

Department of Workforce Development
Secretary's Office
201 East Washington Avenue
P.O. Box 7946
Madison, WI 53707-7946
Telephone: (608) 266-3131
Fax: (608) 266-1784
Email: dwdsec@dwd.state.wi.us



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Dear Early Learning Partners,

I am pleased to share findings of the **Grow in Quality** project, a Department of Workforce Development (DWD) pilot conducted to develop an effective means to measure quality and improve early learning. This project represents significant progress toward achieving the centerpiece of Governor Jim Doyle's **KidsFirst** agenda: a quality child care rating system that will help parents choose what is best for their children and guide providers in their efforts to give families the best child care and early education possible.

Last year, DWD enlisted the help of the UW-Extension Wisconsin Child Care Research Partnership (WCCRP) and the Wisconsin Child Care Improvement Project (WCCIP). We sought to build on recommendations of the 2004 Quality Counts for Quality Kids Task Force. We asked the research partnership and the improvement project to help find answers to two questions: 1) How can we measure and rate child care quality?; and 2) Will child care quality improve following technical assistance based on such evaluations? With that, the **Grow in Quality** pilot was launched.

The pilot involved 68 licensed group center programs that were randomly selected from four areas of the state: the Fox Valley, Ladysmith, Madison, and Milwaukee. Participating centers let project staff observe their programs on three separate occasions. Following the initial visit, the research team developed plans for improvement. An average of 10 hours of on-site consultation was provided as technical assistance. Over the course of these visits, observations, and consultations, the research team refined its quality assessment tool for use statewide. Following technical assistance, they used the assessment tool to further measure quality and monitor improvements.

As a result, I am pleased to report that the **Grow in Quality** project has produced the following:

- A new, practical, cost-effective tool to measure and rate the quality of child care and early education, **Wisconsin MAP**, which stands for **M**aterials, **A**ge-appropriate, and **P**lan. MAP is used to examine materials available to children, determine whether they are age-appropriate, and learn whether a center's lesson plan effectively aligns classroom materials with daily activities. In applying the MAP tool, observers also review the center's professional and management practices.
- Technical assistance that is based on the MAP tool assessment *and* targeted to meet the program's particular needs can provide significant improvements in classroom instruction, center environment, and professional practices.

The pilot report is now available at <http://dwd.wisconsin.gov/>, along with supporting materials, including the WCCIP Technical Assistance Report. I encourage all providers, licensed centers and family care programs, to draw on these materials in working to provide children and families better service.

Sincerely,



Roberta Gassman
Secretary

<http://dwd.wisconsin.gov/>

FINAL REPORT

Mapping Child Care Quality: Wisconsin's “*Grow in Quality*” Project

Mary A. Roach, Ph.D.

**Wisconsin Child Care Research Partnership
University of Wisconsin - Extension**

This project was conducted in collaboration with the Wisconsin Child Care Improvement Project, with funding provided by the Wisconsin Department of Workforce Development.

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EXECUTIVE SUMMARY

The *Grow in Quality* project represented a sincere and significant step on the part of Wisconsin's Department of Workforce Development (DWD) to build a supportable foundation for an evidence-based child care Quality Rating System. The project addressed two primary questions: "How can we measure and rate child care quality?" And, "Does child care quality improve following technical assistance?" University of Wisconsin-Extension developed the assessment tools for measuring quality and conducted the project evaluation. A total of 68 early care and education programs agreed to let technical advisors from the Wisconsin Child Care Improvement Project (WCCIP) repeatedly assess their classroom quality and the quality of their professional practices in exchange for 10 hours of technical assistance. WCCIP then completed a separate report on the impact of technical assistance on quality improvement.

How can we measure and rate child care quality?

The results of this project confirmed the validity of the four quality indicators identified by the Governor's Quality Counts for Kids Task Force (2004).

1. Child Care Directors. 65% of the directors of *Grow in Quality* programs reported that they had a degree, and those programs with directors who had degrees received higher scores on the quality of their classroom environments, although not on the quality of their professional practices, than programs with directors who had not earned a degree. Providing financial incentives to reward directors for higher educational qualifications seems warranted by this research.
2. Child Care Teachers. 51% of programs successfully covered all of their classrooms with teachers that had at least 6 college credits and these programs received higher scores on the quality of their classroom environments and on the quality of their professional practices than programs that did not meet this criterion. Redirecting financial incentives to support high quality, credit-based education for teachers in programs that most need educational enhancements would lead to improved quality of care for Wisconsin's children from low-income families.
3. Classroom Environments. The new MAP tool requires classroom assessments for each age group of children served. Eight components of quality are assessed: teacher-child relationship, literacy, play materials, learning materials, the arts, large motor, child assessment, and program assessment. For each component, an assessment is made of (a) the appropriateness of materials available to children and (b) the appropriateness of classroom practices for guiding children's behavior. This practical, cost-effective tool, developed specifically for this project, yielded scores consistent with evaluators' ratings of quality, and demonstrated that programs varied along a continuum of quality consistent with earlier studies of child care quality in Wisconsin.

4. Professional Practices. The tool for assessing professional practices, developed for this project, includes three areas identified by the Task Force: staff practices, business practices, and family practices. For each practice area, four key indicators were selected. These indicators differentiated accredited from non-accredited programs, could be measured easily and objectively, and seemed most likely to move Wisconsin child care programs toward higher quality professional practices.

Does child care quality improve following technical assistance?

Yes. A total of 62 programs participated in the *Grow in Quality* project at Time 1, Time 2, and Time 3. The two groups were comparable at the baseline assessment, and both groups exhibited significantly higher scores both on their classroom environment assessments and on their professional practices following technical assistance. A comparison of Time 1 assessments (prior to any technical assistance) and Time 3 assessments (following approximately 10 hours of technical assistance) indicated improved scores for the full group of 62 programs both for the quality of classroom environments and for the quality of professional practices.

The results of the *Grow in Quality* project yielded a new instrument that could be used to assess child care quality on-site. It also provided an evidence-based foundation for development of a child care quality rating system that could reward high quality programs with higher reimbursements from the child care subsidy system and could lead to an improved quality of care for Wisconsin's children from low-income families.

I. INTRODUCTION

Wisconsin has a long history of providing leadership among states including strong efforts to build and maintain a sophisticated system of child care regulation and a comprehensive approach to child care policy. Research has shown that states like Wisconsin, that enforce stricter licensing standards to ensure the health and safety of children in child care have fewer programs that provide inadequate care.^{1, 2} Wisconsin has also promoted a range of quality initiatives designed to improve the availability, affordability, and quality of child care, and has invested heavily in strengthening its child care subsidy system. Yet, despite significant investment in child care regulation, child care resource and referral services, scholarship and bonus programs, and technical assistance, little progress has been observed in moving what is essentially a free market child care system toward high quality.³ If the public is to have confidence that their government's money is being invested wisely, the state needs to be able to document that its child care policies and financial commitments are consistent with its goals for promoting child development while providing needed child care for low-income working parents.

In this introduction to our report on the *Grow in Quality* project (2005-2007), we first provide a review of research on child care quality in Wisconsin. Second, we provide a summary of other states' efforts to build child care quality rating systems, and a synopsis of Wisconsin's "Quality Counts for Kids" Task Force, including discussion of key criteria for a quality rating system and specific recommendations resulting from that effort. Third, we introduce the *Grow in Quality* project, its purpose, research design, and timeline for completion.

A. Research on Wisconsin Child Care Quality

In December 2003, Wisconsin Child Care Research Partnership (WCCRP) published Issue Brief 13 as a catalyst to inform development of a statewide child care quality rating system.⁴ This brief summarized efforts in at least 13 other states that had developed or implemented consumer-friendly standards for child care facilities, outlined key criteria for a Wisconsin quality rating system, and established that key quality indicators (teacher education, wages, experience, director education, and accreditation) were significantly linked to observational measures of quality (see Appendix D). Brief 13 was not intended to serve as a road map for a statewide quality rating system but to serve as a foundation for a statewide conversation about improving child care quality in Wisconsin.

Residing within the University of Wisconsin-Extension, WCCRP formed a partnership with the Wisconsin Department of Workforce Development's Office of Child Care to assess the quality of child care in Wisconsin, with a particular focus on child care for low-income children. Funded by the federal Department of Health and Human Services as one of nine state child care research partnerships (2000-2006), WCCRP produced a series of 17 *Brief and to the Point* Issue Papers, a series of six more extensive Public Policy papers, as well as other peer-reviewed publications in an effort to share research-based knowledge about early care and education issues, and to be an objective presenter of alternatives

and the likely consequences of public policy options. Principal investigators for the Research Partnership included: Mary Roach, Diane Adams, Dave Riley, and David Edie. A summary of research-based findings on Wisconsin child care quality is presented below.

1. Child care is not high quality, especially for low-income children.

- Research at the national level as well as Wisconsin-specific research indicates that only 10-20% of child care programs provide high quality care, another 10-20% provide inadequate (possibly harmful) care, and the vast majority of programs fall between these two extremes.^{5, 6}
- Children from low-income families are much less likely than children from middle-income families to experience high quality care.^{1, 7} Indeed, early care and education programs that serve a high density (> 50%) of state-subsidized children from low-income families experience lower quality as evidenced by annual rates of staff turnover that are nearly twice as high, and percentages of teachers with degrees that are only half as high, as programs that serve a low density (< 10%) of children on subsidy.⁸

2. Directors' and teachers' education are linked to child care quality.

- Teachers with more education have significantly higher quality interactions with children than teachers with less education;⁹ family child care providers who have more training provide higher child care quality;¹⁰ and directors' education correlates with teachers' education and the quality of their interactions with children.¹¹
- The majority of Wisconsin's child care teachers (71%) identify a high school diploma as their highest level of education.¹² Eighty percent of family child care providers have no more than a high school diploma.¹³
- Educational credentials of Wisconsin child care teachers have dropped precipitously in the past two decades, from 44% with B.A.s in 1980 to just 14% in 2001. The percentage of child care directors with bachelor's degrees or above dropped from 73% in 1980 to 47% in 2001.¹⁴

3. Accredited programs provide higher quality care.

- Programs that meet the high quality standards of the National Association for the Education of Young Children (NAEYC) provide higher quality care than non-accredited programs.¹⁵ These programs make a commitment to providing high quality classrooms, pledge to employ staff with strong educational qualifications, use a developmentally appropriate curriculum, maintain better staff-child ratios, encourage strong partnerships with parents, offer supportive services for families, and commit to ongoing evaluations of children's progress.¹⁶ Yet, because of the many challenges, considerable costs, and time it often requires to meet these stringent criteria, only 10% of licensed group child care centers and even fewer family child care programs in Wisconsin are nationally accredited.

- Accredited programs can receive higher reimbursements (10%) for serving children on state subsidies as long as their prices exceed the market rate for the county in which they operate, however, this policy appears to provide little or no incentive for Wisconsin child care programs to become accredited.¹⁷

4. Investment in high quality early care and education pays off.

- Children from low-income families who receive high quality early care and education benefit in substantial, life-changing ways including more optimal long-term school completion, higher rates of adult employment, and lower criminal records.^{18,19} Economists conclude that high quality early care and education programs for children from low-income families save more than they cost in the long run by propelling children from low-income families toward economic self-sufficiency.^{20, 21}
- Wisconsin's Early Childhood Excellence Initiative was designed to substantially raise the quality of early care and education across the state by providing technical assistance and substantial public grants to centers serving predominantly low-income families. After 15 months in the Initiative, classroom environments became increasingly supportive of children's learning, teachers became increasingly sensitive in their interactions with children, and teachers' beliefs about children became increasingly child-centered. Indeed, Centers for Excellence increased their classroom quality to a level significantly higher than that found in randomly-selected Comparison centers, which served a much lower percentage of children from low-income families.²²
- A follow-up evaluation conducted three years after public funding for Centers for Excellence was significantly reduced indicated that improvements in classroom quality were maintained. However, erosion in teacher sensitivity and child-centered beliefs that coincided with the reduction in the modest program investments signaled that programs serving high concentrations of children from low-income families may require some consistent public support if these programs are to be able to continue to provide high quality care.²³

B. A Statewide Quality Rating System for Wisconsin?

No single child care quality rating system is likely to work equally well for all states, given differences in local conditions and values. For Wisconsin, the question is, can state government identify simple and objective research-based quality indicators, and implement a feasible plan for rating child care programs that is both efficient and cost-effective? Wisconsin currently spends over \$300 million per year on subsidized child care for children from low-income, working families. If Wisconsin could develop a practical, affordable quality rating system that represented a valid measure of child care quality, then money could be

invested more strategically, higher reimbursement rates would reward higher quality programs, and Wisconsin's' investments would lead to higher quality care.

- Nearly one-third of state governments in the United States have begun to institute quality rating systems for the benefit of their child care consumers.²⁴ More states might experiment with child care quality rating systems if they believed they could provide valid ratings without burdensome costs.
- Three years after implementation of a quality rating system tied to reimbursement rates in Oklahoma, 75% of centers that had initially been rated at level 1 had raised their ratings to at least level 2, and 27% of those at level 2 had moved up to a "3-Star/Accredited" level.²⁵

1. "Quality Counts for Kids" Task Force

"KidsFirst," released in the spring of 2004, was Wisconsin Governor Jim Doyle's plan to invest in Wisconsin's future. A key ingredient of the Governor's proposal was "Quality Counts for Kids," which called for development of a quality rating and tiered reimbursement system for child care programs in Wisconsin. Quality Counts for Kids had two primary goals: (1) to improve the quality of child care in Wisconsin, particularly for children from low-income families; and (2) to give parents the information they need to make more informed child care choices.

In June 2004 a "Quality Counts for Kids" Task Force was assembled. The Task Force included 21 members from across the state, including representatives from child care centers, family child care homes, Head Start, county and tribal administration, university and technical college communities, child care associations, and other interested parties. The Task Force was staffed by a team from four state departments including: Department of Workforce Development (lead agency), which administers the child care subsidy program and child care quality improvement efforts; Department of Health and Family Services, which administers child care licensing; Department of Public Instruction, which oversees public education, including pre-kindergarten programs; and Department of Administration, which assists the Governor in developing budget proposals. WCCRP provided technical assistance to the statewide Task Force. The Task Force's charge was to develop recommendations for two inter-related child care initiatives proposed by Governor Jim Doyle:

- Quality rating system: How should a child care quality rating system be designed in order to evaluate all regulated child care programs on a set of standards, with programs given a rating of a certain number of stars to be made available to parents, providing them the information they need to make more informed choices?
- Tiered reimbursement system: How should a tiered reimbursement system be designed so that child care subsidy payments for Wisconsin

families reflect differential levels of quality? Can the system be designed to create a powerful incentive for child care providers to improve quality?

The Task Force met throughout the summer and fall of 2004 and issued their final report in December, 2004.²⁶ Governor Doyle incorporated the key cornerstone of the Task Force's recommendations, a child care Quality Rating System, or "QRS," into his 2005-2007 biennial budget, which was submitted to the Legislature. In July, 2005, the Governor's proposal failed to pass the Joint Committee on Finance and no further action was taken, although Wisconsin Department of Workforce Development (DWD) remained committed to the goals of the Quality Counts for Kids initiative. In the next two sections we summarize the key criteria for a Wisconsin child care quality rating system and lay out the specific recommendations developed by the "Quality Counts for Kids" Task Force which formed the foundation for Wisconsin's *Grow in Quality* Project.

2. Criteria for a Wisconsin Quality Rating System

For parents, the system must be easy to understand and use, similar to systems for rating restaurants and hotels with one to five stars.

Parents often don't know how to judge quality,²⁷ and often overestimate quality relative to ratings by professional observers.²⁸ This lack of discernment is one of the key reasons why the child care marketplace fails to supply a higher quality product.²⁹ By paying the same rates for subsidizing child care of high and low quality, state government artificially supports lower quality care. But if parents were provided with an easy-to-use tool for assessing quality, such as a star quality rating system, consumer demand might provide an incentive for programs to increase their quality ratings. Of course, in an effort to objectively quantify quality indicators, cultural and other value-based differences between centers may be overlooked, so parents should always be encouraged to visit prospective child care centers, and to make their choices based on the quality ratings as well as an understanding of a program's philosophy of care, fees, languages spoken, and other qualities not reflected in the ratings.

For child care programs, the system must be fair and objective, with multiple pathways to allow child care programs to realistically aspire to higher ratings.

Many states' quality rating systems include indicators that are difficult to measure and require expensive, in-depth observations of child care classrooms. Wisconsin child care providers clearly wanted a system that went beyond indirect indicators of child care quality (e.g. provider education), but at the same time, they were wary about the inherent high cost of using a detailed observational assessment such as the ECERS-R. Task Force members recognized that some child care programs manage to achieve high quality without strong educational credentials or national accreditation, and they agreed that child care providers in Wisconsin would be unfairly punished

by a system that relied too heavily on educational indicators of quality due to limited access to credit-based educational opportunities in some parts of the state. Therefore, with an emphasis on multiple pathways to quality, the Task Force recommended that some observation of child care classrooms should occur, but that attention should also be paid to programs' professional practices, since in order to effectively meet the educational and social-emotional needs of children from low-income families, successful programs must not only provide high quality early care and education, they must also collaborate with state and local agencies to connect families with the services they need for sustainable economic development.³⁰

For state government, the system must be efficient, low cost and easy to administer.

A fully functioning, statewide quality rating system would need to be automated, with quality indicator data fed into a single data system, for efficient implementation. The extent to which data on quality indicators were already available in a data system would have significant impact on the cost and complexity of implementation. Wisconsin has several strengths in this area, with automated data available in DWDs child care provider file on all regulated (licensed or certified) child care programs, including information on which programs are participating in the Child and Adult Care Food Program, which programs are accredited by the National Association for the Education of Young Children (NAEYC) and the National Association for Family Child Care (NAFCC), as well as (to a lesser extent) which directors and teachers have submitted their educational qualifications to *The Registry*.

3. Quality indicators recommended by the Task Force

In considering the myriad of approaches and options for creating a QRS, the Task Force unanimously agreed that before earning points in a Wisconsin quality rating system a child care program must meet established standards for compliance with regulatory standards. Some effort was spent with the Department of Health and Family Services and Department of Workforce Development on defining regulatory compliance, however, it was not possible to consider the specific impact of this "quality indicator" in the present study.

The Task Force proposal was that as long as a program is in compliance with licensing standards, additional quality indicators could be considered. As indicated in the introduction to this report, educational qualifications of the child care director and educational qualifications of the teachers who work in early care and education classrooms are among the strongest, indirect, objective research-based indicators of child care quality, linked to children's developmental outcomes.³¹ Such indirect measures are easily documented and provide a valid prediction of quality care for low cost.³² In addition, the Task Force insisted that Wisconsin's system would need to include some on-site observation of child care learning environments and would need to include some assessment of child care programs' professional practices in order to be able to recognize multiple paths to quality care. Detailed

specifications for the various ways in which each program might earn points within each of the areas of staff qualifications (director education and teacher education); learning environments and curriculum, and professional practices, as outlined by the Task Force, are laid out below.

a. Director qualifications

As indicated in Table 1 below, the statewide Task Force recommended that programs could earn up to seven points based on the educational qualifications of the program director.

Table 1. Task Force Recommendation: Director Qualifications	Points
Administrator Credential	1
Associate Degree (related) OR Bachelor's Degree (unrelated)	3
Administrator Credential AND EITHER Associate Degree (related) OR Bachelor's Degree (unrelated)	4
Bachelor's Degree (related)	5
Bachelor's Degree (related) AND Administrator Credential	6
Graduate Degree (related)	7

b. Teacher qualifications

Each program could be assigned a maximum of seven points based on the educational qualifications of the teachers. Finally, the Task Force recommended that information be collected on the number of operating classrooms and the number of teachers meeting designated educational qualifications for “teachers with credits” and “teachers with degrees.” As detailed in Table 2, centers in which fewer than 25% of the classrooms could potentially be staffed by teachers who had earned at least 6 related credits or a CDA would receive no points for teacher qualifications. Centers that had the potential to staff each of their classrooms with at least one teacher who had a bachelor's degree in early childhood education would receive the full seven points for teacher qualifications. Centers falling between these two extremes would receive between 1 and 6 points according to the distribution laid out below.

Table 2. Task Force Recommendation: Teacher Qualifications	Points
Teachers with credits for 25% of classrooms	1
Teachers with credits for 50% of classrooms	2
Teachers with degrees for 25% of classrooms	3
Teachers with credits for 100% of classrooms	4
Teachers with degrees for 50% of classrooms	5
Teachers with degrees for 100% of classrooms	6
Teachers with related Bachelor's Degrees for 100% of classrooms	7

The Task Force had originally considered and rejected two other methods. First, “percentage of degreed teachers” in the center made conceptual sense but was eliminated because it would be difficult to calculate

accurately based on administrative records in *The Registry*. Programs could manipulate their scores by including highly educated teachers who work very few hours or excluding less educated teachers in order to increase their program scores. Second, a ratio of the number of qualified teachers to the program’s child care capacity was considered and rejected because the definition was difficult for people to understand, and members argued about the accuracy of child care capacity numbers.

c. Learning environment and curriculum

The Task Force recommended that a statewide Quality Rating System would need to have some on-site assessment of child care classrooms, and that this assessment could be worth a maximum of 10 out of 30 possible points, or one-third of the total points of the program’s overall quality rating. The Task Force also outlined key features that should be assessed including the quality of classroom learning centers, lesson plans, and curriculum as well as programs’ efforts to conduct regular self-assessments and use those assessments for program improvement. As indicated in Table 3, approximate point values were assigned for each of the broad categories that were identified as being potentially associated with child care quality. Programs that were accredited would automatically receive 10 points and programs that were not accredited could earn a maximum of 9 points.

Table 3. Task Force Recommendation: Learning Environment	Points
Each classroom has at least 5 well equipped, clearly defined learning centers	2
Each classroom has written weekly lesson plans with at least 15 minutes of reading/early literacy daily	2
The center uses a curriculum aligned with the Wisconsin Model Early Learning Standards	2
Documented annual use of quality improvement assessment process, using environment rating scales, accreditation self-study, or other approved methods, with a written improvement plan	2
The preceding quality improvement assessment process administered by an outside, trained and reliable entity	1
Accreditation (National Association for the Education of Young Children, National After School Association, City of Madison, Head Start Performance Standards)	10

d. Professional practices

The Task Force recommended that any statewide Quality Rating System would need to have some assessment of the program’s professional practices. Table 4 identifies the three areas for assessment that were identified by the Task Force as being potentially associated with child care quality: business management, staff development, and family involvement. Each area was designed to be worth 2 points for a total of 6 points in the statewide quality rating system.

