

Creating a Credentialing System for West Virginia Workers:
Application in the Child Care Industry

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ABSTRACT

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Many West Virginia Workers that are employed in hourly positions are highly trained, skilled, and able to perform their trade and many receive either in-house or formal training and all acquire on-job experience while working. However, there is no recognized credential for this type of localized training since the employee's skills did not come through formal education. This lack of credential creates problems for employees and employers as to how to assess a worker's abilities. The methodology for this problem report will have the following four steps, translating the requirements into a design for the system, creating the credentialing system, developing a database to manage the data, and testing this system at a local facility. After creating a credentialing system and database and then inputting the data from a local facility into the system, a sample credentialing form was created which shows a worker's credentials. This sample credentialing form would result in employers and employees having a one page sheet as to how to assess the worker's abilities.

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CHAPTER 1:
BACKGROUND AND RESEARCH METHODOLOGY

1.1 INTRODUCTION AND BACKGROUND

Many West Virginia workers that are employed in hourly positions are highly trained, skilled, and able to perform their trade. Many receive either in-house or formal training and all acquire on-job experience while working. However, there is no recognized credential for this type of localized training since the employee's skills did not come through formal education. This lack of credential creates problems for employees and employers as to how to assess a worker's abilities.

There is a need for these hourly workers to be able to show their level of competency if they should need to switch jobs. For example, in the manufacturing industry, highly capable workers are displaced with no credential to use for seeking future employment. Workers must frequently move from one position to another but don't have credentials to validate their skills. Another example is tourism. Many positions in this industry are only seasonal. The child care industry is in a constant need for new workers. They need to hire qualified people but have limited capability of validating prospective employee's skills.

1.2 PROBLEM STATEMENT

Create a concept for a credentialing system to assess worker abilities and needs and create a prototype database to manage it and apply this to the child care industry.

1.3 ASSESSING THE VALUES OF CREDENTIALS

Higher education and professional certifications play important roles in most industries. These are used as proof to determine an employee's skill and competency level. However, in many industries, employees are not required to obtain higher education degrees or professional certification. One way that these employees can prove their skills and competencies is credentialing.

There are four basic types of credentialing systems. They are apprenticeship-based, school-based, company-based and competency-based. Apprenticeship-based programs combine classroom instruction and work-based training to determine whether credentials have been met. This is commonly used in the construction industry. School-based systems are based solely on the completion of classroom instruction. Company-based credentialing is based on strict credentialing of employees, by their employers, to certify their ability. This is common in the healthcare industry. The final type of credentialing is competency-based. Competency-based credentialing requires demonstration of abilities that may or may not be attached to formal education.

Many employees in the child care industry are hourly workers and do not have a college degree. They are still highly skilled and competent in the field; however they do not have access to industry accepted credentials for ability. A general credentialing system is needed that any employee or employer could access. For the employer, the credentialing system would provide some assurance of skills that a perspective employee has. For the employee, the credentialing system would give them validation for their skills. And additional benefit would be that employees who obtain credentials will

become more motivated employees. Obtaining recognition for their skills drives a desire to advance these skills even further.

There are negative aspects of this system. An employee who has met more credentials could demand a higher salary based on this performance. Also, it would be easier for employees to transfer to other facilities. Another aspect would be the fraudulent certification of credentials by employers to improve their organization's standings.

1.4 LITERATURE REVIEW

Accreditation refers to a process by which a governmental or private agency or association grants public recognition to an institution, program, or person that meets certain established qualifications. Credentials are the tangible recognition that individuals have after completing a program from an accredited organization.

The earliest national attempt at credentialing in the childcare industry was the creation of the Child Development Associate credential which was created in 1972¹. It was created for use in national Head Start programs¹. Since then, many other national credentials were created and used for different primary focuses⁴. Unfortunately, these credentialing systems are overly specific and too expensive to meet the needs of most in-state facilities and employees.

Most credentialing systems rely on the same basic four principles for credentialing. They are

- 1) A clear statement of objectives
- 2) Directed training or self-studying of the objectives

- 3) On-Site evaluation of by a selected group of peers
- 4) A decision by an independent commission that the institution, program or person has met the requirements³.

