing the developmental stages of the first three years establishes a foundation for providing a stimulating environment that encourages each child to reach his or her fullest potential. It is also important to remember that each child develops at her own pace. She is her own special person with her own strengths and special needs. Understanding all these things is essential for promoting healthy development.
0 to 2 Months

Helping a newborn baby adjust to his new world requires careful observation to figure out what his cries are signaling. Soothe the infant in a loving manner, and comfort him no matter how frustrating it can be. This lets him know he is loved. This will help him learn self-soothing skills, promoting a strong bond and healthy brain development. *You cannot spoil a baby by holding him.* Discovering what soothes the baby and what most upsets him strengthens the relationship.

Decipher the message baby is sending. What signals is she using? Responding reinforces his efforts, builds positive self-esteem and a desire to communicate. Talk and sing to the baby. Pay attention to sights and sounds that are pleasing to her. Use toys and other objects with bright colors and textures. Knowing what kinds of interactions are most stimulating will help determine which activities to offer. Be watchful for signs of over stimulation.

Offer baby different objects to look at, and touch. He can focus best at 8 to 12 in. away. Play “tracking” games by moving objects, including your face, back and forth. This exercises neck muscles as well as visual ability. Using toys that catch baby’s attention will be the most stimulating. Observe how he lets you know he is interested. This will guide the interactions.

2 to 6 Months

When baby babbles, talk and babble back to her. These early conversations will teach her hundreds of words before she can actually speak them. Engage in back-and-forth interactions with gestures. For example, hold out an interesting object, encourage baby to reach for it and then signal for her to give it back. This also teaches about back and forth conversations.

Babies at all ages love to explore. At this stage, babies learn from looking at, and holding objects, as well as putting them in their mouths. Introduce one toy at a time so that baby can focus on, and explore each one. Good choices include a small rattle with a handle, a rubber ring, a soft doll or a board book with pictures. Lay baby on her back and hold brightly colored toys over her chest within her reach. She will enjoy reaching up and pulling them close. Place baby in other different positions such as on her stomach or sitting with support. This gives her a different view and a chance to move in different ways. This also helps strengthen different muscle groups.

6 to 9 Months

Continue to talk a lot with baby. Read with your baby. Labeling and narrating are also great methods for teaching words and ideas. Give her time to respond. Your response to her communications helps her learn as well as reinforces her efforts. When she makes a sound, you imitate it. She will soon begin to imitate you. Imitation helps baby learn new skills.

Baby will also begin to imitate your actions, which helps her develop her motor skills. Give baby time to take in what you did and then copy you. This can also teach cause and effect. Seeing that she can make things happen builds her self-confidence and makes her want to take on new challenges. Encourage baby to explore and experiment. She is beginning to learn different ways to use objects.

Encourage baby to use his body to get what he wants. If he indicates with sounds and gestures that he wants a toy out of reach, help him get it for himself by
brining it close enough for him to grab. This technique can also be used to stimulate crawling by placing the desired item just out of reach. Doing things for himself helps build his confidence.

Create an environment that is safe for exploration. Make sure only safe objects are within baby’s reach, and that anything she might use pull herself up to her feet is sturdy and fastened down to the floor or wall. Baby-proofing the house will also help reduce conflicts between parent and baby.

9 to 12 Months

Help baby handle her feelings. Comfort her when she cries, acknowledge when she is frustrated and help her calm down and try again. This helps her manage very strong feelings and develop self-control. Be positive when leaving her. Tell her you will miss her, but that you will be back. Giving her something that provides her some comfort, like her “blankie” or a stuffed toy, is appropriate at this age. If she awakens during the night, go to her to reassure her that you are still there. Make sure she falls asleep in the bed. Letting her fall asleep in your arms makes it more difficult for her to soothe herself back to sleep if she wakes up again in the night.