Table 4. Task Force Recommendation: Professional Practices	Points
Business Practices. This may include professional development opportunities, staff development plan, written evaluation of staff, staff retention, Child Care Food Program participation.	2
Staff Benefits. This may include use of Model Work Standards, salary scale, health care benefits, paid vacation	2
Parental Involvement. This may include parent newsletters, parents on advisory board, parent/teacher conferences	2

C. Wisconsin’s “*Grow in Quality*” Project

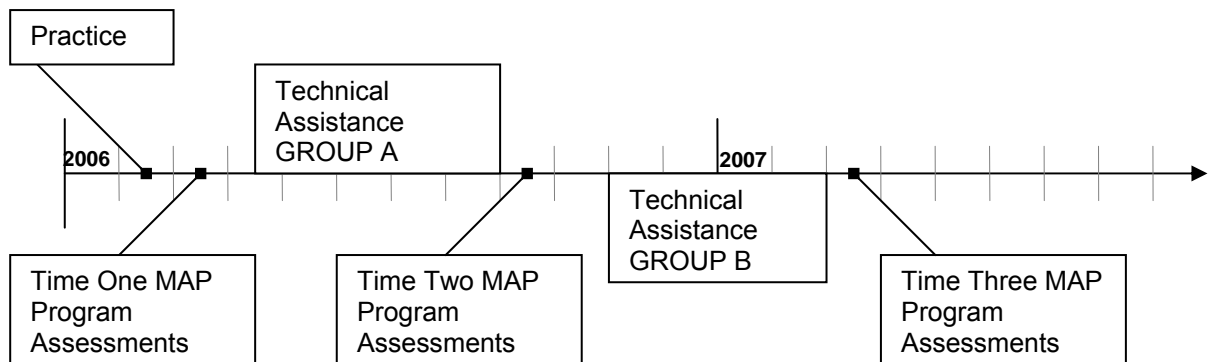
The *Grow in Quality* project (2005-07) was initiated by the Department of Workforce Development (DWD), Child Care Section, as an outgrowth of the 2004 Governor’s “Quality Counts” Task Force.³³ After it was made clear that the Quality Rating System (QRS) proposed in 2004 would not be implemented, DWD decided to spend time exploring the potential for a QRS before reintroducing the concept. DWD Child Care Section staff read various sources, talked with local experts, and crafted a preliminary framework for an on-site assessment tool. They then outlined the *Grow in Quality* project purposes through two contracts:

- Wisconsin Child Care Research Partnership (WCCRP). The contract with WCCRP at University of Wisconsin – Extension established that WCCRP would use administrative data on provider’s educational qualifications combined with data collected from on-site assessments of early care and education programs to identify key quality indicators for a statewide Quality Rating System. WCCRP outlined the research design, identified and selected the random sample, and designed the measurement and data collection tools, including the on-site assessment tool for program assessments: “Wisconsin’s MAP to *Grow in Quality*.” WCCRP also developed Access databases for processing data from program assessments and summarizing data on technical assistance, and prepared this final report on quality indicators.
- Wisconsin Child Care Improvement Project (WCCIP). The contract with WCCIP established that skilled technical advisors from WCCIP would use the tool developed by WCCRP to collect on-site program assessments, and use information from individual program assessments, in collaboration with ECE program directors, to develop meaningful plans for program improvement, conduct a clearly defined plan for technical assistance, evaluate the impact of their technical assistance on ECE program quality indicators, and prepare a final report assessing the feasibility of providing technical assistance to early care and education programs to improve quality scores.

1. Research design

A crossover design was planned for the *Grow in Quality* project (Figure 3). This design provided a method for developing, testing, and refining the quality assessment tool for statewide usage at the same time that it provided a means for assessing the impact of technical assistance on key quality indicators in early care and education programs.

Figure 1. Research Design for Wisconsin's *Grow in Quality* Project



2. Program assessments

Development of the program assessment tool began in November 2005. On-site practice visits were conducted by WCCIP technical advisors using the MAP assessment in February, 2006, with completion of at least two practice visits for each technical advisor prior to the beginning of data collection. Six technical advisors from WCCIP then conducted identical Time 1, Time 2, and Time 3 program assessments with participating early care and education programs during three designated 6-week intervals over an approximately 14-month period from March 2006 through May 2007. A critical flaw in the experimental design of the project was potential bias or perception of bias due to the fact that the same technical advisors who conducted program assessments were also responsible for conducting technical assistance in the *Grow in Quality* programs.

- MAP (Form A) was used consistently by WCCIP technical advisors for all Time 1, Time 2, and Time 3 program assessments in order to allow assessment of the impact of technical assistance on quality improvement in Group A and Group B centers (Appendix A).
- MAP (Form B) was developed by WCCRP in summer 2006 in collaboration with the Milwaukee County Department of Health and Human Services, for the "Milwaukee Counts for Kids" project. It included four new items (children with special needs, teacher-parent relationship, adult-child interaction, and discipline) as well as refinements in wording and design of MAP (Form A) items (Appendix B).
- MAP (Form C) represents the final program assessment instrument, with modifications designed to increase accuracy and efficiency based on data analyses, feedback from *Grow in Quality* and Milwaukee Counts for Kids, and a statewide discussion of key quality indicators in summer 2007. This instrument could be available for statewide assessments, should there be a need for such a tool, beginning in September, 2007 (Appendix C).

3. Project timeline

The timeline displayed in Table 5 details how the *Grow in Quality* project was designed to be implemented, and how program assessments, technical assistance, and final reports were timed across the 2-year grant period.

Table 5. Grow in Quality Timeline

2006	2/1	Draft MAP instrument is completed.
	2/9	Conference call (WCCIP, DWD, WCCRP) to discuss the MAP instrument, procedures for on-site assessments, and design for technical assistance.
	2/10-2/28	WCCIP technical advisors conduct practice observations using the MAP in two ECE centers that are not part of the random sample. Results are used to clarify data collection procedures and refine the MAP.
	3/1	MAP Assessment is finalized. This MAP (Form A) tool will be used for all on-site observations at Time One, Time Two, and Time Three.
	3/15- 6/1	Time One Observations are conducted in 68 ECE programs, each of which has agreed to participate in this 14-month Initiative.
	5/15-9/30	WCCRP analyzes data from Time One Observations, collaborates with Milwaukee County to test a revised MAP (Form B) in 22 “Milwaukee Counts for Kids” programs; and develops an Access database for WCCIP technical assistance reporting. WCCIP conducts technical assistance in a subset of 34 ECE programs (Group A), carefully recording the exact amount and type of assistance offered to each program. No contact is made with Group B centers.
	6/15, 7/15, 8/15, 10/6	WCCIP technical advisors electronically send technical assistance reports to WCCRP for cumulative summary reports.
	9/1-9/15	WCCRP, WCCIP, and DWD review outcomes of technical assistance and procedures for Time Two Observations.
	10/9-11/30	Time Two Observations are conducted in 63 ECE programs. Technical advisors use the Form A MAP assessment tool.
	12/1-3/31	WCCRP analyzes data from MAP A (Time One and Time Two) and MAP B observations to develop a more efficient MAP instrument (Form C). WCCIP conducts technical assistance in second subset of 34 ECE programs (Group B), carefully recording the exact amount and type of assistance offered to each program. No contact is made with Group A centers.
2007	12/15, 1/15, 2/15, 3/31	WCCIP technical advisors electronically send technical assistance reports to WCCIP and WCCRP for summary reports.
	4/1– 5/15	Time Three Observations are conducted in # ECE programs. Technical advisors use the Form A MAP assessment tool.
	4/30 – 6/30/2007	WCCRP shares MAP assessment tool and manual with state partners, and finalizes report on key quality indicators. WCCIP summarizes lessons learned and completes final report on the impact of technical assistance on quality improvement.

4. Technical assistance to *Grow in Quality* centers

ECE programs who agreed to participate in the initiative were randomly assigned to one of two groups (Group A or Group B) for purposes of targeted technical assistance provided by technical advisors with the Wisconsin Child Care Improvement Project. Group A centers received technical assistance for 5 months from April to October 2006 and Group B centers received technical assistance for 5 months from November 2006 to April 2007. No technical assistance was provided to Group A centers during the second half or to Group B centers during the first half of the initiative.

a. Collecting technical assistance data. In order to be able to retrieve and summarize data on technical assistance to *Grow in Quality* programs, it was important for there to be consistency among technical advisors in recording contact information. Accordingly, an Access database was developed by Jason Bierbrauer at WCCRP with input from staff at WCCIP for purposes of tracking and classifying each contact between WCCIP technical advisors and each of the early care and education programs in the *Grow in Quality* study (Appendix E). Monthly uploads of the separate databases from the technical advisors were submitted to UW-Extension and WCCIP to gauge ongoing progress. In addition, the three agencies (DWD, WCCRP, WCCIP) held regular teleconferences and shared email to discuss issues related to technical assistance and maintain communication throughout the duration of the project. Specific codes were developed and used to capture the total amount of time invested in each program according to (a) mode, (b) level, and (c) module (Table 6). A list and count of all technical assistance materials distributed by WCCIP to *Grow in Quality* programs was also maintained throughout the project.

Table 6. Categories of Technical Assistance: Mode, Level and Module.	
MODE: The manner or location of how technical assistance was provided.	
1	From a remote site, using: telephone, email, and/or US mail.
2	In person, on site at the provider’s center location
3	In person, at a different site than the provider’s center
LEVEL: The degree of intensity of technical assistance provided.	
1	Resources, for example, written materials, websites, etc.
2	Overview, for example, light discussion of a topic OR referral
3	In depth group training, for example, conducted by a skilled trainer with more than one center attending at the same time
4	In depth consultation, for example, an action plan is developed or consultation is provided at a deeper, more involved level. This may include one, or more than one, staff member at a particular center
MODULE: The general categories of technical assistance provided.	
1 Licensing regulations	<ul style="list-style-type: none"> ● Work on non-compliances ● Files ● Policies ● Health and Safety
2 Materials & equipment	<ul style="list-style-type: none"> ● Assess classrooms

3 Enhancing classroom learning centers	<ul style="list-style-type: none"> ● Large motor (outdoors) ● Fine motor ● Blocks ● Dramatic Play ● Art ● Music and Movement ● Language and Listening ● Literacy ● Writing ● Math ● Nature/Science
4 The teaching cycle	<ul style="list-style-type: none"> ● Observation/Child Assessments ● Setting Goals ● Planning for Individuals and Groups
5 System for staff retention	<ul style="list-style-type: none"> ● Staff Benefits ● Staff Evaluations ● Recruitment/Orientation/supervision ● Professional Development ● Participatory Management
6 Administrative support	<ul style="list-style-type: none"> ● Internal Communication ● Fiscal Management ● Program Assessments
7 Family involvement	<ul style="list-style-type: none"> ● Family Involvement ● Staff Paid Time

b. Brief summary of technical assistance data

Wisconsin Child Care Improvement Project was charged with writing a final report on the impact of technical assistance on the quality of learning environments and professional practices in the early care and education programs that participated in the *Grow in Quality* project. The present WCCRP report merely outlines the broad design for technical assistance, the key components of the Access database that WCCRP developed for WCCIP that allowed them to collect their data, a brief summary of the types of technical assistance provided, and a global assessment of the impact of technical assistance on child care quality improvement.

Following completion of technical assistance, all *Grow in Quality* programs were invited to complete a confidential evaluation (Appendix I) assessing their opinions regarding the amount and types of technical assistance received, program areas focused on with technical assistance, quality of technical assistance received, and opinions regarding the positive or negative outcomes of the *Grow in Quality* project. These data were collected and summarized by Kath McGurk at DWD and shared with WCCIP technical advisors. Following completion of the project, all participating programs received a thank-you letter, a certificate, and a brief report of the *Grow in Quality* project findings (Appendix J).

Types of technical assistance provided to Group A and Group B programs in the *Grow in Quality* project were similar. Technical advisors invested a total of 257.5 hours in 29 Group A centers (\bar{M} = 8.88 hours per center), and a total of 299.7 hours in 34 Group B centers (\bar{M} = 9.08 hours per center). The total number of hours of technical assistance per center ranged from 3 to 16 hours. As indicated in Table 7, the primary mode for technical assistance was in person, on-site interaction between the technical advisor and staff of the center. The primary level of involvement was in-depth consultation. The primary module used by technical advisors involved enhancing classroom learning centers. Information on the value and impact of technical assistance on *Grow in Quality* programs will be fully summarized in the Final Report prepared by WCCIP.

Table 7. Average hours of technical assistance (Group A and Group B)				
		Group A	Group B	t-test
Mode	Phone, email, mail	.88	1.05	.30
	In person, on site	7.58	7.62	.05
	In person, different site	.43	.42	.10
Level	Resources	.72	.56	.76
	Overview	1.63	1.84	.45
	In depth group training	1.77	2.82	1.46
	In depth consultation	4.78	3.88	1.13
Module	Licensing	.09	.03	.76
	Materials and equipment	1.01	.96	.16
	Enhancing classroom learning centers	4.04	4.68	.86
	The teaching cycle	1.15	1.13	.07
	System for staff retention	.72	.51	1.03
	Administrative support	1.42	1.53	.23
	Family involvement	.46	.28	.95

II. METHOD

A. Sample Selection

WCCRP used DWD’s “provider file” to randomly select the sample for the *Grow in Quality* project from among the 2,046 group child care centers in Wisconsin that were open at least 6 hours a day, 5 days a week, all year long, serving children under the age of five. Although these were the designated criteria at the outset of the initiative, two programs inadvertently selected to participate in this study were not, in fact, full-day, full-year programs.

Four geographic areas were targeted for recruitment, based on approximation to WCCIP technical advisors’ home-office locations: Ladysmith, Madison, Milwaukee, and Fox Valley. The desired number of centers within each geographic area was based on each technical advisor’s workload capacity, and counties within an hour’s drive of each targeted area were recruited. The following is a breakdown of the targeted geographic areas, their corresponding counties, the numbers of centers within each geographic area, the total number of centers invited to participate and the final rate of return for each geographic area. The overall response rate using this procedure was 46% (Table 8).

Table 8. Sample Recruitment and Rate of Return			
Geographic Areas/ Counties	Number of Centers	Centers Invited	Rate of Return
Ladysmith	4	10	40%
Barron			
Chippewa			
Rusk			
Sawyer			
Madison	22	39	56%
Columbia			
Dane			
Milwaukee	20	64	31%
Milwaukee			
Waukesha			
Fox Valley	22	37	59%
Brown			
Calumet			
Dodge			
Fond du Lac			
Waushara			
Winnebago			
Total	68	152	46%

B. Program Recruitment

A recruitment letter was jointly prepared by WCCIP, WCCRP, and DWD and mailed out by DWD to 100 randomly-selected early care and education programs on January 26, 2006 (Appendix F). In the letter, programs were invited to help the state in its efforts to develop a tool for assessing child care quality by allowing three on-site program assessments in their centers over the course of an approximately 18 month period. Programs were also offered 10 hours of free technical assistance with skilled WCCIP technical advisors in exchange for their agreement to participate in the *Grow in Quality* project. Included with each recruitment letter was a copy of the Wisconsin Model Early Learning Standards as a frame of reference for the *Grow in Quality* project.

A deadline for programs to respond to the invitation to participate was set for February 8, 2006. On that date, 29 early care and education programs had responded, 22 of whom had agreed to participate and 7 of whom had decided not to participate in the *Grow in Quality* project. Beginning on February 9, 2006 WCCRP began telephoning the remaining 72 programs to ascertain their interest in participating in the project. In order to obtain the necessary sample size, additional letters were mailed to 52 randomly-selected programs on February 21, 2006, with follow-up phone calls as needed until the full sample of 70 programs was obtained. Two programs in Milwaukee subsequently withdrew from the project, prior to the Time 1 program assessments, leaving the original sample of 68 early care and education programs.

Programs who agreed to participate in the *Grow in Quality* project received by mail a welcome letter (Appendix F). Technical advisors then followed up with the directors of each of their assigned programs by phone, during which time procedures were reviewed and a convenient time for the program assessment was scheduled.

Follow-up program assessments. In the weeks prior to conducting Time 2 and Time 3 assessments, WCCIP technical advisors sent a “Revisit Program Letter” to each participating program, reminding directors that they would soon be receiving a phone call during which time the next program assessment would be scheduled (Appendix F). As indicated in the project timeline, over a 6-week period at Time 2 and Time 3, all program assessments would be conducted by WCCIP technical advisors in a consistent manner using the Form A MAP assessment. The number of participating programs at each assessment point is indicated in Table 9. Reduction in number was due to early care and education programs choosing to discontinue their involvement in the project (n = 3) or closing their operations (n = 2).

Table 9. Number of Participating Programs over Time			
	Time 1	Time 2	Time 3
Number of Participating Programs	68	63	62

C. Procedure

Wisconsin Child Care Research Partnership developed comprehensive *Grow in Quality* Manuals to detail specific procedures for on-site program assessments (Appendix A and B). The final *Grow in Quality* manual details procedures for on-site program assessments using the revised “MAP C” observational materials (Appendix C). The manual provided necessary information for training technical advisors including instructions for scheduling and conducting on-site observations, procedures for randomly selecting classrooms for program assessments, information on how to complete the MAP score sheet, with detailed examples for each assessment item, and a standard protocol for follow-up procedures. The manual also includes a recommended list of items the director could gather to support the professional practices interview following the classroom assessments. Upon arrival at each center, technical advisors typically met briefly with the director and picked up the completed program questionnaire (Appendix G). Directors were asked to be available during the approximately 3-hour visit to the center.

1. Program questionnaire

Child care directors at each center completed a brief, one-page program questionnaire outlining their child care enrollment, numbers of operating child care classrooms, and their own education, experience and wages (Appendix G). In addition, directors identified each teacher who worked in the center by first and last initial and indicated each teacher’s approximate level of education, experience, and wages based upon pre-selected bins provided on the questionnaire. Directors completed the program questionnaire only once, as part of the Time 1 program assessment, because the focus of the *Grow in Quality* project was on identification of key quality indicators from on-site program assessments and assessment of the value of technical assistance for program quality improvement, rather than on the impact of structural characteristics such as staff education and staff turnover on child care quality.

From the beginning of this project, it was clear that if Wisconsin were to implement a statewide quality rating system, it would be necessary to capitalize on the availability of verified data in Wisconsin’s *Registry* for calculation of program scores based on teachers’ educational qualifications. Unfortunately, data on teacher qualifications in *The Registry* are not perfect because only approximately half of all teachers have submitted their credentials for verification, and because *The Registry* does not yet have a system to assure that teachers are working in the centers that they were working in when they earned their *Registry* certificates. However, implementation of a statewide quality rating system would likely provide a strong incentive for teachers to join the *Registry*, thereby increasing the accuracy and reach of *Registry* data.

2. Assessment of classrooms

Technical advisors conducted observations using the MAP assessment (Form A) in up to four classrooms within each of the designated age groups served by each program according to a prescribed random procedure:

- Infants – 0 to 12 months
- Toddlers – 13 to 36 months
- Preschool – 3 to 5 years
- School-age – Kindergarten and older

Classroom assessments could be conducted in any order, were expected to last approximately 30 minutes each, and were optimally scheduled during times when the children were in attendance. In cases where children were not in attendance (e.g. school-age classrooms), technical advisors based their assessments on the materials available and discussion with the classroom teachers. Classroom assessments consisted of evaluation of classroom and curricular materials (including the availability of materials in storage), assessment of lesson plans and program schedules, and observation of the interactive behavior and practices of teachers and children in the classroom. Technical advisors recorded start and end times for each classroom assessment, numbers of children enrolled and in attendance, as well as numbers of teachers assigned to work in each classroom. At the conclusion of each classroom assessment, the technical advisor spent approximately 10 minutes talking with the classroom teacher about practices that could not be easily scored from the observation. A director or other staff person was sometimes available to watch the children during this interview time.

3. Assessment of professional practices

Typically, after all classroom assessments were completed, the technical advisor met with the director for approximately one hour to discuss the program's professional practices including:

- Staff development
- Business management
- Family involvement

Directors had been asked to gather relevant materials related to their professional practices in advance of the meeting, and some directors were more prepared than other directors for this interview. Technical advisors sought verification of some professional practices and scored items based on on-site documentation as well as on the director's ability to verbally convey how the program supported best practices.

Following each program assessment, the technical advisor mailed completed program questionnaires and completed on-site program assessments to WCCRP for data entry and analyses. WCCRP followed up directly with centers or with technical advisors to collect missing data or clarify incomplete information from each assessment. Feedback on program quality was not provided to directors during the program assessment visit. However, technical advisors were able to use information from the program assessments, together with discussion with the program director, to identify potential areas to work on for needed quality improvements.

D. Development of Wisconsin’s “MAP” to *Grow in Quality*

Wisconsin Child Care Research Partnership attempted to incorporate the recommendations from the Task Force into a rating scale designed specifically for assessing quality in child care classrooms. The rough outline developed by the Task Force provided conceptual guidance for development of more detailed observational assessments of learning environments, but actual scores based on assessments collected for the *Grow in Quality* project could not be compared directly with Task Force recommendations. The complete list of items developed for the *Grow in Quality* project will be described in the Results section along with descriptive information on the programs that provide each practice.

Wisconsin’s MAP to *Grow in Quality* used Wisconsin Model Early Learning Standards³⁴ (<http://www.collaboratingpartners.com/EarlyLS.htm>) as its foundation. Modifications were made to the categories and individual items in order to strengthen the accuracy of measurement and create mutually exclusive categories with clear operational definitions for each indicator. Before conducting the MAP assessment, technical advisers were asked to become familiar with the WMELS. All programs participating in the *Grow in Quality* project received a copy of the WMELS. An overview of WMELS categories is outlined in Table 10.

Table 10. Wisconsin Model Early Learning Standards (WMELS) -- 2003	
I. Health and physical development	IV. Approaches to learning
A. Physical health and well being	A. Curiosity, engagement, persistence
B. Motor development	B. Invention and imagination
II. Social and emotional development	C. Cognitive skills
A. Emotional development	V. Cognitive and general knowledge
B. Self-concept	A. Mathematical and logical thinking
C. Social competence	B. Scientific thinking and problem solving
III. Language development	C. Social systems understanding
A. Listening and understanding	
B. Speaking and communicating	
C. Early literacy	

A conceptual framework developed by Craig and Sharon Ramey (2005)³⁵ for improving the quality of child care, family support, and child development also influenced development of the MAP tool. According to this framework, the quality of early care and education could be reflected in a common core of information, displayed in four key elements (Table 11). Support for each of the key elements could be generated from a high quality physical environment as well as from good management, effective leadership, staff education and experience, professional development, wages and benefits, technical assistance, optimum adult/child ratios, group size, educational resources, curriculum and equipment. In addition, good administrative, fiscal, and policy supports, including high standards, interagency coordination, financial incentives, constructive monitoring, and active evaluation would be expected to lead to positive child outcomes.

Table 11. Conceptual framework for improving the quality of child care, family support, and child development -- Ramey and Ramey, 2005	
Supportive early care and education context:	
<ul style="list-style-type: none"> • Health and safety practices 	<ul style="list-style-type: none"> • Language and learning activities
<ul style="list-style-type: none"> • Adult-child interactions 	<ul style="list-style-type: none"> • Caregiver-family relationships

In developing the MAP tool, additional sources were also reviewed in an effort to identify program standards with a primary emphasis on identifying key quality indicators that could be collected objectively and efficiently. Particularly useful in development of the MAP tool were the accreditation standards of the National Association for the Education of Young Children³⁶
http://www.naeyc.org/academy/web_ready/NAEYCAccreditationCriteria.asp
 and the National Afterschool Association (NAA)³⁷
<http://www.sedl.org/pubs/fam95/28.html>

The Early Childhood, Infant/Toddler and School-Age Environment Rating Scales (ECERS, ITERS, SACERS), which represent the most widely used currently available tools for classroom quality assessment, were also used in development of the MAP scale.³⁸ The subscales for the ECERS and specific items from the Activities subscale are outlined in Table 12.

Table 12. Subscales and Items of the ECERS-R scale -- Harms, Clifford, and Cryer, 1998	
I. Space and furnishings	<ul style="list-style-type: none"> • Dramatic play
II. Personal care routines	<ul style="list-style-type: none"> • Nature/science
III. Language- reasoning	<ul style="list-style-type: none"> • Math/number
IV. Activities	<ul style="list-style-type: none"> • Use of TV, video, computers
<ul style="list-style-type: none"> • Fine motor 	<ul style="list-style-type: none"> • Promoting acceptance of diversity
<ul style="list-style-type: none"> • Art 	V. Interaction
<ul style="list-style-type: none"> • Music/movement 	VI. Program structure
<ul style="list-style-type: none"> • Blocks 	
<ul style="list-style-type: none"> • Sand/water 	

1. Using the MAP to assess classroom quality

The MAP (Form A) classroom assessment tool included 14 items (health, safety, large motor, fine motor, blocks, dramatic play, art, music, language, literacy, writing, math, nature/science, and child assessments). Each of the 14 items was rated “yes” or “no” in terms of three distinct categories.

- **M - Materials:** This category was used to assess whether or not an adequate number of materials in good condition was available to the children in the classroom. Clearly designated criteria specified the minimum quantity of materials that needed to be accessible in order to score a “yes” on each item.