1.5 METHODOLOGY

The methodology for this problem report will have the following four steps, translating the requirements into a design for the system, creating the credentialing system, developing a database to manage data, and testing this system at a local facility.

CHAPTER 2:
THE CREDENTIALING SYSTEM

2.1 THE USE OF CREDENTIALING

Credentials are the foundation upon which an effective accreditation program is built⁵. The design of this credentialing system is based on the necessary qualifications that are needed to ensure quality and continuous improvement in the child care industry. Currently, there is no nationwide or statewide accreditation program for child care employees. Some states and countries have accreditation systems for child care centers. Some states, such as Illinois, and some countries, such as Australia, have some credentialing programs for child care center directors, but not for employees.

The problem with these existing systems is that they are overly specific and too expensive for most employees. The majority of childcare credentialing systems are based upon common sets of credentials. They are then adjusted to fit the specialty of the system. The credentials for this system are based primarily on these existing credentialing systems. They were developed from the specialty based credentialing and were compiled to create a holistic scheme that is applicable to all levels of workers.

2.2 THE CREDENTIALING SYSTEM

Each credential will need to be verified by a certified evaluator. The certification body will be a state board to be created for this purpose. The certified evaluator will need to become familiar with the program and employee. Ideally certifiers will be based in local communities. The evaluator will use direct observation of the

employee being evaluated as well as knowledge of in-house training to determine if the qualifications are met. The director of a facility could be a certified evaluator.

On the surface, it would seem as if it would be a conflict of interest for the director of a facility to certify his or her own employees, but this should not be the case if the evaluation is designed properly. Many types of industries allow for the certification of employees by their employers. Also, if the director gives undue credentials to his or her own employees, and those employees leave their current positions, it will become obvious that those credentials are not deserved. After enough time, any fraudulent activities of certified evaluators would become evident. There can also be an auditory process for the evaluation to ensure validity.

The child care employee accreditation system will be based on the following credentials; early childhood knowledge and skills, experience, general education level, and professional contributions. The four credentials for this system reflect a general approach that encompasses the basic credentials used by most systems, without overspecializing in any one area or discipline. The standards for each credential also reflect the basic needs to meet each credential, without any overspecialization.

Each credential will have its own unique components. The overall scheme of this system will look like this:

- A. Childhood Knowledge and Skills
 - 1) Growth and Development Credential
 - 2) Observation and Assessment
 - 3) Curriculum and Curriculum Instruction
 - 4) Family and Community
 - 5) Health
 - 6) Safety
 - 7) First Aid
 - 8) Nutrition
 - 9) Children With Special Needs

B. Experience

- 1) Level I 0 hours – 2400 hours
- 2) Level II 2401 hours – 7200 hours
- 3) Level III 7201 hours – 12,000 hours
- 4) Level IV 12,000 hours – 24,000 hours
- 5) Level V 24,000+ hours

C. General Education Level

- 1) Level I – Non-High School Diploma
- 2) Level II – High School Diploma/G.E.D
- 3) Level III – Associate Degree
- 4) Level IV – Baccalaureate Degree
- 5) Level V – Graduate Degree

D. Professional Contributions

- 1) Service in a leadership role in a professional organization
- 2) Presentation and training skills
- 3) Advocacy
- 4) Center/facility improvement

Early childhood knowledge and skills credentials ensure strong fundamentals in both care and education. The Growth and Development Credential² is a demonstrated knowledge and ability to tend to child growth and development needs in general. The candidate for the Growth and Development Credential will show that s/he

1. Is responsive to each child's needs and feelings
2. Shows respect for each child's developing competence
3. Fosters each child's self-esteem and independence
4. Teaches with a manner that stimulates curiosity and thinking
5. Fosters personal and social development
6. Helps to develop gross motor skills
7. Encourages intellectual development
8. Encourages language development

The Observation and Assessment² is a demonstrated knowledge and ability to observe and assess child behavior. The candidate for the Observation and Assessment Credential must that s/he

1. Uses an approach that is positive in guidance and discipline
2. Gives children opportunity to make choices and take on new challenges
3. Develops communication that is maintained and is respectful
4. Observes, assesses, and informs parents/guardians of progress on personal growth

The candidate must also show competency in observing and recording techniques for evaluating children's progress.