Play hide-and-seek games like peek-a-boo. Disappearing and reappearing like this help him learn to cope with separation and feel secure that you will always come back. Engage in “circles” of communication with baby for as long as she is interested. Continue to label and narrate activities. If she reaches for a book, ask, “Do you want the book?” Wait until she responds, and then hand it to her. See what she does with it and then join in without taking over. These “conversation” help boost development in all areas. Parents should be their child’s learning partner and coach, observing closely what baby can do, then helping her take the next step. They should follow the child’s lead. The more baby directs play, the more invested she is and the more she will learn.

12 to 18 Months

Encourage each child to use his own words, sounds and gestures to communicate, even if you think you know what he wants. For example, if he points at his cup, encourage him to say, “cup” or “milk” before handing it to him. Play games with instructions and see how many he can follow. Read with your toddler. It helps him learn new words and concepts. It also helps him develop a love of books and reading.

Offer toys that represent objects in the world around him, such as plastic food or a toy telephone. Imitating the behaviors he sees helps him understand his environment. It continues to be an important learning tool. Join in his play. Help him develop his own stories by letting him be the director. Watch the many different ways he uses the objects around him.

Create lots of low, safe places in the home where a toddler can crawl under furniture, cruise around a coffee table or stand on his own. Help a child who has walked up the stairs get down safely. Think of ways to divert a curious toddler away from forbidden objects so you don’t have to say “no” all day long. For a favorite “no-no”, substitute a toy with similar features.

18 to 24 Months

To help a child develop her vocabulary at this age, expand on what she says. When she says, “Dolly fall!” you could say, “Yes, Dolly fell down to the floor.” This
helps her learn other language skills, also. Turn a walk or a trip to the store into a learning opportunity. Talk about the colors of cars on the street, or the shapes of fruits and vegetables. This kind of learning makes new ideas and concepts easier to grasp by linking to what the child already knows.

To avoid conflicts, give toddlers choices among acceptable options. This helps them feel in control. For example, let a child chose between the red or blue cup, and the yellow or pink shirt. Avoid asking her opinion when there is only one option. For example, do not ask if she is ready to go unless she can stay longer. Instead, use language to help her anticipate what will happen next. “After you finish playing with that doll, it will be time to go.”

Another way to avoid conflict is to anticipate tantrums as the situation progresses. Diversion is a very useful method at this age. If you see a child becoming frustrated, try to calm her down and suggest another activity. Help the obviously angry toddler avoid a fight with her friend by pausing to read a book. When an infraction occurs, use consequences that are directly connected to the undesirable behavior. Removal from the situation or area and offering an acceptable solution is another form of diversion.

Provide toys and objects that lend themselves to imaginative play and join in with the fun. You will learn a lot about thoughts and feelings, and can help expand thought processes. Sand, water, play dough and drawing materials are all good choices for children this age. They help develop a child’s creativity and strengthen muscles that a toddler will use later in handwriting.

24 to 36 Months

Continue to have lots of conversations to boost language skills, introduce him to the techniques of conversation and make him feel important. Read books as often as you can. Help him learn to verbalize feelings by acknowledging his feelings. “I know you’re upset that your toy broke.” Encourage him to use words to express his feelings instead of acting them out (Behrman, pg. 39). Letting him know that you understand what he is experiencing will help calm him and make it easier for him to tackle a challenge.

Encourage pretend play and get involved. This will help encourage creativity and build a strong connection between parent and child. This can be done in many ways. For example, ask what is happening in the story he is acting out. If he is “cooking,” you might say, “It smells good. Can I have some?” Make plans for the child to spend time with other children. He will learn about making friends. The more opportunity he has to interact with peers, the more he will learn about how to get along well with others.

Spend time outside, where there is plenty of room to safely run, jump and climb. Visit a neighborhood park where there are other children to play with. Include your child in family sports like swimming together or play catch. Create a safe place in the home where the child can actively explore. Take walks and use them as opportunities to teach important concepts such as big and small when comparing houses on the street or leaves on the ground.

This article discusses the importance of early stimulation for a child's growth and development. It is also important for proper stimulation from parents to continue throughout life. Lack of stimulation for older children leads to inactivity, obesity, underachievement, and poorer school and social performance. It has also been my observation that children whose parents are actively involved in their learning during the
school years make better grades and have better social skills. It is truly unfortunate when a child is not able to reach his full potential because he is not fully stimulated.