- **A - Appropriateness:** This category indicated whether children had access to a wide variety of developmentally-appropriate materials as indicated by availability of age-specific materials for each classroom.
- **P - Plan:** This category indicated whether or not the teacher(s) facilitated use of the classroom materials as part of the curriculum and planned and guided children’s use of materials and daily experiences.

2. Scoring classroom quality

Each of the 14 classroom items had a maximum possible score of 6, with a maximum of two points per category: Materials (0-2 points) + Appropriateness (0-2 points) + Plan (0-2 points). Scores were calculated at the program level, rather than at the classroom level, and a system of rules was developed to calculate scores within each category for each item:

- If 100% of classrooms are “yes,” score = 2
- If at least 50% and fewer than 100% of classrooms are “yes,” score = 1
- If fewer than 50% of classrooms are “yes,” score = 0.

In the following example (Table 13), the program would earn one point for materials because ¾ or 75% of the classrooms scored “yes”; zero points for appropriateness because only ¼ or 25% of the classrooms scored “yes”; and one point for plan because ½ or 50% of the classrooms scored “yes.” This center would earn a total of 2 points (out of 6) on the fine motor item (1 + 0 + 1). A total score for each program would be calculated by summing the total M, A, and P scores for each item, yielding a maximum score of 84 per program (14 items x 6 points per item = a score of 84).

Table 13. A sample item to demonstrate scoring the MAP:					Infant (0-12 mo)		Toddler (13-36 mo)		Pre- school (3-5 yr)		School Age (Kind.+)	
Fine motor					Y	N	Y	N	Y	N	Y	N
M	Many fine motor materials are accessible daily, in a defined, well-organized area. <ul style="list-style-type: none"> • 15 bins in classroom and similar number in storage 				X	<input type="checkbox"/>	X	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	X
A	A variety of developmentally appropriate fine motor materials are accessible daily within each of the following categories:				<input type="checkbox"/>	X	X	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	X
	Infants	Toddlers	Preschool	School-Age								
	<ul style="list-style-type: none"> ▪ rattles/ squeeze ▪ teethers ▪ fit together toys ▪ stacking/nesting ▪ pop-up/ activity boxes 	<ul style="list-style-type: none"> ▪ puzzles/shape sorter ▪ interlocking blocks ▪ manipulatives ▪ stacking/nesting ▪ push/pull toys 	An assortment (3): <ul style="list-style-type: none"> ▪ puzzles ▪ interlocking blocks ▪ manipulatives 	An assortment (3): <ul style="list-style-type: none"> ▪ puzzles ▪ interlocking blocks ▪ manipulatives ▪ complex construction 								
P	Teachers rotate fine motor materials, structure learning experiences, and engage in educational interaction designed to support children’s learning.				X	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	X

Total MAP scores (out of a maximum 84) for each center were converted to environment points (on a 10 point scale) using the formula described in Table 14. Nationally-accredited programs were automatically assigned 10 points.

Table 14. Conversion of MAP Score into Environment Points	
MAP Score	Environment Points
0 - 9	0
10 – 19	1
20 - 29	2
30 – 39	3
40 – 49	4
50 – 59	5
60 – 69	6
70 – 79	7
80 – 84	8
National Accreditation	10

E. Development of the Professional Practices Scale

The Task Force laid out three broad categories for assessing professional practices, however, little time was spent during Task Force meetings detailing the specific components to be assessed within each of these broader categories. Wisconsin Child Care Research Partnership, therefore, used a variety of resources (e.g. NAEYC accreditation standards, the ECERS assessment, and the conceptual framework outlined by Ramey & Ramey), to create a broad set of indicators reflecting programs’ staff development, business management, and family involvement. One resource that was particularly helpful in developing the professional practices scale was The Program Administration Scale, as summarized in Table 15.³⁹

Table 15. Subscales of the Program Administration Scale -- Talan & Bloom, 2004	
I. Human resources development	V. Fiscal management
• Staff orientation	• Budget planning
• Supervision & performance appraisal	• Accounting practices
• Staff development	VI. Program planning and evaluation
II. Personal costs and allocation	• Program evaluation
• Compensation	• Strategic planning
• Benefits	VII. Family Partnerships
• Staffing patterns & scheduling	• Family communications
III. Center Operations	• Community outreach
• Facilities management	VIII. Marketing and public relations
• Risk management	• External communications
• Internal communications	• Community outreach
IV. Child assessment	VI. Technology
• Screening and identification of special needs	• Technological resources
• Assessment in support of learning	• Use of technology

1. Interviewing child care directors about professional practices

The assessment instrument developed for the *Grow in Quality* project included broad categories of a center’s Professional Practices: Staff

Development (12 items), Business Management (19 items), and Family Involvement (12 items). Within each category, indicators were scored as “yes” or “no,” depending on whether or not the program fully met the designated criteria. In addition to responding to dichotomous items, technical advisors were asked to respond to open-ended questions and to provide clarification of items that could be useful for further scale development.

2. Scoring professional practices

Task Force deliberations on directors’ and teachers’ educational characteristics were very detailed and prescriptive, so modification of these indicators was expected to involve minor shifting of point values rather than selection of new indicators. In contrast, Task Force discussions on classroom environments and professional practices were more conceptual and considerably less detailed. In designing the on-site observation and interview assessment tools, our goal was to include a range of quality indicators and to conduct careful analyses of Time 1 data in order to identify those indicators that were easiest to collect, non-redundant, and consistent with our expectations for high quality care. Items were dropped, merged with other items, or reworded, as necessary, in an attempt to yield a valid and efficient tool that could be used for a statewide quality rating system.

Each item in the staff development, business management, and family involvement scales was initially assessed in terms of the percentage of “yes” responses. If more than 90% of programs scored “yes,” the item was either deleted or revised. If accredited programs were not significantly more likely to score “yes” than non-accredited programs, items were also deleted or if the content was still deemed valuable, items were re-written to more carefully target that specific content. If multiple similar items yielded similar responses, they were sometimes combined into a single item. Final scores for each program were based on the number of “yes” responses out of a possible 8 on the staff development, business management, and family involvement scales.

Scores on each 8-item staff development, business management, and family involvement scale were converted into two-point scales. These two-point scales were then combined to allow the potential for 6 professional practice points (see Table 16).

Table 16. Conversion of Professional Practices Scores into Points						
Staff Development		Business Management		Family Involvement		Professional Practice Points
Score	Points	Score	Points	Score	Points	
0 - 2	0	0 - 2	0	0 - 2	0	
3 - 6	1	3 - 6	1	3 - 6	1	
7 - 8	2	7 - 8	2	7 - 8	2	
2 +		2 +		2 =		6

F. Evaluator Ratings of Quality

After completing observations in all of the classrooms in a particular program, technical advisors were asked to use their own personal judgment to rate each early care and education program in terms of its overall quality of environments and curriculum in four areas: health, safety and physical development, social and emotional development, language, literacy, and writing, and math, science and child assessment. Ratings in each of these four areas were made on a 6-point scale and then averaged across each program to reflect the technical advisor’s expert opinion of environment quality, based on many years of working on quality improvement with early care and education programs. Similarly, after meeting with the child care administrator, technical advisors used a 6-point scale to rate each program on the quality of its staff development, business management, and family involvement. These three ratings were averaged for an overall rating of each program’s professional practices. Technical advisors’ own opinions about the quality of early care and education environments and professional practices were not designed to directly summarize the scores received by each program on the MAP assessment but instead to provide an independent informed opinion of quality in each of the key areas measured.

G. Creating a Quality Rating Score

Data from the *Grow in Quality* project were used to simulate a statewide quality rating system. Following Task Force recommendations (Table 17), each regulated child care program was assigned points based on their directors’ and teachers’ educational qualifications, their programs’ learning environments and curriculum, and their programs’ professional practices. Points were combined across the four quality indicators to create a total score which could later be converted to stars. It is noteworthy that the distribution of points into stars and the linking between the number of stars and the tiered reimbursement system was derived originally from simulations of state subsidy data and that future distributions of points into stars and stars into rates for child care reimbursements in the subsidy system could easily be modified according to state budget projections. For this report, the Task Force recommendation for a total maximum of 30 points and conversion to a 5-star system will be used.

Table 17. Quality Indicators for Quality Rating System	
	Possible Points
Director Qualifications	0 – 7
Teacher Qualifications	0 – 7
Learning Environment and Curriculum	0 – 10
Professional Practices	0 – 6
Total	0 – 30

III. RESULTS

A. Descriptive Characteristics - Program Questionnaires

In this section we provide raw data and brief interpretation of the descriptive characteristics from the program questionnaires, classroom assessments, and assessments of professional practices. In the next section, we plot the distributions of these data according to Task Force recommendations. Finally, we examine patterns among the data collected from questionnaires direct observations, and interviews.

The *Grow in Quality* sample at Time 1 included 68 child care centers. Descriptive characteristics based on the program questionnaire for the centers and children, directors, and teachers working in these centers are displayed in Table 18. Data from the DWD child care provider file were also brought in to show that a total of 24 of the 68 *Grow in Quality* programs (48%) were on the Child Care Food Program, 15 programs (22%) were nationally accredited, and 59 of the 68 programs (87%) served children in the subsidy system, with an average density of subsidy across centers of 34%.

Table 18: Description of <i>Grow in Quality</i> Centers: Children, Directors, and Teachers		
Centers & Children	Mean	Range
Child care capacity	76.19	14 - 340
Child care enrollment	75.04	10 - 352
Infants and toddlers	23.69	0 - 82
Preschoolers	33.18	3 - 190
School-age	23.52	0 - 166
Density of subsidy	34%	0 – 100%
Number of classrooms	5.32	1 - 17
Director characteristics		
Education (% A.A. ⁺)	65%	H.S. – M.A. ⁺
Years of experience as teacher	9.37	0 – 25
Years of experience as director	7.36	0 - 31
Years as director at this center	5.42	0 - 20
Work hours per week	41.28	10 - 60
Annual salary (Median)	\$32,000	\$4,800 - \$70,000
Teacher characteristics		
Number of Teachers /assistant teachers (Mean)	11.35	2 - 44
Educational level (Median)	6 - 11 credits	< H.S. – M. A. ⁺
Years of experience (Median)	4 – 5 years	< 1 – 10 ⁺
Teacher wage (Median \$/hour)	\$9 - \$10	<\$7 – \$14 ⁺
Annual rate of staff turnover	33%	0 – 100%

1. Centers and children

These 68 programs ranged in size, with the average program reporting near-capacity enrollment of 75 children served within five operating classrooms. Approximately 40% of programs served all 4 age groups, 32% of programs served three age groups, 18% of programs served two age groups, and 10% of programs served only one age group (Table 19).

Table 19. Distribution of classrooms/age groups in the 68 Centers												
Age groups in center	Number of centers	Age groups (classrooms) represented in center										
		Toddler	Preschool	Infant Toddler	Toddler Preschool	Preschool School-age	Infant Toddler Preschool	Infant Preschool School-age	Toddler Preschool School-age	Infant Toddler Preschool School-age		
One	7	1	6									
Two	12			3	5	4						
Three	22						20	1	1			
Four	27											27

2. Child care directors

Directors were typically well-educated, with 21% holding an associate’s degree, 29% holding a bachelor’s degree, and 15% holding at least a master’s degree. The average child care director reported having nine years of experience as a teacher and seven years of experience as a director, with an average of five years as director at the current center. Directors, on average, worked 41 hours per week and earned \$32,000 per year, although salary estimates must be taken with caution since 19% of directors did not report their salaries, and salaries of part-time directors who work as teacher/directors or owner/directors are difficult to estimate.

3. Child care teachers

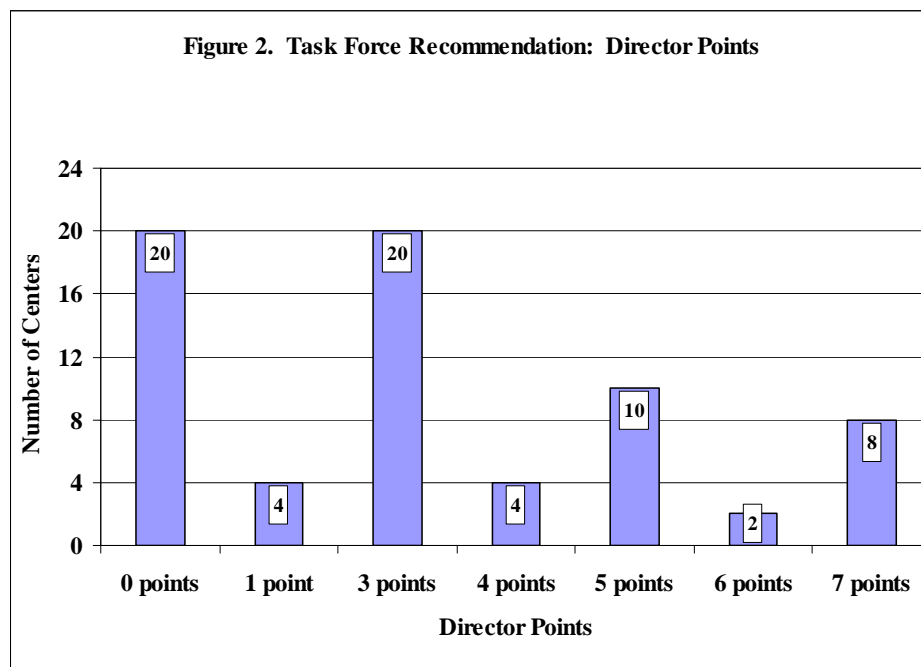
Program directors reported on the education, experience and wages for a total of 772 teachers (including assistant teachers) working in these 68 centers. The number of teachers per center ranged from 2 to 44 with an average of 11 teachers. Based on these directors’ reports, the median teacher had earned between 6 and 11 credits in the field beyond a high school diploma, had 4-5 years of experience as an early care and education teacher, and earned between \$9 and \$10 per hour. The average annual rate of staff turnover in these centers was 33%, although turnover rates ranged from 0% to over 100% in individual centers.

B. Program Scores by Task Force Recommendations (Time 1)

In this section we examine the distribution of Time 1 quality indicator data for the 68 programs participating in the *Grow in Quality* study based on the recommendations of the Task Force. Analyses were designed to assess whether data for each quality indicator met the designated criteria: (a) normal distribution, that is, the majority of programs were not bunched together on either the high or low end of the scale and the range of scores was not overly limited; (b) accurate reflection of what we believe to be reality for child care programs based on previous statewide survey data collected by the Wisconsin Child Care Research Partnership and/or verified data on educational qualifications provided by *The Registry*; and (c) clear differentiation between accredited programs and non-accredited programs, thereby indicating higher quality. In cases where the data did not fully meet these criteria, adjustments were made to the scale in an effort to produce a stronger quality indicator.

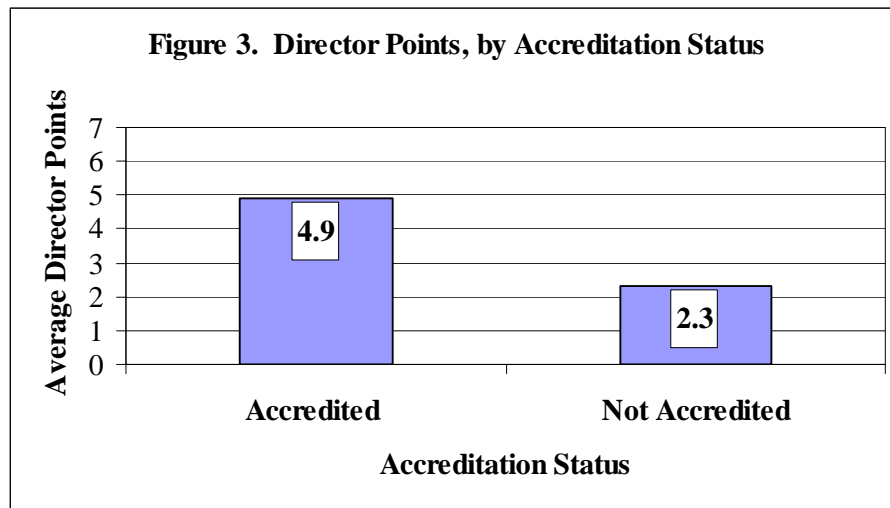
1. Director qualifications

Figure 2 displays the distribution of director points for the 68 programs participating in the *Grow in Quality* project, based on self-report of the directors who completed the program questionnaire. These data appear normally distributed and indicate that approximately 65% of *Grow in Quality* directors have a degree. More specifically, one-third (35%) of directors had not earned a degree; approximately one-third (35%) had earned either an associate's degree in a related field (ECE or administrative) or a bachelor's degree in an unrelated field; and the remaining third (29%) had earned a bachelor's degree in a related field, with some directors also having an administrator's credential or an advanced graduate degree.

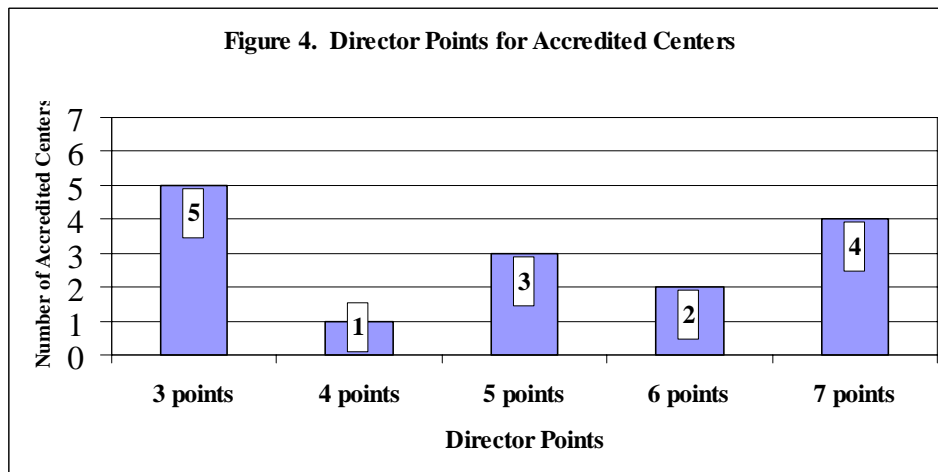


In addition to being normally distributed, the distribution of points for director education was consistent with data from an earlier statewide survey of the educational qualifications of child care directors in Wisconsin, in which WCCRP documented that 72% of Wisconsin child care directors had some type of degree and that 47% of child care directors statewide held a minimum of a bachelor's degree.⁴⁰

Director points and accreditation. The proposed 7-point measure of director education was further validated by assessing its relation with accreditation. Figure 3 displays the average number of director points for the 15 accredited centers as compared with the 53 non-accredited programs. Statistical comparisons indicated that accredited programs earned significantly more director points for educational qualifications than did non-accredited programs ($t = 4.11, p < .001$).



In addition, Figure 4 confirms that all 15 child care directors in accredited centers earned a minimum of 3 points (see Table 1) indicating that they had earned some type of a degree, with 60% of directors of accredited centers holding a minimum of a bachelor's degree in a related field.



Summary of director qualifications

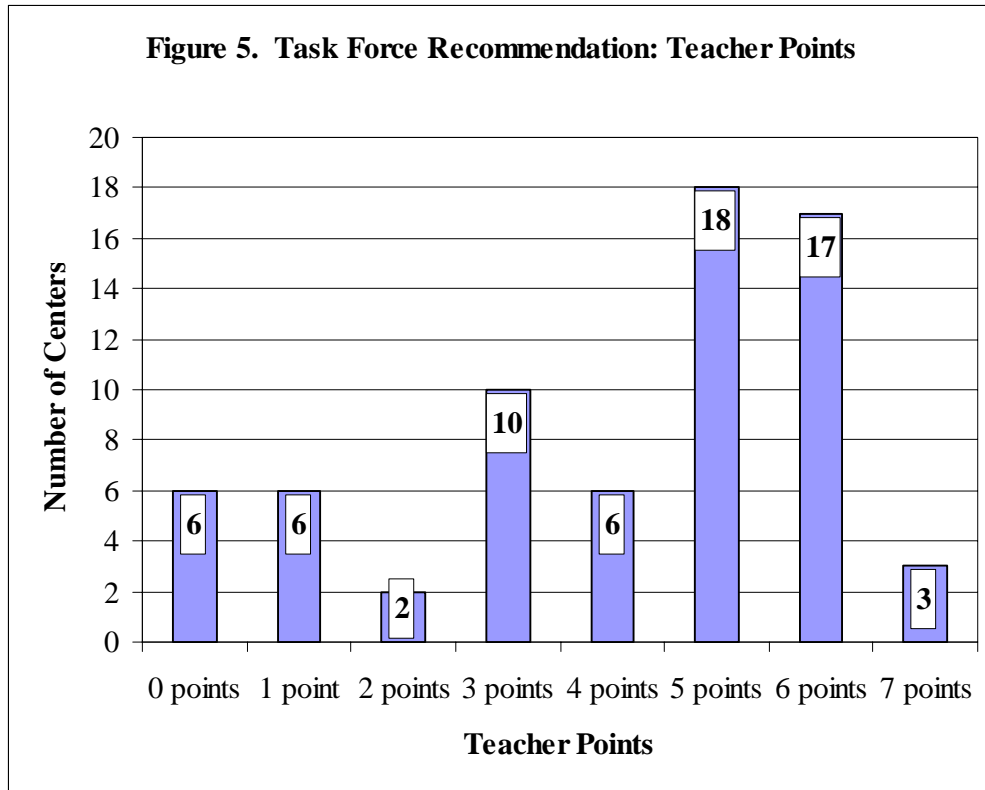
Data on directors’ educational qualifications appear to be normally distributed, accurately reflect our expectations for child care directors’ educational qualifications statewide, and differentiate between accredited and non-accredited programs. Based on these results, two final considerations are worth mentioning.

- a. A future statewide quality rating system will require verified data on directors’ educational credentials. The present study relied on director report, with some cross-checking, where possible, with *The Registry* for those directors (50%) who had previously submitted their qualifications. A Quality Rating System would use administrative data only, and this in turn would lead to greater numbers of directors submitting their qualifications to *The Registry* for verification.
- b. One slight modification could enhance the recommendation of the Task Force for assigning points for director qualifications. Instead of assigning 1 point for the Administrator credential, it would be possible to assign 1 point to directors who had earned the 12-credit infant-toddler or other credential that could be verified by *The Registry*. Two points could then be assigned to directors who had earned the 18-credit Administrator’s credential (see shaded area of Table 20).

Table 20. REVISED Director Qualifications	Points
Infant-Toddler (or other Registry-verified credential)	1
Administrator Credential	2
Associate Degree (related) OR Bachelor’s Degree (unrelated)	3
Administrator Credential AND EITHER Associate Degree (related) OR Bachelor’s Degree (unrelated)	4
Bachelor’s Degree (related)	5
Bachelor’s Degree (related) AND Administrator Credential	6
Graduate Degree (related)	7

2. Teacher qualifications

Using the recommendation of the Task Force to calculate the total number of teacher points for each *Grow in Quality* center, Figure 5 displays the distribution of teacher points for the group of 68 centers. As indicated, 65% of the *Grow in Quality* programs would appear to staff all of their classrooms with teachers who have at least 6 ECE-related credits. In addition, over one-half (56%) of these programs would receive between 5 and 7 points on this quality indicator based on recommendations of the Task Force (see Table 2).



Based on these results it appears that points for teacher education were unexpectedly skewed toward the upper end of the scale reflecting higher levels of teacher qualifications than we might have predicted by chance. In addition, our earlier statewide surveys indicated that in 2001 58% of Wisconsin teachers reported having no education beyond high school;⁴¹ and in 2004 only 29% of teachers statewide reported that they had earned an associate or bachelor's degree.⁴² It is true that this sample of *Grow in Quality* programs could indeed employ more highly trained teachers than we might expect for a randomly-selected sample of programs, since 22% of these programs were accredited, compared with only 10% of programs being accredited statewide.⁴³ However, we felt that it was more likely that the scoring system for assigning points for teacher education had been overly generous. We, therefore, re-examined Task Force recommendations and identified some slight modifications that could strengthen the validity of the teacher educational qualifications scale.