The Curriculum and Curriculum Instruction² credential is a demonstrated knowledge and ability to make an appropriate curriculum and the ability to effectively teach that curriculum. The candidate for Curriculum and Curriculum Instruction Credential must show that s/he (has)

1. Learning experiences for each child that are appropriate
2. Development records that are maintained and accessible
3. Fosters creative development
4. A daily timetable is prepared in advance to reflect each child's needs, abilities, and experiences
5. Procedures for daily activities are flexible and developmentally appropriate
6. Transitions between activities

The candidate must also demonstrate how selected classroom materials and activities match the child's maturation level and how they are conducive to the child's physical and psychological well-being.

The Family and Community² credential focuses on the necessity of creating positive relationships with children's families and the community in general. The candidate for the Family and Community credential must demonstrate that s/he (has)

1. Verbal and written communication with all families
2. A continuous exchange of information between the candidate and the family
3. Encourages families to be involved in the program

4. An orientation process for new children and parents

The Health² credential ensures that healthy techniques and used by providers and are taught to children. The candidate for the Health Credential will show that s/he (has)

1. An awareness to the health and safety of each child
2. Teaches and encourages simple rules of hygiene
3. Records of each child's immunizations and allergies are kept
4. Toileting and Changing procedures are healthy meet individual, timely needs
5. Sleep time and dressing procedures meet individual needs for rest, comfort, and self-help.
6. Proper dental hygiene techniques are taught and practiced

The Safety² credential focuses on provider safety practices and a safety curriculum. The candidate for the Safety Credential must demonstrate that s/he (has)

1. Stores, prepares, and hygienically serves food
2. Adheres to safety and hygiene which reduce the spread of infectious diseases
3. Familiarity with medical, emergency, and accident procedures
4. Appropriately clothes for indoor activities and sleep and outdoor play
5. Records on health and other related issues are maintained and readily available

The First Aid credential is focuses on first aid and CPR. The candidate for the First Aid credential must be American Red Cross certified for

1. First Aid
2. CPR

The Nutrition² credential ensures proper nutrition and nutritional guidance. The candidate for the Nutrition credential must show that s/he (has)

1. Meet children's daily nutritional requirements with the provided food and drink
2. Meal that are culturally appropriate
3. Meal times promote healthy nutritional habits

The Children With Special Needs² credential focuses on the ability to care for all children, regardless of ability. The candidate for the Children With Special Needs credential must demonstrate that s/he (has)

1. Equally treats and tries to accommodate all children's needs with a respect for diversity of background
2. Equally treats and tries to accommodate all children's needs with respect to ability
3. A lack of bias with respect to a child's sex

An effective child care worker can also demonstrate abilities and professionalism beyond the scope of daily work at the facility or center. A candidate for the professional contributions must demonstrate

1. Service in a leadership role in a professional organization
2. Presentation and training skills
3. Advocacy
4. Center/facility improvement²

The service in a leadership role in a professional organization may be demonstrated by membership in or activity with professional childcare organizations such as the National Childcare Association or the National Institute on Early Childhood Development and Education. The presentation and training skills standard may be acquired through on-site presentations, training, or training techniques for other childcare workers. Advocacy may be acquired by demonstrating impact on legislation and social policy or thorough knowledge of how state and local statutes affect the childcare community and techniques on how to improve them. The center/facility improvement standard may be acquired by demonstrating direct improvements to a center's/facility's policies and procedures.

The credentials have three underlying levels of attainment. They are knowledge, skills, and abilities. Knowledge would be demonstrated understanding of the subject, such as passing a class or taking a test based on the subject. Skills would be the demonstration of applying the knowledge under observation by a certifier. Abilities would be the mastery of those skills and either application to many different situations. Abilities can only be obtained with experience.

CHAPTER 3:
THE INFORMATION SYSTEM

3.1 THE INFORMATION SYSTEM

All workers and their credentials will be placed in a database and maintained by the state board that will certify the certified evaluators. The database is composed of two main tables, Centers and Workers. The Center table is a compilation of all the childcare facilities in the state. It has the following fields: the center's name, address, and phone number. It also has a unique center ID number that is its primary key. The primary key uniquely identifies each center in the table and cannot be duplicated. The Worker table is a compilation of all the childcare workers working either live or work within the state. It has the following fields: the worker's Social Security Number or unique identification number, first name, middle name, last name, email address, mailing address, home phone number, work phone number, their credentials, and the facility(s) at which they work. The worker's Social Security or unique identification number is its primary key. See Appendix A for a view of each table.