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You know that children are growing up when they start asking questions that have answers. John J. Plomp
Statement of the Problem

When developing curricula for programs in Education, Psychology, or any of the other Social Sciences, it is necessary to focus on the requirements that are sufficient and necessary for students to develop as functioning professionals in their given fields. To accomplish this goal, emphasis is typically placed on the content, history, philosophy, and structure of the discipline. Understanding these individual components and how they affect one another within the scope of the overall discipline is essential for developing educated, competent professionals.

In order to fully appreciate the complexities of a given discipline, the related historical and recent research and trends must be understood. To accomplish this goal, it is necessary for the developing professional to have an understanding of the design and analysis of research in the given subject field. This understanding is necessary for professionals to adequately discuss, evaluate, and share ideas in the field and make valid decisions based on rational assumptions related to the profession.

Courses related to research methodology or statistics are created to provide students with an opportunity to practice and understand issues related to the current research. The general aims of these courses include: (a) skill development in interpreting the results of previous and current research; (b) skill development in designing research intended to determine whether interventions or treatments have clear effects on the variable under study; and (c) providing students with the necessary components to help them behave like learned professionals in their area. The ultimate concern, then, is to create a learning environment in which students develop the skills necessary to understand and interpret research findings, and to be able to design their own research related to their discipline(s).

Many programs tend to design compartmentalized courses in research methodology and statistics. That is, students must complete one course covering research methodology and a separate course covering statistics. These courses are generally presented individually and in a linear sequence, as is the case when the research methodology course is taught during one semester followed by the statistics course in a subsequent semester, or vice versa. Alternatively, both courses may be taught concurrently in the same semester.

There are advantages and disadvantages to each of these presentation choices. It is, however, our belief that the third approach, while used the least often, provides the best opportunity for the student to learn and apply the concepts of design and analysis necessary for valid and reliable research. We will argue that by following the linear-sequential approach, students do not have adequate opportunity to integrate the complex information necessary for a comprehensive understanding of both research design methodology and statistics.
In many universities, the research methods course is a prerequisite for the introductory statistics course. The major advantages of teaching research methods first are that students may learn the fundamental elements of various approaches to research, how to set up research studies, and how to effectively protect the research study from threats to its reliability and validity (e.g., by controlling extraneous variables).

Topics in research methodology include an introduction to scientific thinking, ethics in research, developing research ideas, defining variables, measurement, sampling, data analysis, true and quasi experimental designs, issues related to experimental control, single factor designs, factorial designs, correlational research, applied research, descriptive methods and small subject designs. Student performance indicators may include examinations, in-class discussions, analyzing research writing, research proposals or completed projects, oral presentations, and other activities related to the effective planning and execution of research studies.

The primary disadvantage to presenting a research methods course first is the frustration associated with the lack of knowledge regarding the appropriate use of statistical analyses discussed in the text and relevant material covered in assignments. While it is true that the logic of research design can be taught without the students having in-depth knowledge of appropriate statistical tools, this approach limits the student’s ability to interpret the results of the research study which then impedes the student’s overall comprehension of the material. A student often expresses frustration in person, in writing, and on course evaluations about the difficulty encountered while trying to understand the key points of research when there was little understanding of how to analyze and interpret the outcome of the various research methods.

In this approach, the statistics course is usually taken by students after achieving a certain grade (e.g., a grade of “C” or better in most cases) in the research methods course. The main advantage, and primary rationale, for teaching the courses in this sequence is that students should be familiar with the logic and methodology involved in research design, and can now learn how to analyze the outcome data from an experiment.

On the face of it, this seems like a logical approach, since now a student should be familiar with the essential ingredients for well-designed research studies and should be able to evaluate the advantages and limitations of various research designs. However, statistics textbooks typically make little mention of these research design issues. Therefore, the important considerations involved in well-designed research takes a backseat to the driving force of calculating statistical analyses.