Modification of teacher points quality indicator. Given the extensive Task Force discussion, we decided to keep the proposed method for calculating teacher points based on the number of classrooms in each center staffed by teachers meeting specified credit or degree criteria. However, in order to develop a measure that was both normally distributed and reflective of the reality of the educational credentials of Wisconsin's teachers we made slight adjustments to the scoring (Figure 6).

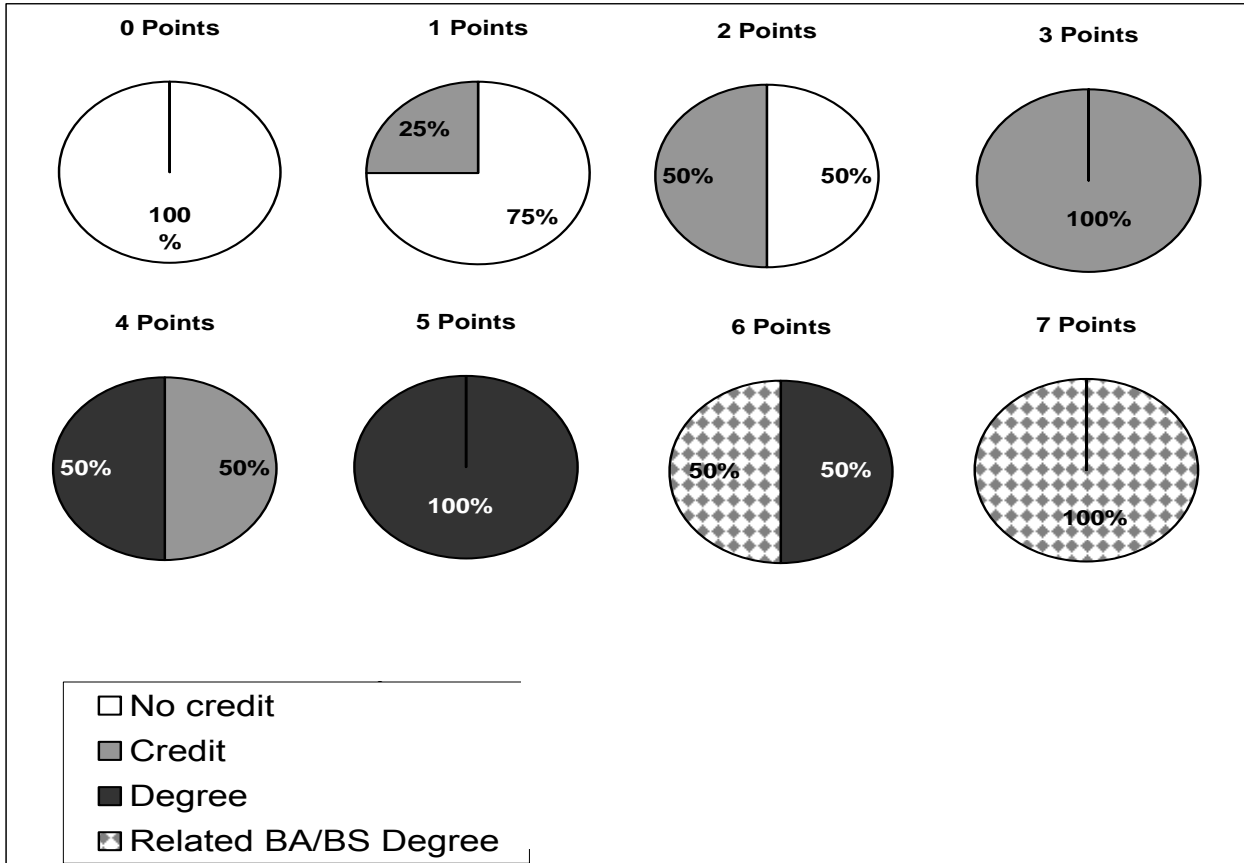


Figure 6. Illustration of How to Earn Teacher Education Points.

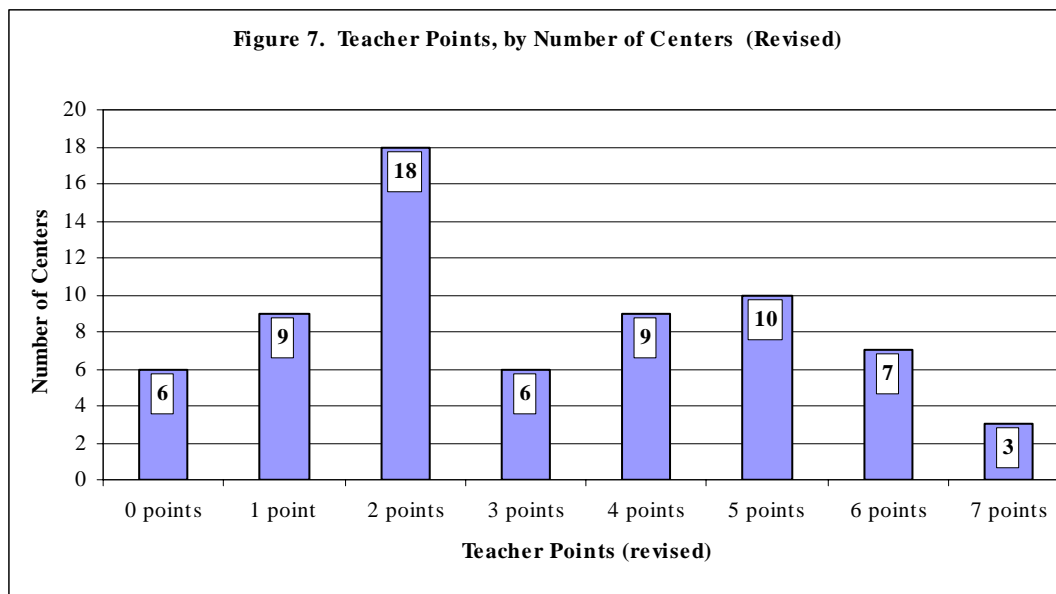
As indicated in Figure 6 (above), and Table 21 (below), criteria for assigning points to centers based on teachers' education were unchanged for programs earning 0, 1, 2, or 7 points, but were modified at the 3-6 point levels.

Table 21. Revision of Scoring for Teacher Qualifications		
Task Force Recommendation	REVISED Teacher Qualifications	Points
Teachers with credits for 25% of classrooms	Teachers with credits for 25% of classrooms	1
Teachers with credits for 50% of classrooms	Teachers with credits for 50% of classrooms	2
Teachers with degrees for 25% of classrooms	Teachers with credits for 100% of classrooms	3
Teachers with credits for 100% of classrooms	Teachers with degrees for 50% of classrooms; AND teachers with credits for 50% of classrooms	4
Teachers with degrees for 50% of classrooms	Teachers with degrees for 100% of classrooms	5
Teachers with degrees for 100% of classrooms	Teachers with degrees for 100% of classrooms, 50% have teachers with <u>related</u> Bachelor's degrees	6
Teachers with <u>related</u> Bachelor's degrees for 100% of classrooms	Teachers with <u>related</u> Bachelor's degrees for 100% of classrooms	7

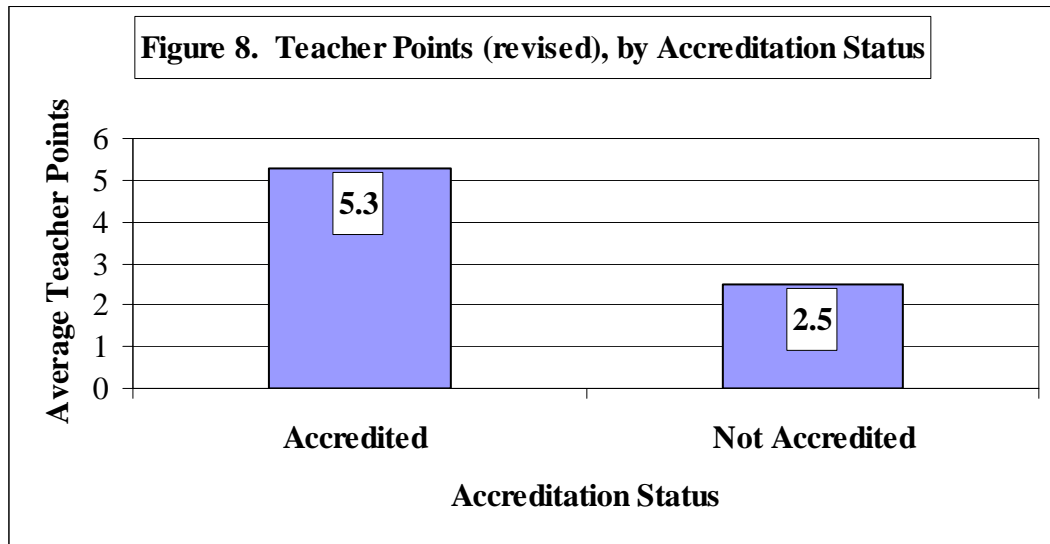
Revisions for the new calculation of teacher education included the following:

- 1-2 points. Scoring at the 1- and 2-point levels was based on the percentage of classrooms in the program that were potentially staffed by teachers who had attained a minimum of 6 ECE credits. These criteria were unchanged.
- Three points. We dropped the Task Force criteria of 25% of teachers with degrees and re-scored the Task Force' 4-point criteria of 100% of teachers with credits as 3 points. All programs earning fewer than four points, therefore, would be rated exclusively on the basis of their numbers of classrooms with teachers meeting the 6-credit criterion.
- Four points. For programs earning four or more points, ratings would be based on the numbers of classrooms with degreed teachers. In addition to meeting degree criterion, however, all classrooms in the program would also need to be staffed by teachers with the minimum criteria of 6 credits.
- 5-7 points. For programs to earn 5 or more points all classrooms would need to be covered by teachers with degrees and programs would be further rewarded if those teachers had earned bachelor's degrees in early care and education.

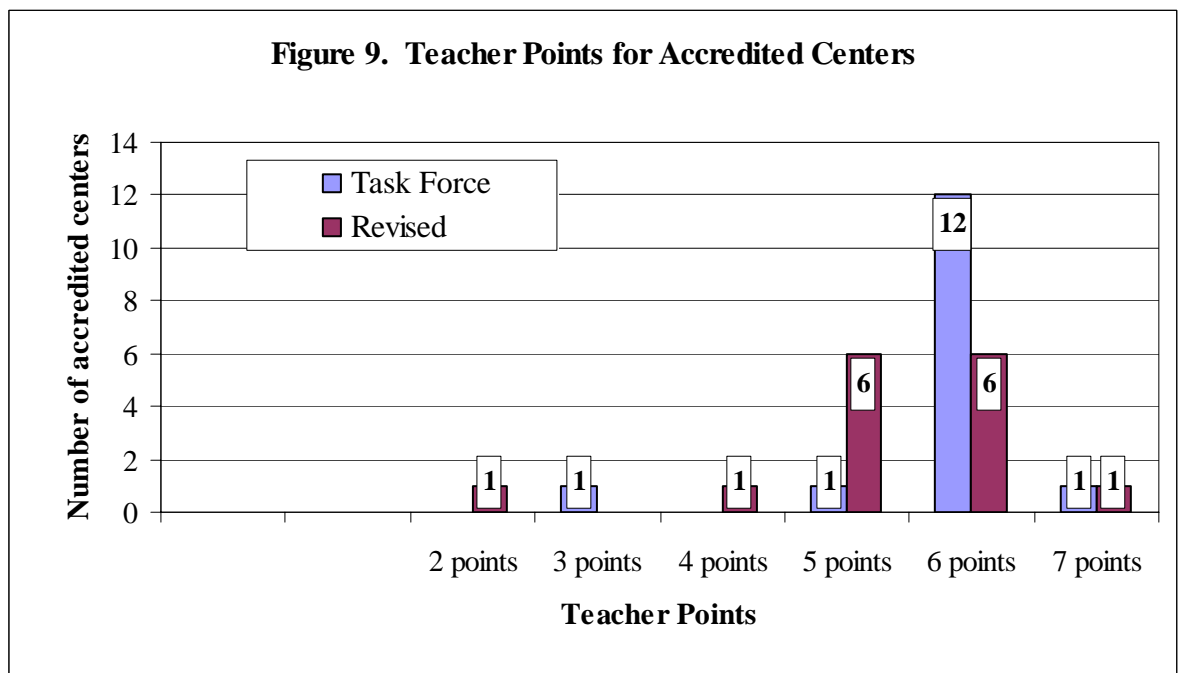
Revised teacher points distribution. Adjustments were designed to raise the bar for teacher qualifications while reducing the numbers of centers that had artificially arrived at the upper end of the scale. As indicated in Figure 7, our refinements of the Task Force's recommendation more accurately captured the expected distribution of teacher education for programs across Wisconsin. In this distribution, approximately one-half of centers earn between 0 and 2 points for teacher educational qualifications, which is more consistent with earlier statewide surveys assessing the educational qualifications of teachers working in child care centers in Wisconsin.



Teacher points and accreditation. The revised 7-point measure for calculating teacher points was further validated by assessing its relationship with accreditation. Figure 8 displays the average number of teacher points for accredited and non-accredited programs. Statistical comparisons indicated that accredited programs earned significantly more teacher points for educational qualifications than non-accredited programs ($t = 7.21, p < .001$).



In addition, Figure 9 confirms that 13 out of 15 accredited child care centers (87%) earned between 5 and 7 points for teacher qualifications indicating that these programs had degreed teachers (a large percentage of which were ECE degrees) in all classrooms.



3. Classroom learning environment and curriculum

Time 1 observations using the MAP tool were conducted in a total of 205 early care and education classrooms in these 68 programs (51 infant; 57 toddler; 64 preschool; and 33 school-age programs). Program assessments had been intended to include observations of all age groups of children in each center. However, because observation times needed to be convenient both for programs and for technical advisors, observations of school-age classrooms were problematic. Preliminary data analyses led us to reconsider inclusion of our school-age classroom assessments.

Notes on school-age classroom data.

- Scores for programs that included school-age classrooms were lower than those that did not include school-age classrooms. Only 37 (54%) of the randomly-selected *Grow in Quality* programs served school-age children. Among these 37 programs, only 33 school-age classrooms were actually scored at Time 1 (due to summer-only school-age programs).
- Scores for school-age classrooms in which children were present were higher than those in which children were not present. In fact, 75% of Time 1 classroom observations were conducted in the morning or early afternoon before 3 p.m. (when school-age children were in school). Among the 33 school-age programs scored, children were actually present during only 9 (13%) of the classroom observations.
- Although strong efforts were made to develop an effective tool to assess school-age classrooms, the MAP assessment did not adequately measure school-age classrooms. Although we believe that assessments of school-age classrooms must be part of the MAP assessment, more work is needed to develop a tool that effectively assesses quality standards in programs for school-age children.

Classroom assessments (excluding school-age classrooms). The focus of this project was on documentation of “*Grow in Quality*” scores as a model for what could potentially be used in a statewide quality rating system. Raw scores for individual items were combined across classrooms and summed to create a total score for each program as described in the procedure section. However, because it was determined that school-age classrooms did not contribute positively to program scores, all data in this report are based exclusively on observations in infant, toddler and preschool-age classrooms.

a. Program scores

Mean program scores for each of the 14 items within each of the 3 categories on the MAP scale (materials, appropriateness, plan) are presented in Table 22. Examination of total scores for the 14 items, averaged across all centers indicated that health and safety items received the highest scores (scores > 5 on a 6-point scale). The item receiving the lowest score (score < 2) was the nature/science item.

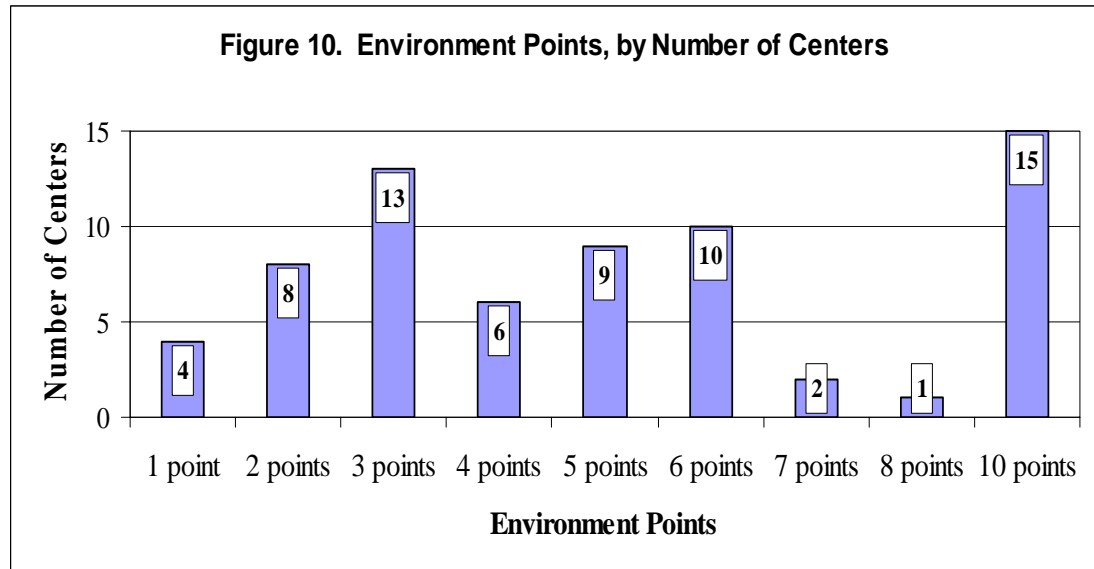
Table 22: Descriptive Characteristics of Classroom Environments

	Materials		Appropriateness		Plan		Total MAP	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Health	1.94	0.29	1.72	0.62	1.90	0.35	5.56	.83
Safety	1.76	0.58	1.84	0.41	1.96	0.27	5.56	.89
Large motor	1.79	0.44	1.63	0.69	1.19	0.89	4.62	1.38
Fine motor	0.88	0.89	1.41	0.76	1.46	0.74	3.75	1.87
Blocks	1.18	0.83	1.06	0.83	1.07	0.89	3.28	2.08
Dramatic play	1.15	0.85	0.69	0.82	0.63	0.88	2.44	1.94
Art	1.04	0.91	1.38	0.83	0.75	0.87	3.18	1.97
Music	1.26	0.87	1.07	0.89	1.18	0.95	3.50	2.30
Language	1.63	0.64	1.28	0.86	1.35	0.84	4.26	2.09
Literacy	1.09	0.88	0.91	0.82	1.32	0.84	3.32	2.05
Writing	0.74	0.86	0.38	0.65	1.04	0.87	2.16	1.97
Math	0.63	0.83	0.69	0.83	0.97	0.81	2.29	2.08
Nature/science materials	0.50	0.76	0.29	0.55	0.69	0.78	1.49	1.65
Child assessments	0.97	0.96	1.82	0.55	0.81	0.95	3.60	1.99
TOTAL	16.57	6.52	16.19	5.60	16.32	7.36	49.09	17.98

Although the MAP scale was designed such that programs would be most likely to meet the requirements of the materials items, less likely to meet requirements of the appropriateness items, and least likely to meet requirements of the plan items, average scores across categories did not indicate this pattern. Failure to differentiate among categories may reflect lack of clarity in the wording of the items, lack of training, or a real absence of differentiation within the observed programs. Finally, a total score of 49.09 (range = 15 to 83) for classroom environments suggests wide variation but a normal distribution in the quality of these programs.

b. Environment points

Total MAP scores were converted to environment points using the formula outlined in Table 13. Figure 10 displays the distribution of points for learning environments in the 68 programs participating in the *Grow in Quality* project at Time 1. Program scores ranged from one to 10 points, and most point values were represented within this group of 68 centers. These data do not appear completely normally distributed nor do they seem fully consistent with our expectations of child care quality statewide.



Environment points can be evaluated in terms of expected quality levels.

- **Excellent quality.** 22% of programs (n=15) received the full 10 points for being NAEYC accredited. This percentage is significantly higher than might be predicted from the fact that only 10% of Wisconsin's early care and education programs are nationally-accredited.
- **Good quality.** 10% of programs (n = 7) earned between 6 and 8 points for their classroom learning environments and curriculum. Putting these numbers in perspective, a total of 32% of these 68 programs received environment ratings that could be considered between good and excellent. This percentage is higher than both the 24% estimate of good to high quality deriving from the Cost, Quality and Child Outcomes study⁴⁴ (24%) and the 15% estimate of good to high quality based on an earlier study of child care quality in Wisconsin.⁴⁵ Indeed, an average score of 5.3 environment points across the 68 programs suggests a relatively good quality of care in Wisconsin.
- **Minimal quality.** Approximately 35% of programs (n = 24) earned between 3 and 5 points out of 10 on the classroom assessments.
- **Inadequate quality.** Approximately 32% of programs (n = 22) earned between 0 and 2 points for classroom assessments. This percentage is clearly much higher than the 11% estimate of inadequate quality reported in both the Cost, Quality and Child Outcomes study⁴⁶ and the Wisconsin Child Care Research Partnership study.⁴⁷

Classroom scores and accreditation. The 10-point measure of classroom quality was further validated by assessing its relationship with accreditation. Figure 11 displays the average number of environment points for classrooms in accredited as compared with non-accredited programs. Statistical comparisons indicated that accredited programs earned significantly more environment points than did non-accredited programs ($t = 4.10$, $p < .001$). The average number of environment points across all 68 programs was 5.3.

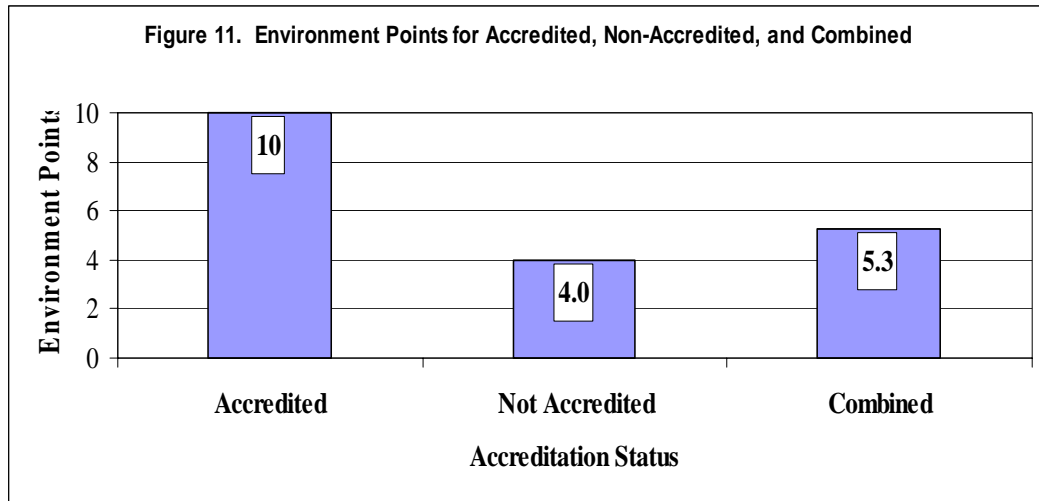
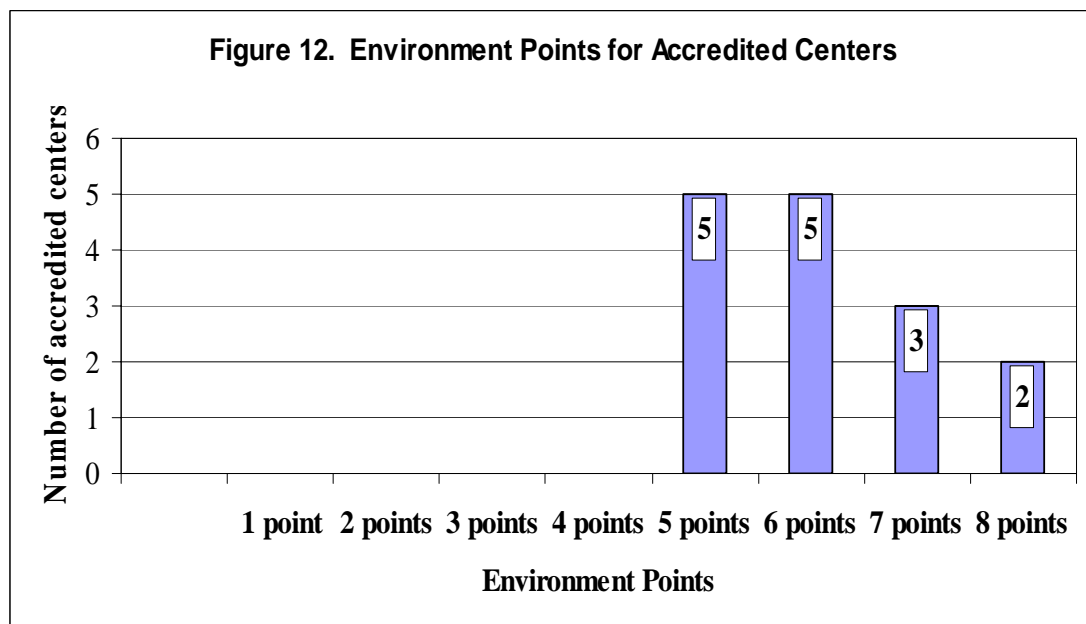


Figure 12 confirms that 13 out of 15 accredited child care centers (87%) earned between 5 and 8 environment points for classroom assessments, indicating a generally good to excellent quality of care. Further research will be needed to determine whether additional standards of accreditation beyond NAEYC should also be accepted. In addition, the state will need to decide whether programs meeting accreditation standards should automatically receive the full 10 points for environment without need for on-site assessments. Such a decision would provide an incentive for programs to become accredited and would save observational time on the part of state data collectors. These data suggest that such a decision may be warranted.