One critical problem with the textbooks covering research design or statistics is that they typically use different terms. For example, let us consider research using interval or ratio data so that we may consider parametric analyses (e.g., z- or t-tests, and analysis of variance). A research design involving two or more conditions which incorporates different groups of people in each condition is termed a Between-Participants design (Christensen, 2001), however, the statistical test for this type of design is a “… t Test for Two Independent Samples” (Gravetter & Wallnau, 2004, p 308). While the statistics textbook does make mention of the design in the related chapter, and the research methods textbook does make mention of the related statistical procedure later in the text, it remains that students have difficulty integrating these concepts in a meaningful manner. If they are taking a statistics course first, then the
research design has little meaning for them; moreover, if they are taking a methods course first, then the statistical procedure has little meaning for them.

General Problems to Teaching the Subjects in Isolation

In addition to the problems inherent in teaching the specific courses in isolation, another problem arises when students do not take a course immediately following the prerequisite course. This is problematic because the assumption is that the students have learned and retained the information in the previous course; however, there are many other learning experiences that occur as time lengthens. With the passage of time, retention of learned items decays rapidly, particularly if the information is not well-learned. Research on forgetting demonstrates that when new material competes with previously-learned material, then we are more likely to forget the earlier material (Anderson & Neely, 1996). Certainly if students in statistics have little personal experience that they can relate to the course material (Weiten, 2002), they will have even more difficulty remembering it enough to forget – that is, one cannot forget something they never learned in the first place!

Statistics as the Prerequisite Course

Many schools require that students complete a statistics course as a prerequisite to completing a course in research methods. While it is true that the students complete the research course after successfully completing the statistics course, it seems apparent that many students have not retained what they learned in that course. It appears that assignments including statistical analysis yield a massive amount of fear. This fear has led to the discovery of a new disorder, generally found in both undergraduate and graduate student populations: “PTSD: Post-Traumatic Stats Disorder.”

When the research methods class follows statistics, it is assumed that the students are prepared and knowledgeable about the various statistical tools when they exit they meet the requirements in the statistics class. However, it is often the case that educators observe that when statistical information is presented in isolation, rather than connected to research methodology, that students have demonstrating any knowledge of statistical analyses. One of our students recently admitted to burning her statistics textbook, which made it difficult to use the charred remains as a reference for her research proposal in the research methods course.

An advantage of teaching the statistics course first is that the student can concentrate on the basics of data analysis. Topics including probability, descriptive methods, inferential hypothesis testing, parametric and nonparametric procedures are studied in depth. Another advantage of this approach is that the instructor can concentrate on teaching the mathematical and conceptual ideas behind the use of statistics for the interpretation of data from research. It has been our experience that students need to complete math-related homework assignments, and receive feedback on their work. However, many students have no concrete anchors of experience, and therefore tend to float off into the oceanic abyss of statistical murkiness! To this end, the use of dice-rolling, collection of class-generated data, and other such methods to provide students with real examples to help understand the abstract concepts in this course has been incorporated into the statistics course.
The major disadvantage of this method is that students are learning data analytic procedures without any consideration of the research design and methodological issues in research. As E. G. Boring (1919) wrote:

The case is one of many where statistical ability, divorced from a scientific intimacy with the fundamental observations, lead nowhere. (p 338).

In other words, since the students do not have an understanding and appreciation of the considerations in the use of research design and methodology used to obtain the data, the use of inferential tools holds little interest to them for long-term retention. It is no wonder, then, that students in this situation tend to forget most of what they learn by the time they take a research methods course.

**Combined Approach**

It is our position that a combined approach to teaching research methods and statistics would benefit student learning greatly, and potentially lead to greater satisfaction with the courses. More importantly, such an approach should lead to the development of competent professionals who also report feeling more competent about their own skills. Why would this be the case?

As observed in our interactions with students, they do not understand why a course in statistics is necessary for a degree in their area. As Gourgey (2000) suggests, “Statistics is by nature an experimental discipline, and it should be taught that way as much as possible” (p. 3). In other words, the experimental nature and methodology which lie behind the collected data to be analyzed should be taught. A number of authors have reported the use of research-based activities to enhance learning in statistics-based courses (e.g., Smith, 1998; Gnanadesikan, Scheaffer, Watkins & Witmer, 1997). Furthermore, the use of data-based experiments in a statistics class (Mackisack, 1994) provides concrete experiences to help students understand the meaning behind the numbers.

In addition to these activities, Mackisack (1994) correctly points out that what is required in statistics textbooks is how to collect data, and that the data sets and information in many textbooks are limited and not always relevant to the student. For this reason, we believe that a textbook which incorporates the “best of both worlds” is very much in order; specifically, a textbook that presents the fundamentals of research design and the appropriate data analytic procedure(s) for the given designs. In this way, the textbook could be used to teach statistics with explicitly stated relationships to research design issues that are relevant to the field of study. Another advantage of such a textbook is that if one is constrained by program requirements to sequential teaching of statistics and research methods, then it could provide the necessary resource by which students have access to more examples of relevant research studies related to a given statistical procedure, or to a more thorough explanation of a statistical procedure to evaluate a given research design. In both cases, students and instructors would have the benefit of having the information necessary for understanding research design and analytic procedures in one place. By providing relevant examples and reducing frustration on the part of students, they will be more likely to find interest in, and learn, the concepts covered in these courses. We see such a combined approach textbook as an important contribution to the academic literature.

There are at least three ways in which to incorporate such a textbook into courses covering research methods and statistics. One way is to teach the subjects
concurrently in a full-year course. Another way is to continue teaching courses separately, but not entirely in isolation. The third way is to teach the students in a two-part “research methodology and statistics” series. All three of these approaches require careful consideration of appropriate materials and activities to ensure adequate mastery of both areas, and to ensure that students integrate these necessary, sufficient, and interdependent areas.

**Full year course**

The main advantage of a full year, six-credit hour course is that continuity is maintained. That is, the same professor can teach the same students across the same timeline. This approach would have the advantage of reducing the problem of interrupted timelines in completing all elements of the course. As students master concepts in research methodology and statistics, the related material can move from one design to another, with the relevant statistical procedure being taught.

One disadvantage with this approach is that programs may not incorporate six-credit-hour courses into their curricula. Another disadvantage would be for students who may need to withdraw from the course late into the second semester. Both of these issues are important considerations, and should be carefully weighed prior to making a decision.

**Continue teaching separately, but not in isolation.**

For whatever reason, departments may continue to require that courses be taught in a particular sequence, wherein one of these courses serves as a prerequisite for the other. In these cases, the advantages of such an approach would be to include examples and references for the students so that they can better understand the link between the two areas. Of course, the main disadvantage of this approach is that there still exists the problem of artificially separating the two subjects. In addition, a number of students will only wish to study the material that will be required to complete the objectives for an isolated course, and will have little interest in reading the additional materials! We have discovered that you can lead a student to water, but you cannot make them drink unless you are allowed to feed them salt (see Michael, 1993).

**Teaching in a two-part series**

One way to help ensure adequate delivery of the interrelated material, and to satisfy having two three-credit-hour courses where one course is a prerequisite for the other, is to simply divide the integrated material into two courses. For example, one might label the new set of courses “Research Design and Data Analysis I” and “Research Design and Data Analysis II”, where the first course is a prerequisite for the other. Alternatively, titles such as “Research Design and Statistics I” and “Research Design and Statistics II” may also suffice. As these titles imply, such courses would necessarily incorporate the fundamentals and applications of both research design and statistical, or data analytic, procedures.

The disadvantage of such an approach would be if the teaching of courses was determined based upon the specialty of a professor. That is to say, if a professor teaches courses covering statistics only, such a change would require the addition of research methodology, and vice versa. We submit that despite the hurdles to overcome the disadvantages, that it would benefit students, faculty, and programs to teach these courses in a combined way.
References


Not everything that can be counted counts, and not everything that counts can be counted. Albert Einstein
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Editor’s note

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