4. Professional practices

Technical advisors conducted on-site interviews with all 68 program directors. Interviews lasted between 20 and 90 minutes ($M = 46$ minutes). Only 9% of interviews took longer than one hour to conduct, and 25% of interviews were conducted in 30 minutes or less. The following three sections briefly summarize each of the original indicators and the corresponding percentages of “yes” responses, sorted from highest to lowest, for the 68 centers in the *Grow in Quality* project at Time 1.

Staff Development

As indicated in Table 23, most programs in the *Grow in Quality* project conducted annual program reviews of staff (84%), included oral and written feedback in their performance reviews (81%), and had copies of comprehensive policies for staff orientation, evaluation, and professional development easily accessible on site (82%). The item with the most “no” responses in the staff development category was whether the center had a written salary scale that was differentiated by role, education, training and experience. Approximately 35% of programs reported having this in place, but because this is a particularly difficult item, it is expected that even those programs that reported having such a system in place, may not have used it consistently, so this item may need to be worded more critically in the future. Another item with a rather low likelihood of occurrence was teachers having individual professional development plans (44%).

Table 23. Characteristics of Staff Development	% YES
Copies of policies for staff orientation, evaluation, and professional development are comprehensive and easily accessible on site.	82
Performance reviews are conducted at least annually.	84
Performance reviews are based on formal observations by supervisor.	66
Performance reviews include oral and written feedback.	81
Performance reviews include self-evaluation.	60
Mentors/coaches, shared leadership, or participatory management systems are in place for providing peer feedback.	50
All teachers have individual professional development plans.	44
Written salary scale is differentiated by role, education, training, and experience.	35
Teachers who complete credit-based education receive increased wages.	72
Teachers have paid planning time away from the children.	62
Program has a budget item for staff education and training.	69
The program has a systematic plan in place for staff hiring, orientation, monitoring, and evaluation of staff performance and professional development.	65
Total	64

Business Management

As indicated in Table 24, most centers in the *Grow in Quality* project were rated very positively on having their staff attend monthly or bi-monthly center or team staff meetings (97%), and allowing staff to have input into developing their own lesson plans (99%). Appropriate practices were also in place for maintenance of facilities and risk management (94%), payroll taxes were typically paid on time (94%), and most programs had a fully equipped office space for the administrator with computer, printer, and internet capability (91%). Four indicators, out of 18, were given the most “no” responses: documented annual use of internally or externally administered environment rating scales (37%); input from program assessments used in estimating program progress (32%); program assessments conducted by someone outside of the center but teachers knew the quality improvement plan (31%); and an external audit or external financial review was conducted in the last year (46%). These items may be particularly useful for differentiating quality since they are key components of nationally accredited programs.

Table 24. Characteristics of Business Management	% YES
Copies of all policies and procedures for daily management of the child care are comprehensive and accessible on site.	60
System is in place for monthly/quarterly tracking of all income and expenditures.	87
Annual budget is used in administrative planning throughout the year.	63
Payroll taxes are paid on time.	94
External audit or external financial review was conducted in the last year.	46
Appropriate practices are in place for maintenance of facilities and risk management.	94
Program director is on-site at least 30 hours per week.	85
Director is a member of an early childhood professional organization.	52
Space is available for meeting the personal needs of teachers.	79
Fully equipped private office space for administrator, including computer, printer, internet.	91
Internal communication practices among staff are strong.	84
Staff attend monthly/bi-monthly center or team staff meetings.	97
Staff provide input to the agenda.	88
Written minutes with action steps are shared.	56
Staff have input into developing their own lesson plans.	99
There is documented annual use of environment rating scales or other approved methods within most classrooms.	37
Input from program assessments is used in estimating program progress.	32
Program assessments were conducted by someone outside of the center.	34
The program monitors fiscal, facility, and internal communication policies and procedures for daily management, and has a long range plan for program improvement.	62
Total	72

Family Involvement

As indicated in Table 25, perfect or near-perfect scores were received by *Grow in Quality* programs for having a system in place for maintaining ongoing communication with families (96%), having comprehensive family policies and procedures easily accessible on site (94%), and having an appropriate system for orientation of new families (91%). Because these items mirror licensing regulations, and centers generally comply fully with these items, it would not be necessary to include such items on a statewide assessment of family involvement practices. Items in the family involvement category to receive the highest numbers of “no” responses were whether the center had a parent advisory board or governing board (38%), which may be an artifact of its legal status (with nonprofit centers required to have a community-based board of directors), whether the program provided services to meet the needs of families in the center (40%), and whether the program conducted an annual formal survey of families (47%). A statewide discussion of the value of these items would be necessary before including them as part of a statewide quality rating system.

Table 25. Characteristics of Family Involvement	% YES
Comprehensive policies/procedures for families are easily accessible on site.	94
An appropriate system is in place for orientation of new families.	91
A system is in place for maintaining ongoing communication with families.	96
Program provides services to meet the needs of families in the center (e.g. lending library, parenting classes).	41
Program has a parent advisory board or governing board.	38
Program conducts an annual formal survey of families.	47
Parent-teacher conferences are offered annually.	78
Program offers 3+ family meetings/social events per year.	71
Family members often participate in the center, volunteer in the classroom, share their skills with children, and spend time informally in the center.	77
Teachers are well trained and skilled at engaging in informal conversations with families.	68
Center has established links with community services.	77
The program monitors family participation and satisfaction, and has a plan for ongoing program improvement.	68
Total	70

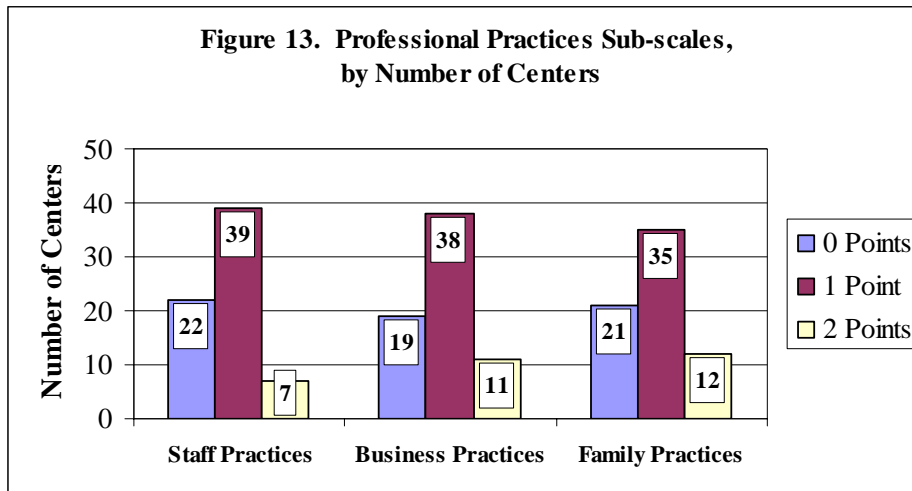
Adjustments to Professional Practice Sub-Scales

Preliminary data analyses from the *Grow in Quality* programs combined with technical advisors’ opinions on a quiz assessing best program practices were considered within the state’s long-term goals for quality improvement in Wisconsin to yield the revised set of indicators outlined in Table 26.

Table 26. Revision of Professional Practices Sub-Scales	
1. Staff Practices	
a. Staff Benefits	<p>Program agrees to pay 50% of all teachers' individual premiums for a single health insurance policy.</p> <p>A published salary scale clearly differentiates wages according to teachers' education, training, and years of experience as well as their roles in the program.</p>
b. Staff Management	<p>Mentors/coaches or mentoring teams that include teachers with at least 3 years of experience in the program provide individualized peer feedback and strengthen staff commitment.</p> <p>Program provides opportunities for shared leadership and participatory management.</p>
c. Staff Evaluation	<p>Performance reviews, conducted at least annually for all teachers, are based on formal observations by a supervisor.</p> <p>Performance reviews include oral and written feedback, as well as discussion of each teacher's individual professional development plan.</p>
d. Staff Retention	<p>A written policy says teachers who complete credit-based education receive increased wages OR A line item in the budget is dedicated to staff education and training. Number of current T.E.A.C.H. scholarships: _____</p> <p>Teachers have weekly paid planning time away from the children.</p>
2. Business Practices	
e. Fiscal Management	<p>A system is in place for monthly or quarterly tracking of all income and expenditures.</p> <p>An annual budget is used for administrative planning throughout the year.</p>
f. Program Management	<p>Adequate space is available for meeting the personal needs of teachers. There is an adult restroom, storage for personal belongings, and adult-sized furniture in an on-site staff lounge.</p> <p>An appropriate system is in place for identifying program needs, conducting ongoing maintenance of facilities, and risk management.</p>
g. Internal Communication	<p>Internal communication practices among staff are strong (e.g. staff bulletin board, message board, in-house newsletter, internal memos, email or voicemail practices).</p> <p>Teachers attend monthly center or team staff meetings, provide input to the agenda, and written meeting minutes with action steps are shared with staff.</p>
h. Director Leadership	<p>Program director is on-site for at least 30 hours per week (pro-rated for part-day programs), with at least 50% of that time spent conducting administrative responsibilities.</p> <p>Program director is an active member of the Wisconsin Child Care Administrator's Association.</p>
3. Family Practices	
i. Welcoming Environment	<p>An appropriate system is in place for orientation of new families including center tour and check-in after enrollment.</p> <p>Family members are encouraged to spend time informally in a comfortable family resource area that includes access to family-friendly resources and materials.</p>
j. Family Participation	<p>Program offers at least two family meetings/social events or collaborative opportunities each year.</p> <p>Program has a parent advisory board or other consultative body to provide oversight and planning, OR program conducts an annual formal survey of families' opinions about program services.</p>
k. Family-Teacher Communication	<p>The program encourages daily/weekly teacher-family communication, supports teacher training on communication, and provides time and resources for teachers to establish rapport with families.</p> <p>Family-teacher conferences or home visits are offered at least twice a year with each family.</p>
l. Family Services	<p>Program has established links with community services, and provides services to meet the needs of families in the center (e.g. lending library, parenting classes, computer lab, food/clothing donations).</p> <p>Program receives a quarterly visit from a Child Care Health Consultant.</p>

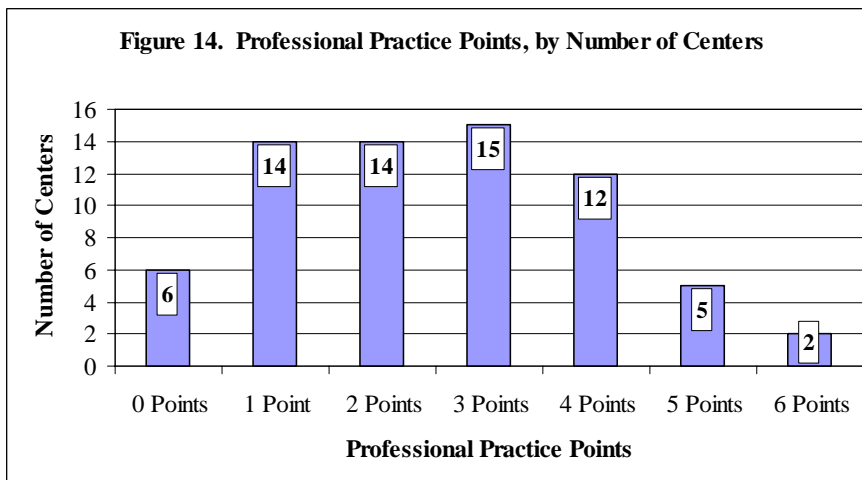
- a. Preliminary data analyses. Each item on the professional practices subscales was examined to assess its potential value for a statewide quality rating system. The goal was to eliminate items that provided redundant or inconsistent data and to create a reduced and easier-to-manage assessment of professional practices in quality programs.
- The first rule applied to these data was the “over 90%” rule. If over 90% of the 68 programs scored “yes” on a particular item then the item, as defined, was considered too easy, and was either strengthened or deleted.
 - The second rule was the “accreditation rule.” If accredited programs were not significantly more likely to score “yes” on a particular item than were non-accredited programs, then the item was either not measuring quality or was not measuring what we thought we were measuring. Such items were modified or deleted.
 - Third, when multiple items measured a similar component of quality, they were combined or weighted to optimize the best measure of quality. Similarly, potentially interesting items that didn’t yield valuable information were re-defined or eliminated.
- c. Technical Advisor Quiz. A “quiz” was developed and completed independently by each WCCIP technical advisor. Ratings from 1-5 were made for each professional practice item, on efficiency and on validity. Each set of business, staff, and family practices was then ranked in terms of its importance for a statewide quality rating system (see Appendix H).
- Efficiency: Is it easy to collect the information for this item? Is it objective? Reliable? The goal was to find out whether there were some items that the technical advisors felt were very difficult to gather accurately. Were there items that they felt they might very well get a different answer on a different day or that a different technical advisor might get a different answer?
 - Validity: How meaningfully does the item contribute to the technical advisor’s overall assessment of the program’s business management, staff development, or family involvement? Is it fair to providers? Does it represent quality as measured? For example, the measure might be easy to gather but if it doesn’t seem to be related to what people typically think is important for business management, staff development, or family involvement, then perhaps it isn’t necessary.
 - Ranking: Following the ratings, technical advisors ranked each item in terms of overall importance for a statewide quality rating system. Rankings were based on the concepts represented by each item rather than on the specific wording that had been used to assess each item.

Revised professional practices scale. The professional practices scale presented in Table 26 includes some items for which the data available from *Grow in Quality* centers were strong and other items in which the original data were weak or unavailable. On this proposed professional practices scale, each of 24 items would be checked to indicate that the program fully met the requirements outlined on the form and in the manual. Only if both items within each sub-indicator were checked could a program receive credit for that item. Each of the three professional practice sub-scales (staff, business, and family practices) include a total of 4 items for a total combined possible score of 2 points for each sub-scale. The distribution of *Grow in Quality* programs at Time 1 is presented in Figure 13.



Professional practice points

The three 2-point scales for staff, business, and family practices were summed to create a single score on a six-point scale for professional practices. Figure 14 displays the distribution of points for professional practices for the 68 programs participating in the *Grow in Quality* project at Time 1. These data indicate that 50% of programs earned between 0 and 2 points; 40% earned 3 to 4 points; and 10% earned 5 to 6 points.



Professional practices and accreditation. The 6-point measure of professional practices was further validated by assessing its relationship with accreditation. Figure 15 displays the average number of points for professional practices in accredited as compared with non-accredited programs. Statistical comparisons indicated that accredited programs earned significantly more professional practice points than did non-accredited programs ($t = 3.75, p < .001$).

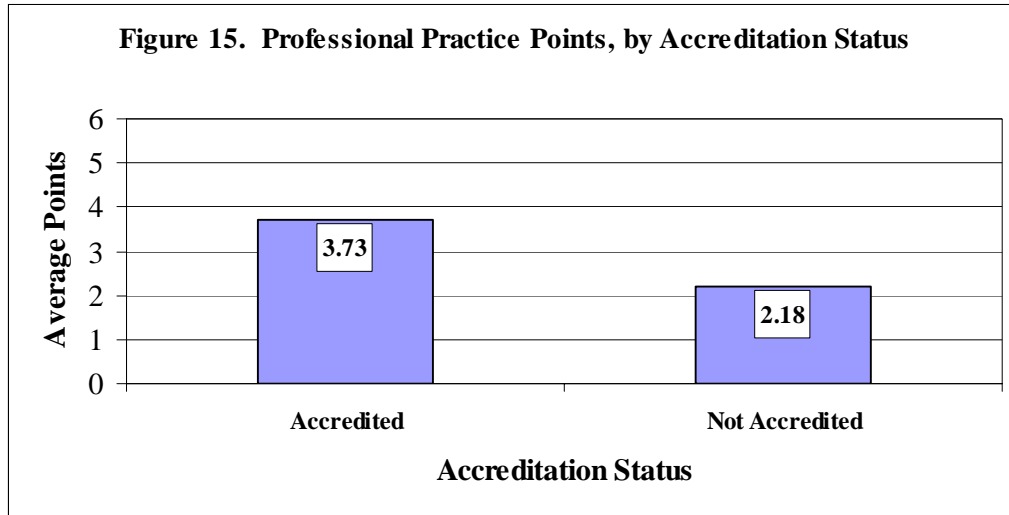
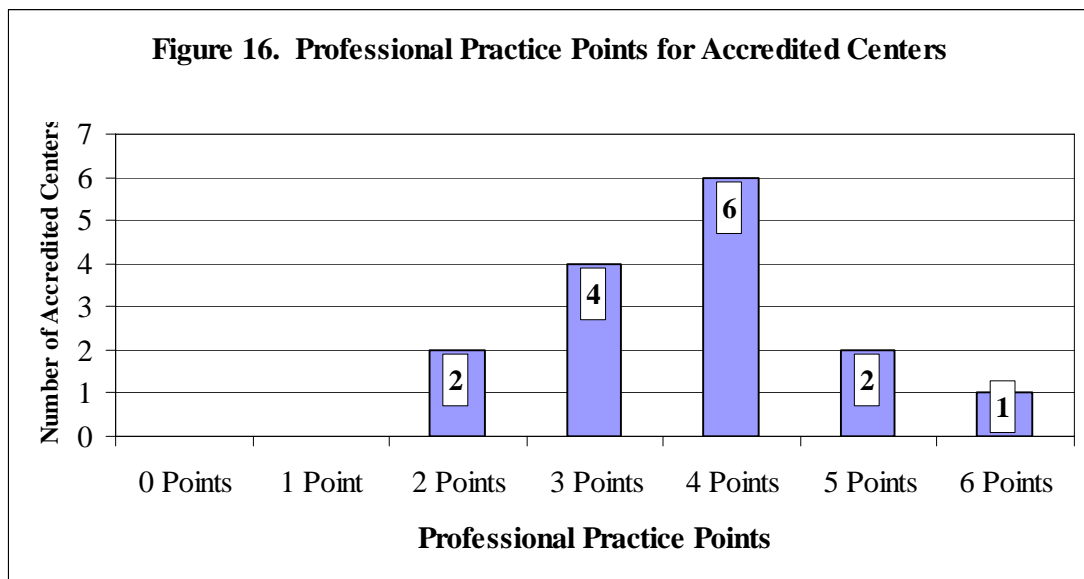
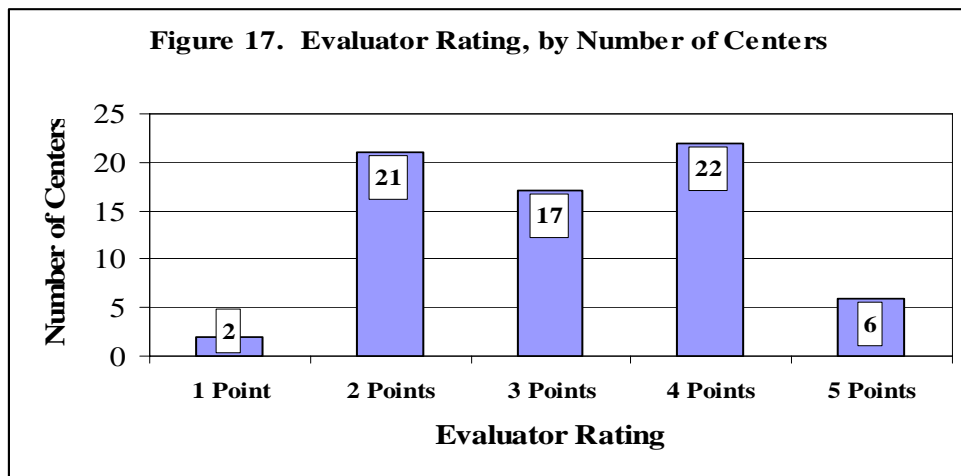


Figure 16 demonstrates that 13% of accredited centers scored between 0 and 2 points, 67% scored between 3 and 4 points, and 20% scored between 5 and 6 points on the professional practices scale. These data suggest that unless this scale is further refined, it might not be possible to automatically assign accredited programs the full 6 points for professional practices without assessing the quality of their staff, business, and family practices.

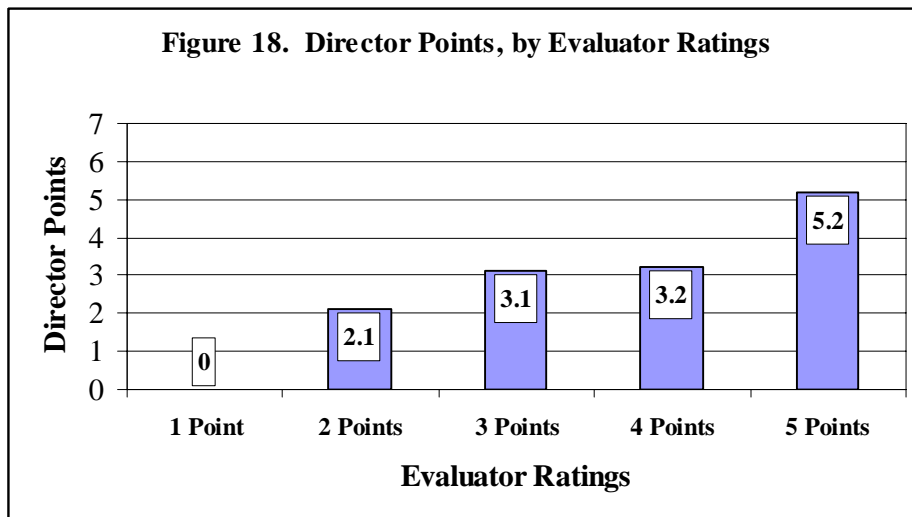


5. Evaluator Ratings of Quality

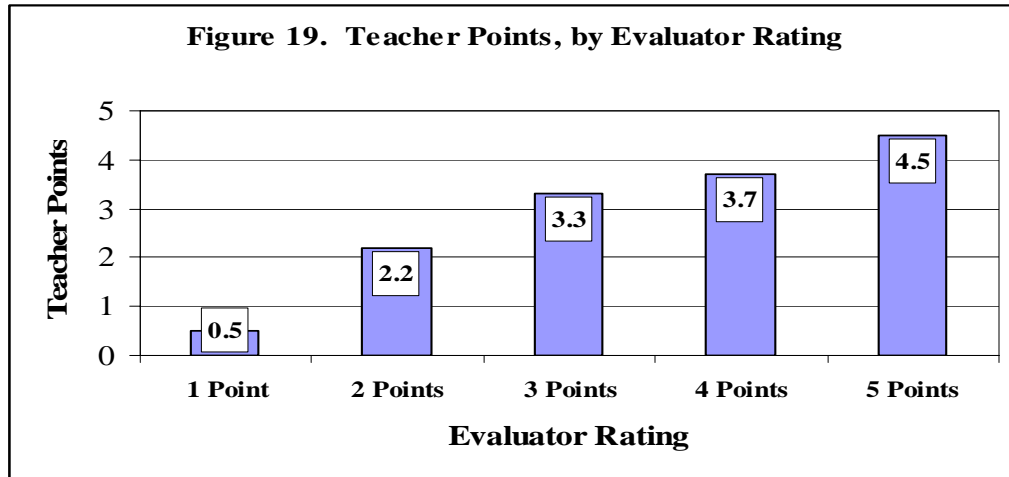
Technical advisors rated their opinions on four components of the quality of early care and education environments and each of the three components of professional practices for these 68 programs. These seven evaluator ratings were averaged across each program and the distribution of ratings is displayed in Figure 17. The goal of these analyses was to examine the extent to which ratings from expert technical advisors are consistent with formal program scores based on the previously identified quality indicators: director, teacher, environment, and professional practice points.



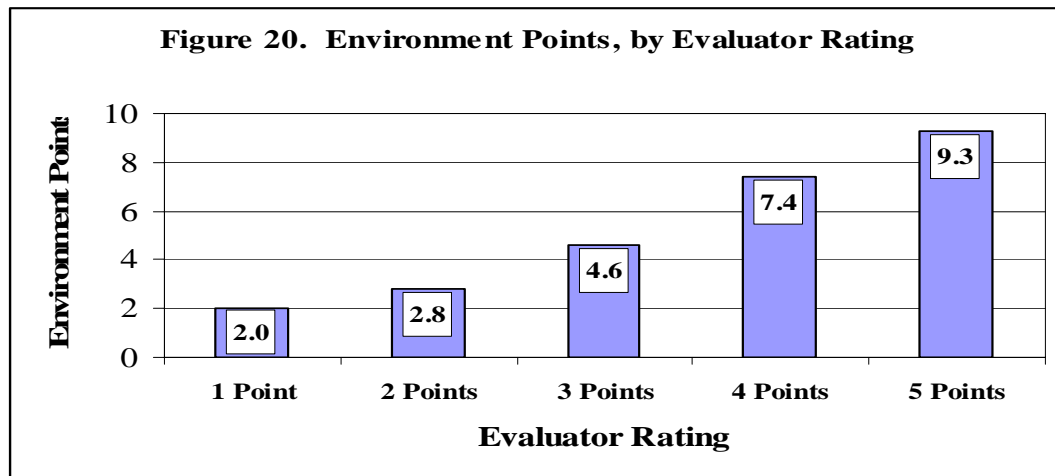
Director points and evaluator ratings. When technical advisors' opinions about program quality were compared with the number of director points that each program received, a consistent pattern was evident. Technical advisors assigned higher ratings to programs with directors who had higher educational qualifications and lower ratings to programs with directors who had lower educational qualifications ($r = .36, p < .01$). See Figure 18.



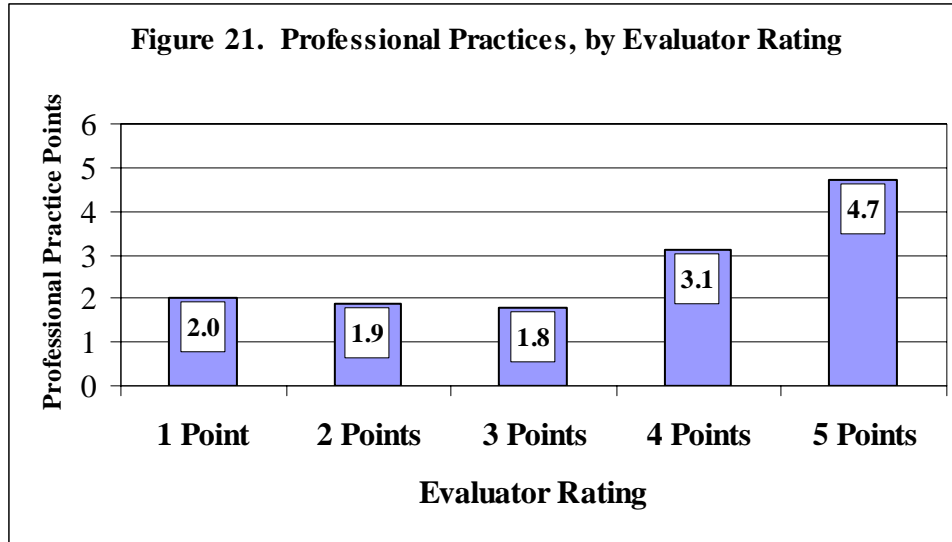
Teacher points and evaluator ratings. An even stronger pattern was found when evaluator ratings were compared with the number of teacher points earned by each program. As indicated in Figure 19, programs that earned few teacher education points earned lower evaluator ratings of quality than programs that earned more teacher education points ($r = .43$, $p < .001$).



Environment points and evaluator ratings. Programs with more environment points tended to receive higher ratings from the technical advisors ($r = .77$, $p < .001$). As mentioned earlier, there is a confound in that the same individuals who assigned the ratings also scored the classrooms, thereby potentially impacting the total number of environment points earned by the center (Figure 20).



Professional practice points and evaluator ratings. Examination of relationships between evaluator opinions and total professional practice points earned by centers revealed a significant pattern ($r = .50$, $p < .001$). As indicated in Figure 21, evaluator ratings of 1-3 points appeared to yield lower professional practice scores than evaluator ratings of 4-6 points.



6. Quality Rating Score

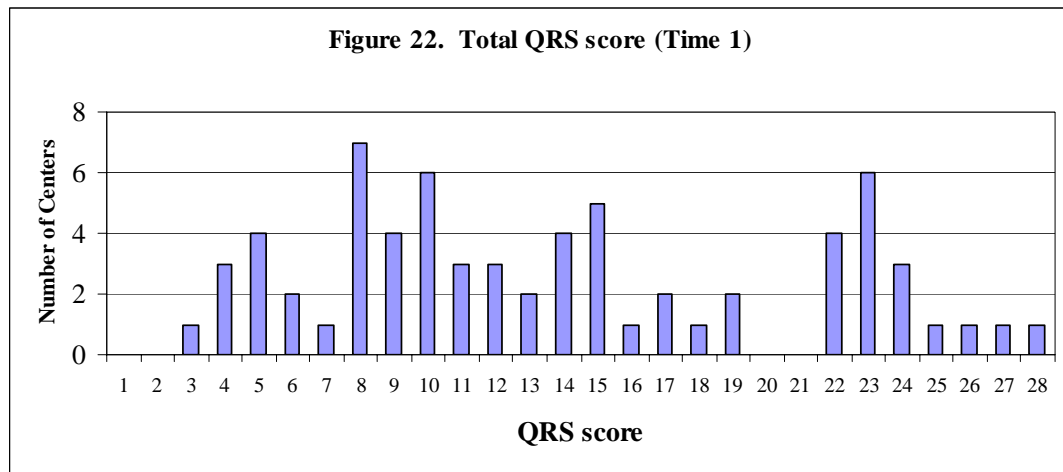
Time 1 quality indicator data for the 68 *Grow in Quality* programs are displayed in Table 27 along with the combined and ranked QRS quality rating score for each program. Following the guidelines of the Task Force director educational qualifications could earn a maximum of 7 points, teacher qualifications could earn a maximum of 7 points, classroom environments could earn a maximum of 9 points, unless they were accredited, in which case they would automatically earn 10 points, and professional practices could earn a maximum of 6 points. All together, the total QRS score for programs could range from 0 to 30 points. Programs with the lowest scores tended to receive few points in all categories, whereas programs with the highest scores tended to receive many points in all categories. However, multiple pathways to quality are also evident by comparing programs that earned different numbers of points for different quality indicators.

Table 27. Raw Points for Time 1 <i>Grow in Quality</i> Programs				
Director	Teacher	Environment	Professional Practices	QRS Score
0	0	2	1	3
0	0	3	1	4
0	1	3	0	4
0	1	3	0	4
0	1	1	3	5
0	0	1	4	5
0	2	2	1	5
0	2	1	2	5
0	2	2	2	6
0	2	3	1	6
0	0	4	3	7
0	3	3	2	8

0	5	2	1	8
1	2	3	2	8
3	2	3	0	8
0	4	2	2	8
0	1	5	2	8
3	1	3	1	8
5	0	1	3	9
3	3	2	1	9
5	2	2	0	9
0	2	6	1	9
3	1	3	3	10
3	3	3	1	10
3	2	5	0	10
3	4	3	0	10
1	2	6	1	10
0	3	5	2	10
3	1	4	3	11
0	4	4	3	11
3	1	5	2	11
4	2	3	3	12
3	4	4	1	12
0	4	4	4	12
5	2	5	1	13
4	1	6	2	13
5	4	2	3	14
3	5	3	3	14
0	4	5	5	14
1	2	6	5	14
3	5	5	2	15
5	2	4	4	15
7	2	5	1	15
4	0	7	4	15
1	2	6	6	15
3	3	8	2	16
3	3	6	5	17
3	5	6	3	17
5	4	7	2	18
5	7	6	1	19
7	2	6	4	19
7	6	6	3	22
3	5	10	4	22
3	6	10	3	22
6	4	10	2	22
7	7	5	4	23
3	6	10	4	23

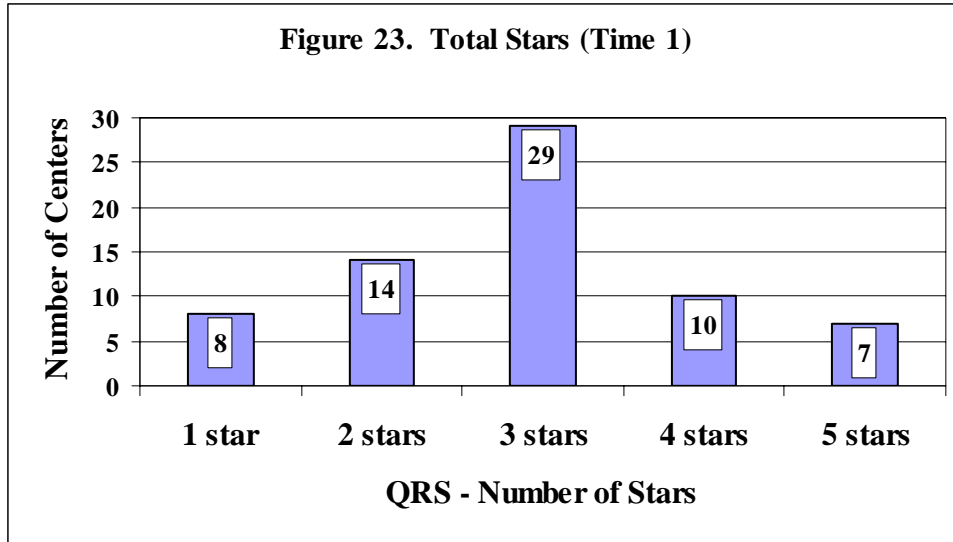
5	6	10	2	23
3	5	10	5	23
4	6	10	3	23
7	2	10	4	23
5	6	10	3	24
5	5	10	4	24
3	5	10	6	24
7	5	10	3	25
7	5	10	4	26
6	6	10	5	27
7	7	10	4	28

QRS points. The distribution of points on the QRS for Time 1 for all 68 *Grow in Quality* programs is displayed in Figure 22. Scores ranged from 3 to 28, with the average program earning 14 points out of 30 on the QRS.



QRS stars. The Task Force categorized point data into 5 star-level categories. Programs earning one star were identified as “out of compliance” with licensing standards. Because we did not have licensing records for the *Grow in Quality* study, we sorted points into star-levels to create a normal distribution. Should the state decide to implement a QRS, star levels could be manipulated to best fit the amount of funding available to support child care quality through the subsidy system. Table 28 displays the distribution of QRS points and star levels for the *Grow in Quality* project at Time 1. Figure 23 displays the data for the group of 68 *Grow in Quality* centers at Time 1.

Table 28. Conversion of quality rating points to stars.	
QRS Points	QRS Stars
0 - 5	1
6 - 9	2
10 - 19	3
20 - 23	4
24 - 30	5



Correlations among Quality Indicators. Table 29 displays the correlations between each of the quality indicators at Time 1 for the 68 *Grow in Quality* programs. Significant correlations among most of the indicators suggest that “good things go together.” At the same time, the fact that the correlations are not exceedingly high suggests that each of the quality indicators contributes unique information to the overall quality rating scores.

Table 29. Correlations among Quality Indicators (Time 1)					
	Director Points	Teacher Points	Environ ment Points	Professional Practice Points	Evaluator Rating
Director Points					
Teacher Points	.43 ***				
Environment Points	.53 ***	.59 ***			
Professional Practice Points	.22	.28 *	.47 ***		
Evaluator Rating	.37 **	.47 ***	.77 ***	.56 ***	
QRS Score	.75 ***	.76 ***	.89 ***	.59 ***	.72 ***

C. Assessing the Impact of Technical Assistance

A total of 62 of the original 68 early care and education programs participated in the *Grow in Quality* program at Time 1, Time 2, and Time 3. Technical assistance of approximately 10 hours per program was provided by technical advisors with the Wisconsin Child Care Improvement Project to 29 programs in Group A from May – September 2006 and to 33 programs in Group B from December 2006 – April 2007. The following analyses establish (a) overall comparability between the randomly-selected programs at the baseline assessments, (b) document change over time for the two groups as a function of technical assistance received at Time 2, and (c) compare the two groups at Time 3 after which both groups had received technical assistance. Program characteristics as well as director and teacher point data were collected only at Time 1 and so will not be compared beyond the baseline assessment.

1. Baseline Comparison of Technical Assistance Groups

T-tests were conducted to establish baseline comparability between Group A (n = 29) and Group B (n = 33) centers at Time 1 on the basis of program characteristics including child characteristics (capacity and the percentage of young children receiving state child care subsidies); quality indicators (director, teacher, environment, professional practice points); and overall program ratings (evaluator ratings of quality, and total number of stars based on the QRS rating. As indicated in Table 30, no statistically significant differences were found between the two groups on any of these measures at the outset of the *Grow in Quality* project.

Table 30. Baseline Comparison of Program Characteristics:					
	Group A (n=29)		Group B (n=33)		
	M	SD	M	SD	T-test
Program Characteristics					
Child care capacity	77.38	61.22	80.45	44.71	.23
Percentage of children on subsidy	.39	.35	.28	.32	1.25
Quality Indicators					
Director	2.83	2.54	2.97	2.34	.23
Teacher	2.76	1.88	3.33	2.03	1.15
Environment	5.10	2.78	5.73	3.17	.82
Professional Practices	2.44	1.50	2.73	1.59	.71
Overall Ratings					
Evaluator Rating	3.17	1.04	3.21	1.08	.15
QRS Stars	2.83	1.14	3.07	1.14	.80

2. Impact of Technical Assistance (Time 1 – Time 2)

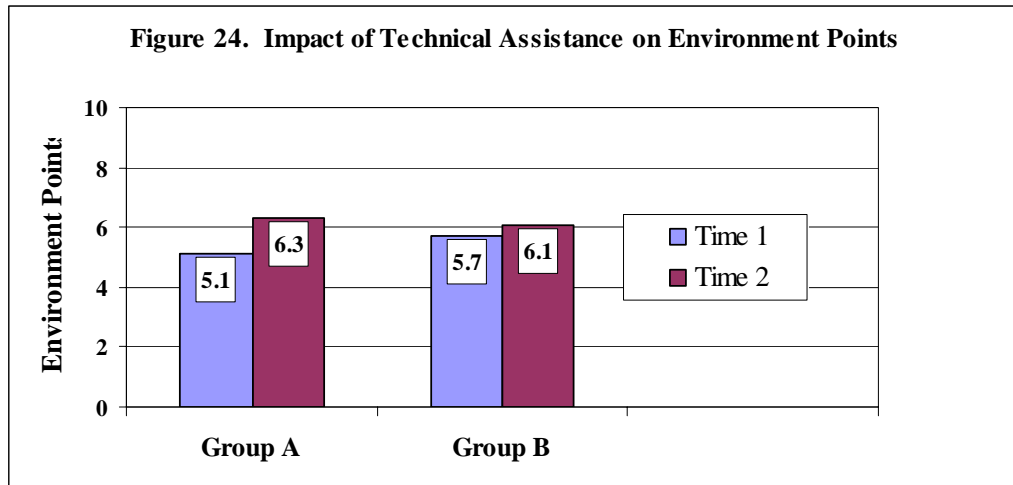
- a. Learning environment and curriculum. A comparison of MAP scores for the 29 programs participating in the *Grow in Quality* project at Time 1 and Time 2 is provided in Table 31. These data indicate significant improvement over time, following technical assistance, for each of the items on the MAP scale with the exception of health, safety, and child assessments, in which no significant change was found over time.

Table 31. Comparison of MAP Scores - Group A (n=29)			
MAP Scores	Time 1	Time 2	T-test
Health	5.62	5.90	1.44
Safety	5.59	5.52	.49
Large motor	4.52	5.59	4.23 ***
Fine motor	3.76	4.69	3.17 **
Blocks	3.10	4.48	3.49 **
Dramatic play	2.48	3.97	3.90 ***
Art	3.10	4.34	3.09 **
Music	3.24	4.76	3.36 **
Language	4.28	5.14	2.72 *
Literacy	3.24	4.24	3.15 **
Writing	2.00	3.14	2.69 *
Math	2.07	3.55	3.12 **
Science	1.59	2.79	3.30 **
Child assessments	3.48	4.24	1.98

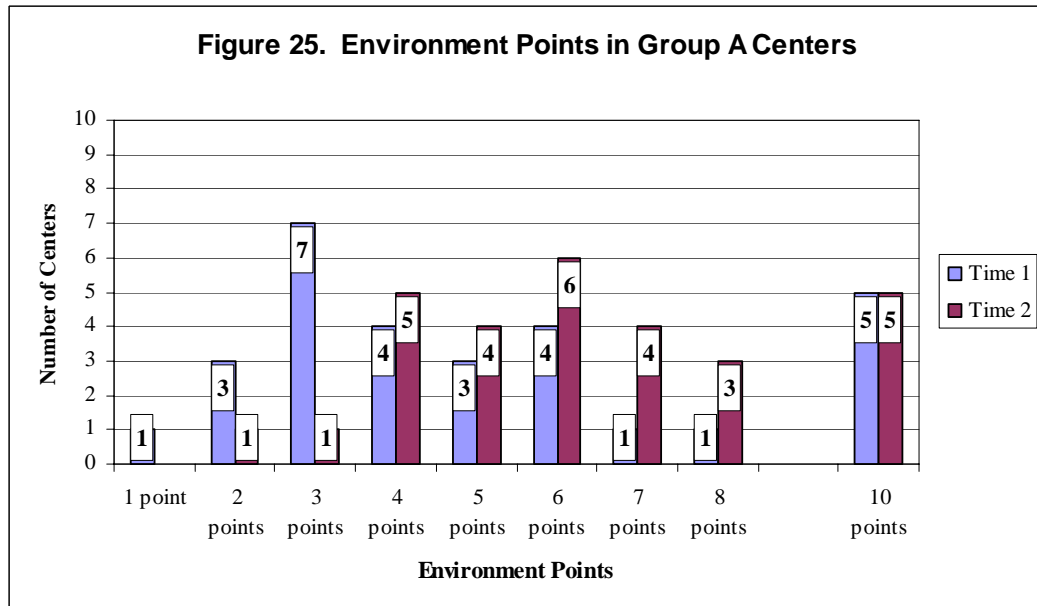
Although no improvement was expected in the 33 Group B centers who did not receive technical assistance between Time 1 and Time 2, comparative analyses revealed two significant improvements over time: dramatic play and science (Table 32).

Table 32. Comparison of MAP Scores - Group B (n = 33)			
MAP Scores	Time 1	Time 2	T-test
Health	5.52	5.70	1.18
Safety	5.52	5.64	.72
Large motor	4.67	4.94	1.01
Fine motor	3.88	4.00	.38
Blocks	3.48	3.52	.08
Dramatic play	2.36	3.33	2.86 **
Art	3.24	3.27	.10
Music	3.79	3.33	1.34
Language	4.45	4.73	.66
Literacy	3.55	3.82	.83
Writing	2.36	2.73	1.01
Math	2.67	2.45	.57
Science	1.42	2.18	2.44 *
Child assessments	3.88	3.73	.54

Group A and B centers were compared on total number of environment points at Time 1 and Time 2 (Figure 24). Programs that received technical assistance (Group A) exhibited an increase in number of environment points between Time 1 and Time 2 ($t = 4.74, p < .001$). In contrast, Group B centers, who had not yet received technical assistance, showed no significant improvement in the total number of environment points earned between Time 1 and 2 ($t = 1.46, p > .05$).



Detailed data on the number of environment points earned by the 29 programs that received technical assistance between Time 1 and Time 2 are displayed in Figure 25. These data show an increase over time in the numbers of programs scoring between 4 and 8 points and a decrease in the numbers of programs scoring between 1 and 3 points.



b. Professional Practices

Comparison of average numbers of points for Group A (n=29) centers on each indicator of each of the individual items comprising the staff, business, and family practice assessments at Time 1 and Time 2 is presented in Table 33. Programs receiving technical assistance exhibited significant improvements over time in the individual measures of staff benefits, staff management, fiscal management, internal communication, family participation, and family services.

Table 33. Comparison of Group A Centers on Professional Practices			
Staff Practices	Time 1	Time 2	T-test
Staff benefits	.59	.83	2.98 **
Staff management	.41	.69	3.27 **
Staff evaluation	.48	.55	.63
Staff retention	.55	.62	1.44
Total staff practices	.72	1.10	3.28 **
Business Practices			
Fiscal management	.48	.69	2.70 *
Program management	.79	.76	.44
Internal communication	.45	.72	3.23 **
Director leadership	.55	.62	1.00
Total business practices	.93	1.24	3.09 **
Family Practices			
Welcoming environment	.69	.83	1.44
Family participation	.38	.59	2.27 *
Family-teacher communication	.76	.90	1.68
Family services	.34	.62	3.27 **
Total family practices	.79	1.28	4.52 ***

In comparison, Group B centers that did not receive technical assistance between Time 1 and Time 2 generally did not show improvement but showed significant improvement over time in the individual measures of fiscal management and family participation (see Table 34).

Table 34. Comparison of Group B Centers on Professional Practices			
Staff Practices	Time 1	Time 2	T-test
Staff benefits	.82	.85	.57
Staff management	.27	.42	1.97
Staff evaluation	.36	.52	1.71
Staff retention	.67	.67	.00
Total staff practices	.88	1.00	1.16
Business Practices			
Fiscal management	.64	.76	2.10 *
Program management	.79	.76	.30
Internal communication	.45	.61	1.97
Director leadership	.42	.52	1.79
Total business practices	.91	1.12	2.51 *

Family Practices			
Welcoming environment	.70	.70	.00
Family participation	.48	.67	2.67 *
Family-teacher communication	.79	.85	1.44
Family services	.39	.42	.44
Total family practices	.94	1.15	2.51 *

Comparison for Group A and Group B centers on each of the combined categories of professional practices between Time 1 and Time 2 are presented in Table 33 and Figure 26. Group A programs (n = 29) that received technical assistance between Time 1 and Time 2 exhibited significant improvement over time in their scores on total staff practices, business practices, and family practices. Although no improvement was expected for Group B centers that did not receive technical assistance, significant improvement was found in total business practices and family practices. Improvement over time in the absence of technical assistance may reflect greater familiarity with the tool on the part of technical advisors or greater improvement implemented by self-motivated directors who generated improvements following introduction to the issues raised by technical advisors in their initial meeting for the *Grow in Quality* project.

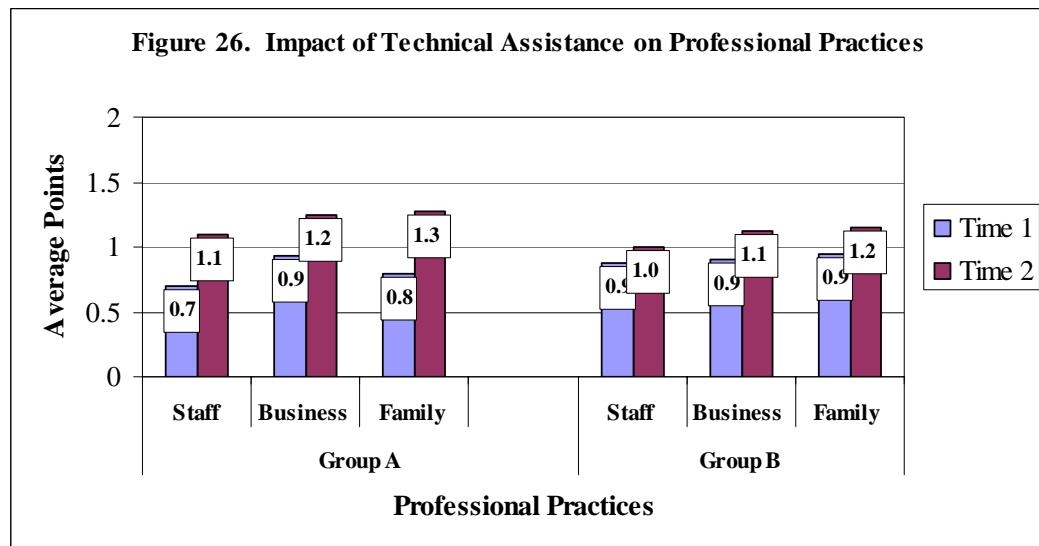
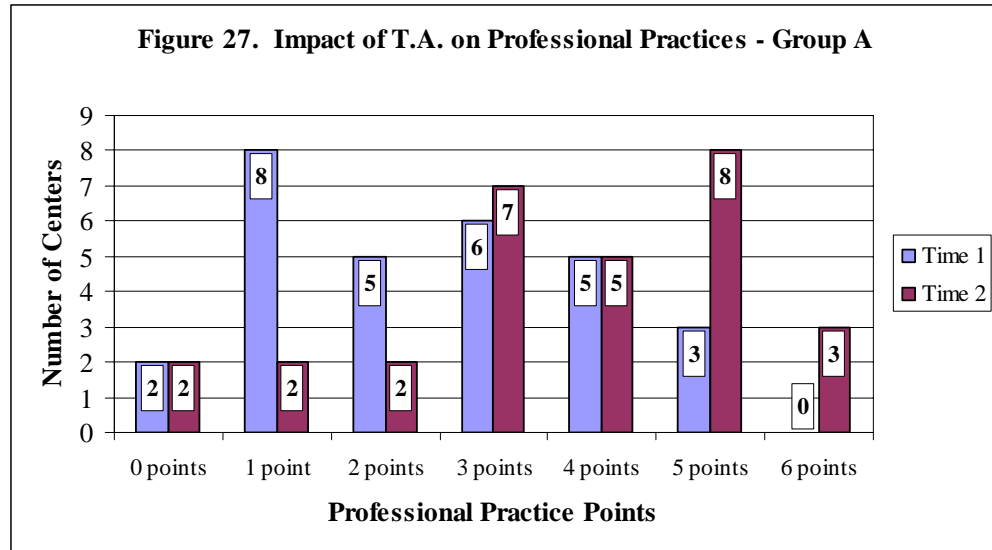


Figure 27 displays the distribution of total professional practice points (on a 6-point scale) for the 29 Group A programs from Time 1 to Time 2. Whereas 52% of these programs earned between 0 and 2 points at Time 1, only 21% earned these scores at Time 2; whereas only 10% of programs scored between 5 and 6 points on professional practices at Time 1, 38% of programs earned these scores at Time 2.



d. Evaluator ratings

Comparison of average evaluator ratings for Group A (n=29) centers at Time 1 and Time 2 indicated significant improvement over time in each of the areas assessed by evaluators (Table 35).

Table 35. Evaluator Ratings of Group A Centers			
Evaluator Ratings of Environment	Time 1	Time 2	T-test
Health, safety, and physical development	3.83	4.48	4.33 ***
Social and emotional development	3.38	4.14	3.99 ***
Language, literacy, and writing	3.21	4.10	3.74 ***
Math, science, and child assessment	2.93	3.86	4.43 ***
Staff practices	3.89	4.39	2.47 *
Business practices	3.61	4.29	3.40 **
Family practices	3.82	4.43	3.23 **

Comparison of evaluator ratings for Group B centers indicated two significant changes between Time 1 and Time 2 (Table 36). Despite the absence of technical assistance, evaluator ratings of staff practices and business practices increased.

Table 36. Evaluator Ratings of Group B Centers			
Evaluator Ratings of Environment	Time 1	Time 2	T-test
Health, safety, and physical development	3.97	4.00	.21
Social and emotional development	3.70	3.64	.35
Language, literacy, and writing	3.39	3.48	.49
Math, science, and child assessment	2.85	3.06	1.49
Staff practices	3.64	3.94	2.15 *
Business practices	3.82	4.21	2.52 *
Family practices	4.03	4.18	1.04

Group A and Group B centers were compared on their total evaluator ratings at Time 1 and Time 2 (Figure 28). Group A programs that received technical assistance exhibited an increase in evaluator ratings between Time 1 and Time 2 for quality of classroom environments, ($t = 5.01$, $p < .001$) and total professional practice points ($t = 3.63$, $p < .001$). Group B centers that did not receive technical assistance between Time 1 and Time 2 showed no significant improvement in evaluator ratings of classroom environments, ($t = .60$, $p > .05$), but showed significant improvement in evaluator ratings of total professional practices points over time ($t = 2.86$, $p < .01$).

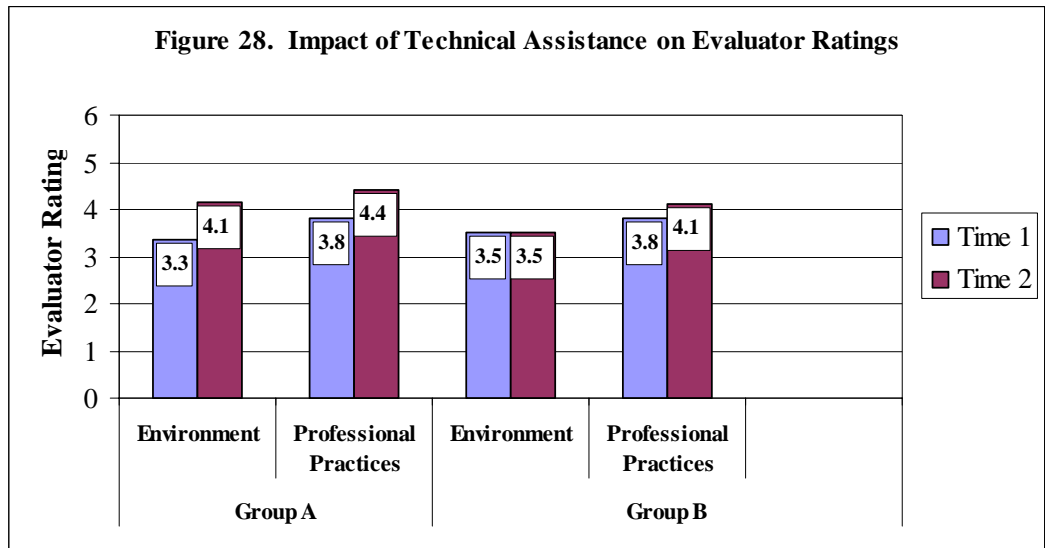
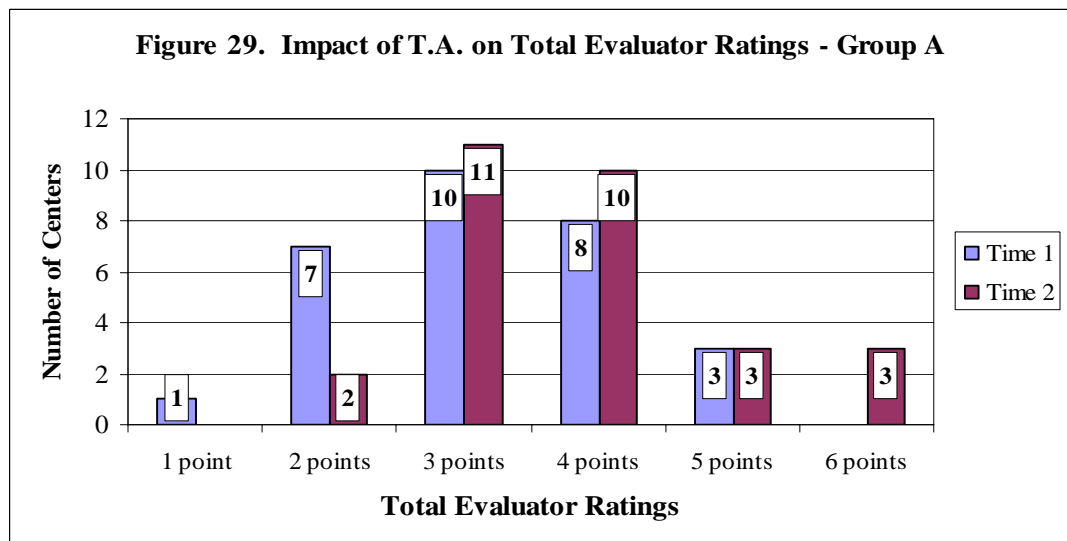


Figure 29 displays the distribution of evaluator ratings for the 29 Group A programs who received technical assistance. After approximately 10 hours of technical assistance, only two programs continued to rate below 3 on the 6-point evaluator rating (compared with 8 programs at Time 1).



3. Impact of Technical Assistance (Time 2 –Time 3)

In this section we examine the impact of technical assistance on Group A and Group B centers by comparing their average scores from the environment and professional practices assessments at Time 2 with their average scores on these same measures at Time 3. For Group A centers, we assess whether or not these programs were able to maintain at Time 3 the earlier gains that were established following technical assistance provided between Time 1 and Time 2. For Group B centers, we assess whether these programs' scores improved following technical assistance between Time 2 and Time 3.

- a. Learning environment and curriculum. In order to assess whether Group A centers were able to maintain their gains established at Time 2 in the period following technical assistance, Group A centers' environment scores were compared at Time 2 and Time 3. Table 37 shows that slight decreases in scores were evident over time in most measures of the classroom environments, and that significant decreases were found for two measures: language and child assessments.

Table 37. Comparison of MAP Scores - Group A (n = 29)			
MAP Scores	Time 2	Time 3	T-test
Health	5.90	5.72	1.31
Safety	5.52	5.52	.00
Large motor	5.59	5.45	1.07
Fine motor	4.69	4.07	1.88
Blocks	4.48	4.24	.77
Dramatic play	3.97	3.76	.58
Art	4.34	4.21	.42
Music	4.76	4.28	1.47
Language	5.14	4.00	3.02 **
Literacy	4.24	4.28	.14
Writing	3.14	2.66	1.63
Math	3.55	3.41	.43
Science	2.79	2.66	.58
Child assessments	4.24	3.72	2.10 *

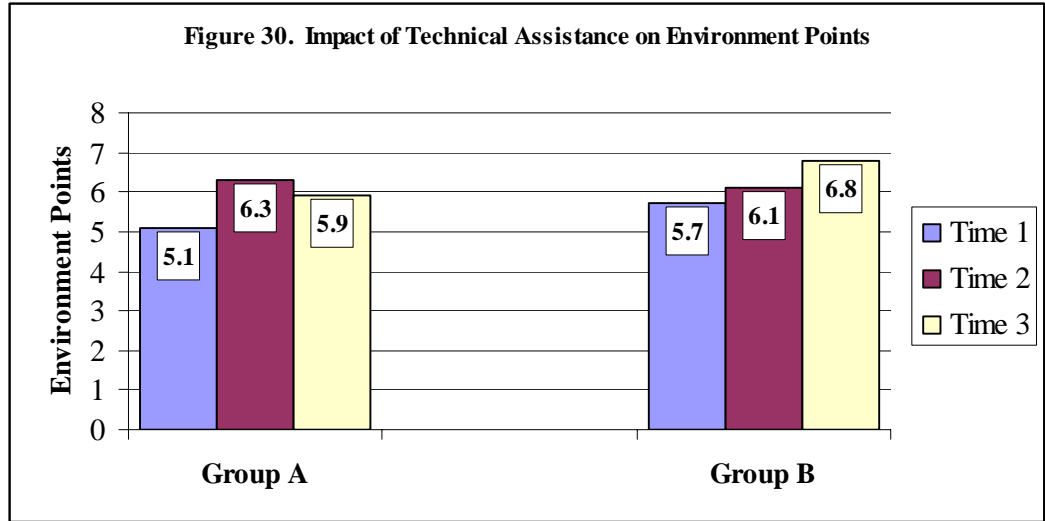
A comparison of MAP scores for the 33 Group B programs participating in the *Grow in Quality* project at Time 2 and Time 3 is provided in Table 38. These data indicate significant improvement over time on the MAP scale for most classroom quality measures including: fine motor, blocks, dramatic play, art, music, literacy, math, and science. No significant improvement over time was found for health, safety, large motor, language, writing, or child assessments.

Table 38. Comparison of MAP Scores - Group B (n = 33)

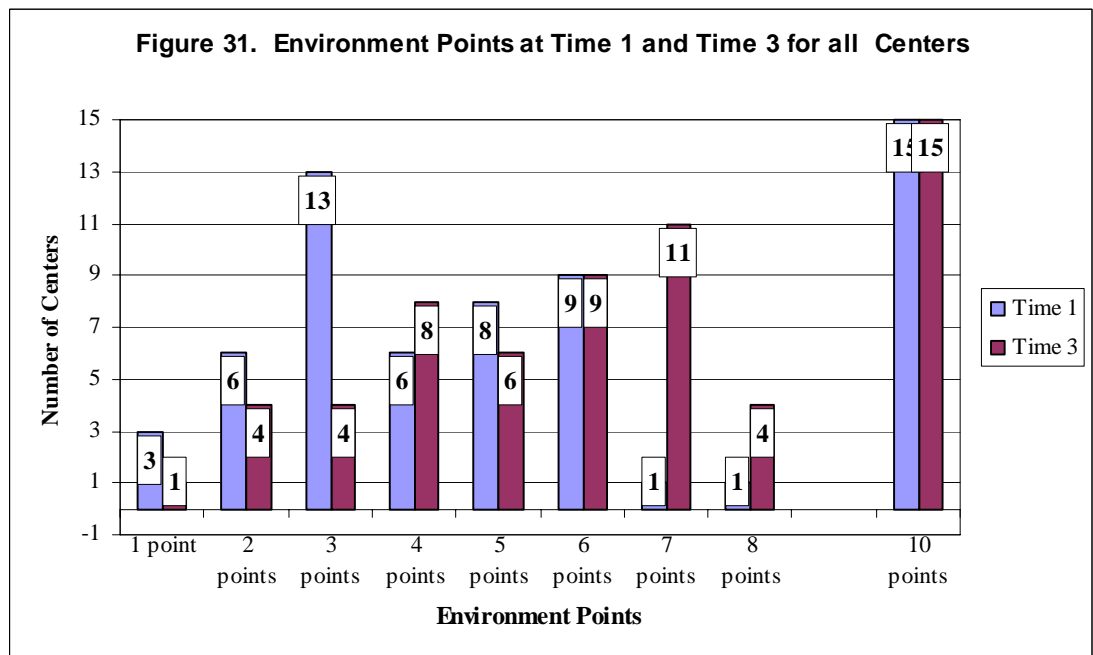
MAP Scores	Time 2	Time 3	T-test
Health	5.70	5.79	.83
Safety	5.64	5.58	.47
Large motor	4.94	5.30	1.38
Fine motor	4.00	4.85	3.04 **
Blocks	3.52	4.61	3.46 **
Dramatic play	3.33	4.21	2.57 *
Art	3.27	4.30	4.15 ***
Music	3.33	4.27	3.29 **
Language	4.73	4.82	.39
Literacy	3.82	4.58	2.72 *
Writing	2.73	3.36	1.83
Math	2.45	3.82	4.19 ***
Science	2.18	3.21	2.84 **
Child assessments	3.73	4.18	1.61

Group A and Group B centers were also compared on their total number of environment points (Figure 30). As indicated earlier, Group A programs had demonstrated significant improvement in their total number of environment points following receipt of technical assistance between Time 1 and Time 2. Comparison of the total number of environment points at Time 2 and Time 3 indicated a slight but not significant decrease over time ($t = 1.94$, $p > .05$), indicating that Group A centers were generally able to maintain their earlier gains in classroom quality. In addition, t-tests comparing Group A programs at Time 1 and Time 3 indicate significant improvement in total environment scores between the baseline assessment in April 2006 and the final assessment in April 2007 ($t = 3.63$, $p < .001$).

As indicated earlier, Group B programs demonstrated a slight but not significant improvement in their total number of environment points between Time 1 and Time 2, during the time that they were not receiving technical assistance. Comparison of the total number of environment points earned by Group B centers at Time 2 and Time 3, following receipt of technical assistance indicated a significant increase over time in classroom quality ($t = 3.63$, $p < .001$). Similarly, t-tests comparing Group B scores at Time 1 and Time 3 indicate significant improvement in total environment scores between the baseline assessment in April 2006 and final assessment in April 2007 ($t = 3.90$, $p < .001$).



Detailed data on the total number of environment points earned by the 62 centers at baseline (Time 1) and following completion of technical assistance (Time 3) are displayed in Figure 31. These data show a general decrease over time in the number of programs scoring between 1 and 3 points (from 35% to 15%) and an increase in the number of programs scoring between 7 and 8 points (from 3% to 24%). Nationally-accredited programs (n = 15) were automatically assigned the full 10 points possible at each of the assessment periods.



b. Professional Practices

Comparisons of each of the individual and combined measures of professional practices between Time 2 and Time 3 for Group A centers (n=29) are presented in Table 39. Results indicate no significant differences either in the individual or the combined measures between Time 2 and Time 3 indicating that these 29 programs were able to maintain their earlier gains in professional practices. Comparison of scores at Time 1 and Time 3 indicated significant improvement between the baseline assessment in April 2006 and the final assessment in April 2007 for each of the following measures: staff benefits, staff management, fiscal management, internal communication, family participation, and family services. Group A programs also showed significant improvement in total staff practices, ($t = 2.58, p < .05$) and total family practices, ($t = 4.22, p < .001$).

Table 39. Comparison of Group A Centers on Professional Practices

Staff Practices	Time 2	Time 3	T-test
Staff benefits	.83	.79	.57
Staff management	.69	.66	.44
Staff evaluation	.55	.62	.81
Staff retention	.62	.48	1.69
Total staff practices	1.10	1.07	.25
Business Practices			
Fiscal management	.69	.72	.44
Program management	.76	.72	1.00
Internal communication	.72	.79	.81
Director leadership	.62	.52	1.80
Total business practices	1.24	1.14	1.00
Family Practices			
Welcoming environment	.83	.76	1.00
Family participation	.59	.59	.00
Family-teacher communication	.90	.86	1.00
Family services	.62	.62	.00
Total family practices	1.28	1.24	.37

Group B centers that received technical assistance between Time 2 and Time 3 exhibited significant improvement over this time period in staff management, fiscal management, creating a welcoming environment for families, family participation, and family services, as well as for the combined measures of staff practices and family practices (Table 40). When Time 1 scores from April 2006 were compared with Time 3 scores from April 2007, these 33 programs showed significant improvement in staff management, staff evaluation, fiscal management, internal communication, welcoming environments, family participation, and family services as well as for each of the combined measures: total staff practices, ($t = 4.86, p < .001$), total business practices, ($t = 2.50, p < .05$), and total family practices, ($t = 4.44, p < .001$).

Table 40. Comparison of Group B Centers on Professional Practices			
Staff Practices	Time 2	Time 3	T-test
Staff benefits	.85	.91	1.44
Staff management	.42	.67	3.20 **
Staff evaluation	.52	.61	1.14
Staff retention	.67	.73	1.00
Total staff practices	1.00	1.30	2.97 **
Business Practices			
Fiscal management	.76	.88	2.10 *
Program management	.76	.82	.70
Internal communication	.61	.67	.81
Director leadership	.52	.48	.44
Total business practices	1.12	1.18	.57
Family Practices			
Welcoming environment	.70	.88	2.67 *
Family participation	.67	.79	2.10 *
Family-teacher communication	.85	.91	1.00
Family services	.42	.67	2.78 **
Total family practices	1.15	1.45	2.54 *

The impact of technical assistance for Group A (n=29) and Group B (n = 33) programs on the combined scores for staff, business, and family practices from Time 2 to Time 3 is displayed in Figure 32.

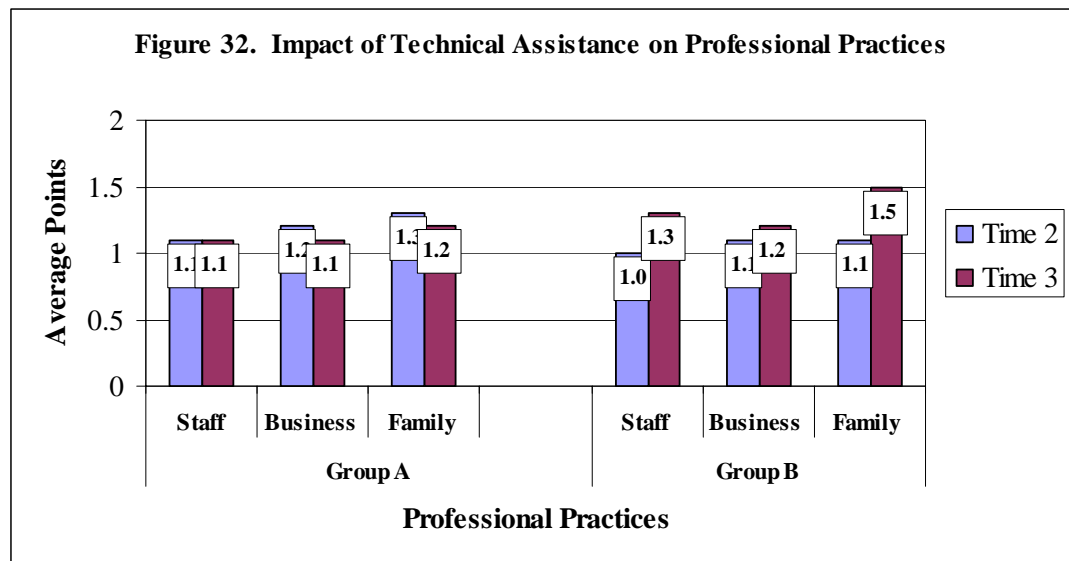
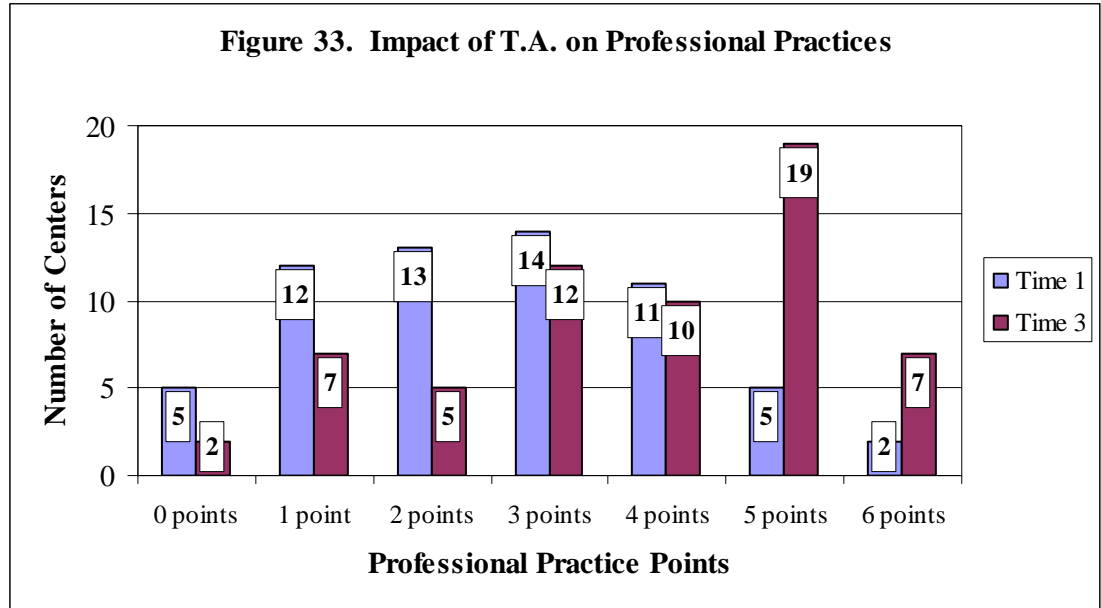


Figure 33 displays the distribution of professional practice points for the full group of 62 programs. Whereas 48% of these programs earned between 0 and 2 points at Time 1, only 23% earned these scores at Time 3; whereas only 11% of programs scored between 5 and 6 points on professional practices at Time 1, 42% of programs earned these scores at Time 3. Both Group A and Group B programs exhibited significant

increases between the baseline and final assessment in their total number of professional practice points ($t = 4.62$, $p < .001$, and $t = 5.84$, $p < .001$, respectively). Despite technical assistance, two programs continued to receive no professional practice points.



e. Evaluator ratings

Comparison of average evaluator ratings for Group A (n=29) centers at Time 2 and Time 3 indicated no significant differences thereby suggesting maintenance over time in each of the individual areas of quality assessed by evaluators (Table 41).

Table 41. Evaluator Ratings of Group A Centers			
Evaluator Ratings of Environment	Time 2	Time 3	T-test
Health, safety, and physical development	4.48	4.55	.46
Social and emotional development	4.14	4.28	.70
Language, literacy, and writing	4.10	4.07	.18
Math, science, and child assessment	3.86	3.62	1.32
Staff practices	4.39	4.38	.00
Business practices	4.29	4.38	.94
Family practices	4.43	4.52	.30

Comparison of evaluator ratings for Group B centers indicated significant changes between Time 2 and Time 3 on each of the evaluator ratings for quality of classroom environments and for quality of professional practices following receipt of technical assistance (Table 42).

Table 42. Evaluator Ratings of Group B Centers

Evaluator Ratings of Environment	Time 2	Time 3	T-test
Health, safety, and physical development	4.00	4.70	3.63 ***
Social and emotional development	3.64	4.30	3.64 ***
Language, literacy, and writing	3.48	4.27	3.88 ***
Math, science, and child assessment	3.06	3.91	4.35 ***
Staff practices	3.94	4.73	4.42 ***
Business practices	4.21	4.73	3.40 **
Family practices	4.18	4.94	3.71 ***

Group A and Group B centers were compared on their average evaluator ratings at Time 2 and Time 3 (Figure 34). Group A programs maintained their evaluator ratings between Time 2 and Time 3 for the quality of the classroom environments ($t = .06$, $p > .05$), and for total professional practice points, ($t = .48$, $p > .05$). Group B centers demonstrated significant improvement following receipt of technical assistance in evaluators' total ratings of the quality of classroom environments, ($t = 4.76$, $p < .001$), and evaluators' total ratings of professional practices points ($t = 4.36$, $p < .001$). When Time 1 evaluator ratings from April 2006 were compared with Time 3 evaluator ratings from April 2007, Group A programs showed significant improvement overall in classroom environments, ($t = 5.25$, $p < .001$), and significant improvement in professional practices, ($t = 3.58$, $p < .001$). Group B programs similarly showed significant improvement from Time 1 to Time 3 both in classroom environments, ($t = 5.24$, $p < .001$), and in professional practices, ($t = 5.25$, $p < .001$).

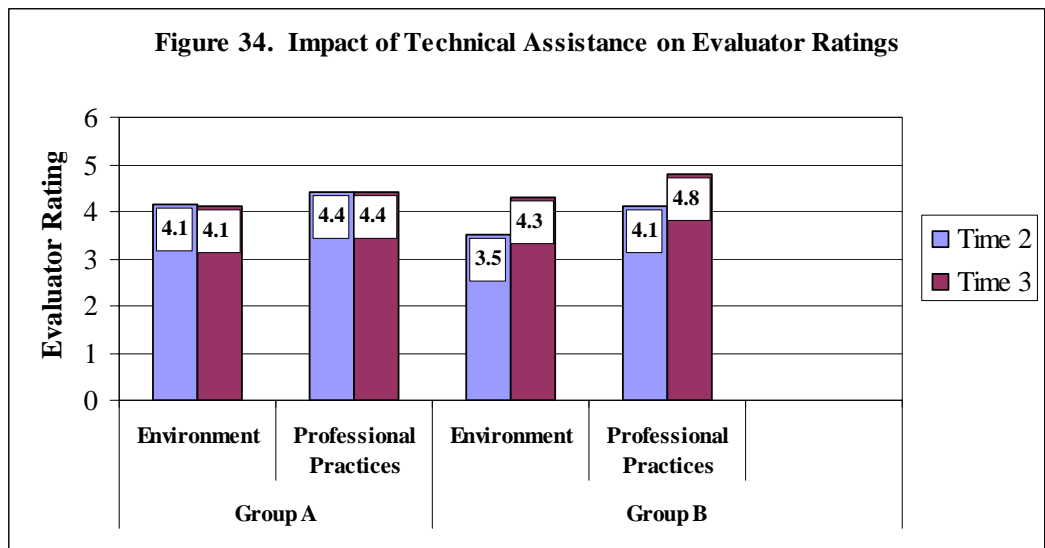
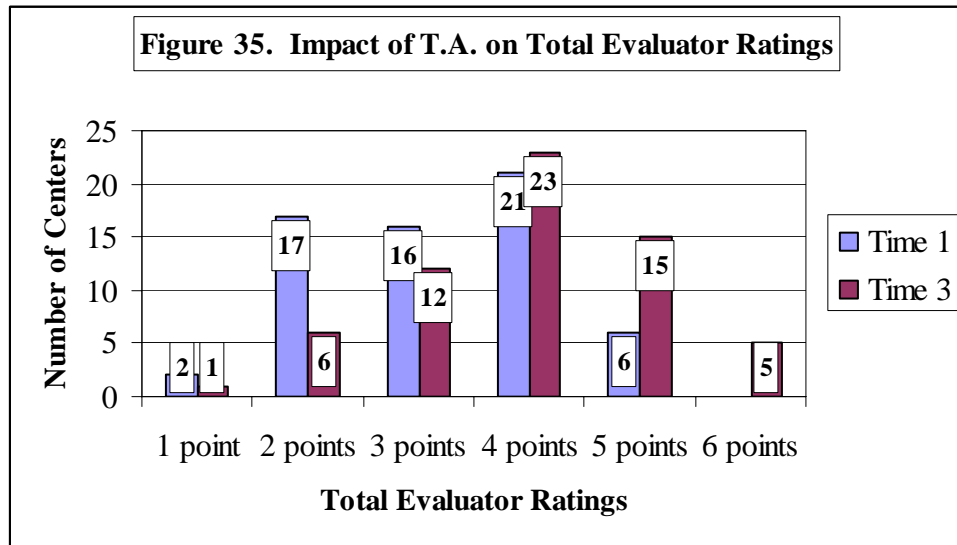
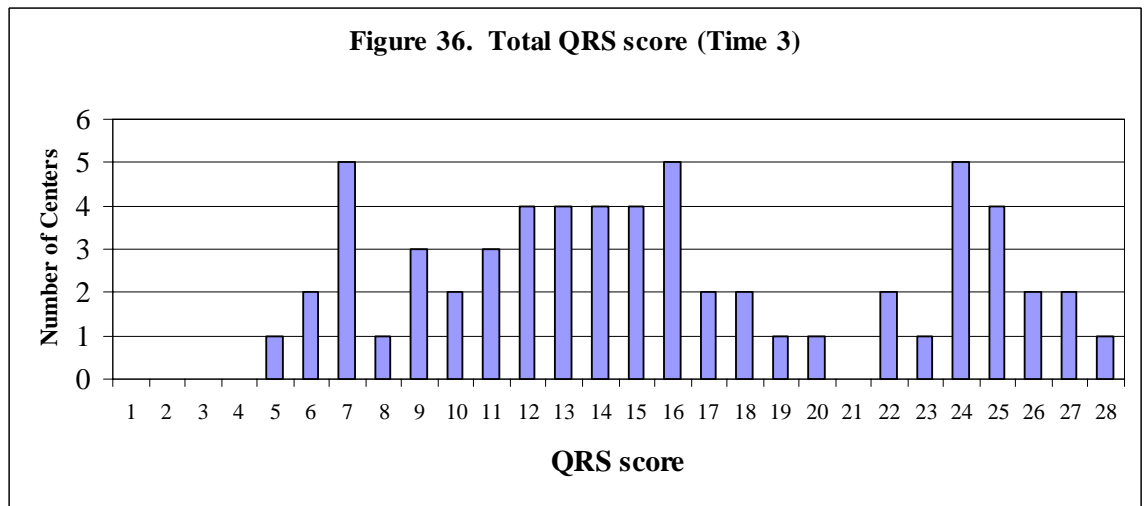


Figure 35 displays the distribution of evaluator ratings at Time 1 and Time 3 for all 62 programs. After technical assistance, seven programs continued to rate below three on the 6-point evaluator rating (compared with 19 programs at Time 1).

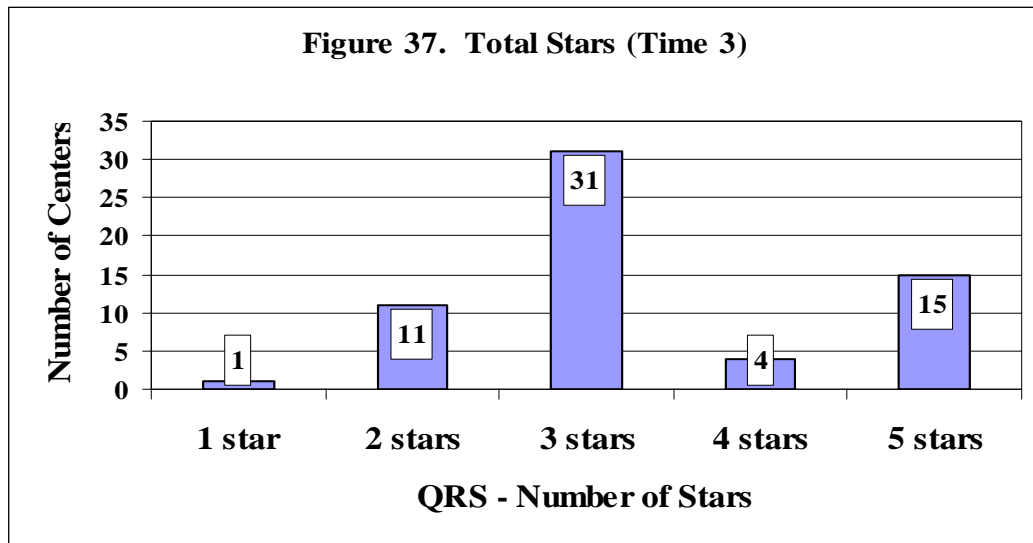


f. Quality Rating Scores

Time 3 quality indicator data were combined for the 62 *Grow in Quality* programs that participated in technical assistance and all program assessments to yield a QRS quality rating score for each program. Following the guidelines of the Task Force director educational qualifications could earn a maximum of 7 points, teacher qualifications could earn a maximum of 7 points, classroom environments could earn a maximum of 9 points, unless they were accredited, in which case they would automatically earn 10 points, and professional practices could earn a maximum of 6 points. All together, the total QRS score for programs could range from 0 to 30 points. This distribution of points on the QRS for Time 3 is displayed in Figure 36. Scores ranged from 5 to 30, with the average program earning 16 points out of 30 on the QRS.



QRS stars. QRS points were sorted into star-levels based on the following criteria (0-5 points = 1star; 6-9 points = 2 stars; 10-19 points = 3 stars; 20-23 points = 4 stars; and 24-30 points = 5 stars). Of course, should the state decide to implement a QRS, star levels could be manipulated to best fit the amount of funding available to support child care quality through the subsidy system. Figure 23 displays the data for the group of 62 *Grow in Quality* centers at Time 3.



Correlations among Quality Indicators. Table 43 displays the correlations among each of the quality indicators at Time 3 for the 62 *Grow in Quality* programs. Significant correlations among most of the indicators suggest general consistency in program quality across multiple indicators.

Table 43. Correlations among Quality Indicators (Time 3)					
	Director Points	Teacher Points	Environ ment Points	Professional Practice Points	Evaluator Rating
Director Points					
Teacher Points	.43 ***				
Environment Points	.44 ***	.53 ***			
Professional Practice Points	.25	.42 ***	.73 ***		
Evaluator Rating	.29 *	.45 ***	.84 ***	.66 ***	
QRS Score	.71 ***	.75 ***	.88 ***	.74 ***	.73 ***

IV. DISCUSSION

The *Grow in Quality* project represents a sincere and significant step on the part of Wisconsin's Department of Workforce Development to build a supportable foundation for an evidence-based Child Care Quality Rating System for the state of Wisconsin. As the *Grow in Quality* project comes to an end, it is worth reviewing the history of the project, evaluating responses to the primary questions addressed, and considering the potential implications of this work for an eventual statewide child care quality rating system.

A. History of the *Grow in Quality* Project

A review of the history of the *Grow in Quality* project over the past seven years reveals a systematic series of at least four efforts conducted by the Department of Workforce Development, in partnership with the Wisconsin Child Care Research Partnership at University of Wisconsin-Extension, to assess and improve the quality of early care and education for Wisconsin's children, especially children from low-income working families.

1. Wisconsin's Early Childhood Excellence Initiative (2000-2005). With this project, Wisconsin demonstrated that it is possible to improve the quality of care for children from low-income families if the government has the commitment to do so. When provided with significant funding and technical assistance to support their efforts, 24 early care and education programs, serving primarily poor children, significantly improved their quality of care and their levels of services for children and their families, and maintained that higher quality of care even after their funding was significantly reduced. The success of this project opened a statewide conversation about measurement of quality using Environment Rating Scales and continued a conversation about the value of state-supported technical assistance for improving the quality of care for Wisconsin's children.
2. Wisconsin Child Care Research Partnership (2000-2006). Funding (\$1,480,000) from the federal Department of Health and Human Services Child Care Bureau to the Wisconsin Child Care Research Partnership and the Department of Workforce Development reinforced Wisconsin's commitment to improving its quality of early care and education for children.
 - (a) *Wisconsin Child Care Research Partnership* analyzed data from thousands of surveys and observations in over 500 child care classrooms across the state in an effort to document key indicators of center-based and family child care quality. This research was published and widely distributed in 17 *Brief and to the Point* Issue Briefs and 6 *Public Policy* papers as well as several peer-reviewed academic publications. It demonstrated, among other things, the importance of a qualified child care director, the influence of teachers' educational credentials, and the benefits of national accreditation for child care quality improvement.

- (b) *Wisconsin Child Care Data Capacity Project* worked successfully to assure that Department of Health and Family Services, Wisconsin's Registry, the Wisconsin Child Care Resource and Referral Network, and the Department of Public Instruction's child care food program adopted a single, common DWD identifier for all child care programs. Recognizing that programs that serve a higher density of children from low-income families tend to have teachers with less education and higher rates of teacher turnover, it also outlined a structure that could allow data sharing across systems so that those children who were most in need of high quality care would be more likely to receive it. With a strong administrative database, a clear definition of regulatory compliance, established procedures for documenting providers' educational credentials, and strong communication across DWD, DHFS, and DPI it might be possible to not only assure that working families could find child care but that they could find high quality care that would prepare their children for school.
3. Quality Counts for Kids Task Force (2004). Together, Wisconsin's research and data capacity-building efforts set within the context of a larger national movement about the importance of school readiness made it clear that Wisconsin was falling behind when compared with at least 13 other states that had already adopted child care quality rating systems. Wisconsin is fortunate to have a Legislature that consistently prioritizes funding to support the availability of child care for children from Wisconsin's low-income working families, but the Legislature has not yet moved to guarantee that all care be of acceptable quality. In 2004 Governor Doyle formed a Task Force to study this issue. A group of 22 individuals assessed the available data on key quality indicators, produced realistic cost estimates, and laid out a possible structure for a statewide Quality Rating System. Its unanimous recommendations confirmed that the benefits of investing in high quality care outweighed the costs. In fact, the idea that Wisconsin was paying the same amount of money to programs that provided high and low quality care for children from low-income families generated a moral imperative to take action to reduce these inequities.
4. Grow in Quality (2005-2007). Building on recommendations from the Task Force, UW-Extension tested and developed careful modifications of the proposed quality indicators for director and teacher educational qualifications. UW-Extension also developed, tested, and fine-tuned a tool for on-site assessment of quality in child care center-based classrooms and in early care and education programs' professional practices. The Wisconsin Child Care Improvement Project collected classroom observations, conducted interviews with child care directors, provided technical assistance for quality improvement, and identified concrete suggestions for improving the quality of care statewide. Taken together, the years of careful work preceding this project and the countless hours of work invested in this project, provide a foundation for moving Wisconsin toward reclaiming its historically progressive roots. Although politics appears to have prevailed temporarily and the

immediate outlook for investing in quality child care has been sadly diminished, this project has resulted in a method for assessing child care quality, a rationale for rewarding programs for providing higher quality, and a strategy for helping programs improve their quality of care.

B. Answers to Primary Questions from *Grow in Quality*

The *Grow in Quality* project addressed two primary questions: “How can we measure and rate child care quality?” And, “Does child care quality improve following technical assistance?” The answers to these questions are summarized below in terms of the key quality indicators identified by the Quality Counts for Kids Task Force. Results are reported first from analyses of baseline data on the 68 programs that volunteered to be a part of this project and second from analyses of changes over time in these programs following receipt of technical assistance for quality improvement.

How can we measure and rate child care quality?

1. Child Care Directors. Administration of a child care program requires considerable knowledge and skill and programs that lack strong leadership often fail to provide high quality care. In Wisconsin *Grow in Quality* programs, 65% of directors reported that they had a degree, and those programs with directors who had degrees received higher scores in the quality of their classroom environments, although not in the quality of their professional practices than programs with directors who had not earned a degree. Raising the bar for directors in Wisconsin’s subsidy system by encouraging them to earn an administrator credential or a minimum of a degree and providing financial incentives to reward directors for higher educational qualifications seems warranted by this research.
2. Child Care Teachers. Based on director report, the median teacher in *Grow in Quality* programs had earned 6-11 college credits, although only half of these programs were able to staff all of their classrooms with teachers who had at least 6 college credits. Programs that successfully covered all of their classrooms with teachers that had at least 6 credits received higher scores on the quality of their classroom environments and on the quality of their professional practices than programs that could not meet this criterion. Thus, it seems reasonable to not only encourage programs to staff all of their classrooms with teachers who have a minimum of 6 college credits, but also to redirect the state’s financial resources in order to provide credit-based education for those programs that serve large numbers of children from low-income families and who most need educational enhancements.
3. Classroom Environments. Starting from the premise that the Environment Rating Scales⁴⁸ used in other states’ quality rating systems would be unworkable in Wisconsin given the exceedingly high administrative costs involved, this project sought to develop a simpler, more practical tool that assessed classroom quality in terms of the presence or absence of key indicators. The tool we developed requires the observer to rate one

representative classroom from each age group of children served (infant, toddler, preschool, school-age). Ratings would be made on eight key components of quality care: teacher-child relationships, literacy, play materials, learning materials, the arts, large motor, child assessments, and program assessments. For each component, the observer would assess: (a) the appropriateness of the materials available to children and (b) the appropriateness of classroom practices in using the materials to guide children's behavior. Although this was just a pilot study, our results demonstrated that it was possible to develop a cost-effective tool, that observers were able to make valid on-site decisions, that programs' scores on the assessments tended to be consistent with evaluators' ratings of quality, and that programs varied along a continuum of quality consistent with earlier studies of child care quality in Wisconsin.

4. Professional Practices. The Task Force identified three broad areas for assessing programs' professional practices. In addition to providing high quality classrooms for children, high quality early care and education programs should also support the teachers who work there, the families who send their children there, and the business administration requirements. UW-Extension developed an extensive set of potential quality indicators to assess these professional practice areas, and then, using data collected from the Wisconsin Child Care Improvement Project, worked extensively with DWD to refine these measures, eventually creating a simple set of 4 indicators for each practice area (staff, business, family) that could then be easily converted to three 2-point scales for a quality rating system. Measures identified in the final Professional Practices scale represent those items that were most likely to differentiate accredited from non-accredited programs, those items that could be measured most easily and objectively, and those items that seemed most likely to move Wisconsin child care programs toward higher quality professional practices.

Does child care quality improve following technical assistance?

A total of 62 early care and education programs participated in the *Grow in Quality* program at Time 1, Time 2, and Time 3. Analyses indicated that the two groups were roughly comparable at the baseline assessment, although Group B had twice as many accredited programs as Group A. Following technical assistance during the first 5 months of the project (at approximately 10 hours per program), Group A programs at Time 2 exhibited significantly higher scores than they had at Time 1 both on their classroom environment assessments and on their professional practices, whereas Group B programs (without technical assistance) did not exhibit a significant increase in their performance on these measures during this time period. Following technical assistance during the second 5 months of the project, Group B programs at Time 3 exhibited significantly higher scores both on their classroom environment assessments and on their professional practices than they had at Time 2, while Group A programs maintained their earlier increases even after technical assistance was removed.

In sum, if you compare the performances of Group A and B centers at Time 1 (prior to any technical assistance) and at Time 3 (following approximately 10 hours of technical assistance) you see improved scores in both groups both for the quality of their classroom environments and for the quality of their professional practices. Despite the potential confound in these data, since the data collectors were also responsible for providing the technical assistance, these data suggest, and reports of the technical advisors confirm, that most programs were sincerely interested in quality improvement, benefited from technical assistance, and appreciated the state's efforts to help them provide a higher quality of care for children and families. More detailed information about the provision of technical assistance for quality improvement is available in the final report of the Wisconsin Child Care Improvement Project.

C. Potential Implications of the *Grow in Quality* Project

The *Grow in Quality* project represented a sincere effort on the part of the Department of Workforce Development, UW-Extension, and the Wisconsin Child Care Improvement Project to strengthen the potential for a child care quality rating system in Wisconsin. This project yielded a new instrument that could be used to assess child care quality on-site, a report detailing the efficacy of this new instrument, and a report outlining the value of technical assistance for quality improvement. As child care subsidy costs to the state continue to rise each month with no increase in federal funding, and as it becomes increasingly difficult to find ways to make sure that the care that is being provided is meeting the needs of the children and families served, it may become necessary to study promising alternatives. If Wisconsin is serious about its dual responsibility of supporting child care so that families can work and providing child care that is designed to prepare children from low-income families for school, then it may be time to join other states that have begun to reward high quality programs with higher reimbursements from the child care subsidy system. We know that it is more expensive to provide high quality care than to provide low quality care. The results of the *Grow in Quality* project, examined within the context of Wisconsin's many other child care quality improvement efforts, provide an evidence-based foundation for development of a cost-effective child care quality rating system that could effectively reward early care and education programs for providing high quality care for Wisconsin's children.

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