Both tables have required fields so that each worker's and center's information is uniform in the system and cannot be incomplete. The Worker table requires the Social Security Number or unique identification number, last name, and each credential field. The Center table requires the name, phone number, and unique center ID number.

Most workers only work at one facility, so there is one-to-one relationship between the center and worker table. See appendix A for the relationship chart. There is one main form, the worker transcript. The worker transcript is a list of each worker's credentials and is comprised of a worker's first name, last name, and credentials. See appendix B for an example transcript of a worker's credentials.

The assessments for the example system were done at a local facility by its director. They were done over an ample amount of time to assess whether each worker met the credential. They were then reviewed and put into the database. The assessment of either knowledge (K), skills (S), or ability (A) are assumed to be cumulative, and are listed to the highest amount obtained.

APPENDIX

Appendix A: Worker Table, Center Table, and Relationship Chart

Microsoft Access - [Workers : Table]

File Edit View Insert Tools Window Help

Type a question for help

Field Name	Data Type	Description
SSN/UniqueID	Number	* Social Security Number or Unique ID number
FirstName	Text	First Name
MiddleName	Text	Middle Name
LastName	Text	*Last Name
EmailName	Text	email address
Address1	Text	street address
City	Text	city address
State	Text	state address
PostalCode	Text	zip code
HomePhone	Text	home phone number
WorkPhone	Text	work phone number
Growth&Development	Text	* Growth & Development Credential/most recent certification
Observation&Assessment	Text	* Observation and Assessment Credential/most recent certification
Curriculum&CurriculumInstruc	Text	* Curriculum & Curriculum Instruction Credential/most recent certification
Family&Community	Text	* Family & Community Credential/most recent certification
Health	Text	* Health Credential/most recent certification
Safety	Text	* Safety Credential/most recent certification
FirstAid	Text	* First Aid Credential/most recent certification
Nutrition	Text	* Nutrition Credential/most recent certification
ChildrenSpecialNeeds	Text	* Children with Special Needs Credential/most recent certification
Experience	Number	* Experience working in Child Care Industry
GeneralEducationLevel	Number	* Highest level of Education attained
ProfessionalContributions	Text	* Professional Contributions Credential/most recent certification
OrganizationName1	Text	
OrganizationName1_ID#	Number	
OrganizationName2	Text	

Field Properties

General | Lookup

Field Size: Long Integer

Format:

Decimal Places: Auto

Input Mask: 0001-001-0000

Caption:

Default Value:

Validation Rule:

Validation Text:

Required: Yes

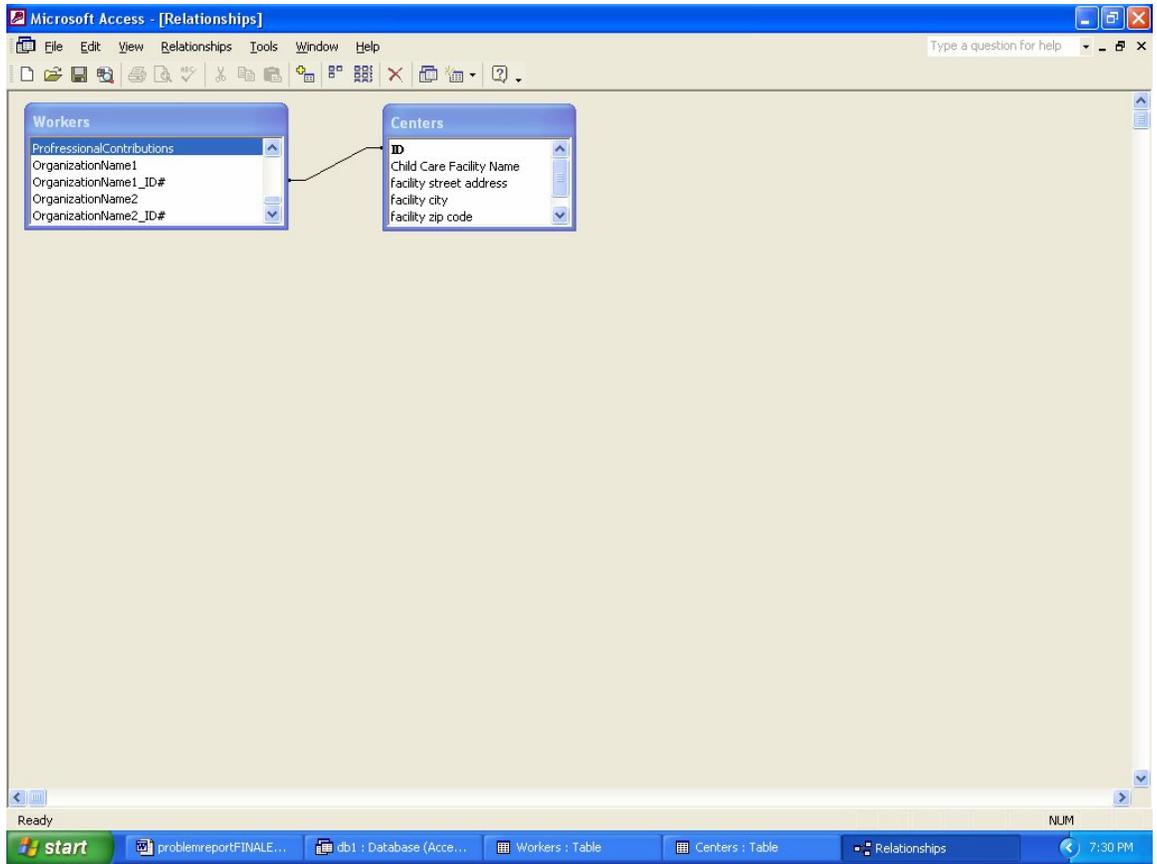
Indexed: Yes (No Duplicates)

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

Design view. F6 = Switch panes. F1 = Help.

NUM

start | problemreportFINALE... | db1 : Database (Acce... | Workers : Table | Centers : Table | 7:29 PM



Appendix B: Worker Credential Transcript

Microsoft Access - [Worker's Credentials Transcript : Form]

File Edit View Insert Format Tools Window Help

Type a question for help

FormHeader

Form Header

Detail

West Virginia Child Care Worker Credentials



West Virginia Child Care Worker Credential Transcript - Levels of Attainment

First Name	FirstName
Last Name	LastName
Growth_Development	velopment
Observation_Assessment	essment
Curriculum_Curriculum Instruction	struction
Family_Community	ommunity

Workers

- SSN/UniqueID
- FirstName
- MiddleName
- LastName
- EmailName
- Address1
- City
- State
- PostalCode
- HomePhone
- WorkPhone
- Growth&Development
- Observation&Assessment
- Curriculum&CurriculumInstru
- Family&Community
- Health
- Safety
- FirstAid
- Nutrition
- ChildrenSpecialNeeds
- Experience
- GeneralEducationLevel
- ProfessionalContributions
- OrganizationName1
- OrganizationName1_ID#
- OrganizationName2
- OrganizationName2_ID#

Toolbox

Design View

start

problemreportFINALE...

db1 : Database (Acce...

Worker's Credentials ...

NUM

8:23 PM

West Virginia Child Care Worker Credentials



SAMPLE

West Virginia Child Care Worker Credential Transcript - Levels of Attainment

First Name

Adam

Last Name

Knauff

Growth & Development	S
Observation & Assessment	S
Curriculum & Curriculum Instruction	K
Family & Community	S
Health	S
Safety	S
First Aid	S
Nutrition	K
Children With Special Needs	S
Experience	II
General Education Level	4
Professional Contributions	K

additional information about West Virginia Child Care Worker Credentialing can be found at the
West Virginia Child Care Worker Credentialing Office

WORKS CITED

1. Hintz, Blythe F., "Credentialing Early Childhood Paraprofessionals in the United States: The Child Development Associate and Other Frameworks", *International Journal of Early Years Education*, Vol. 6, No. 1, 1998.
2. Illinois Directors Credential Application Packet [Electronic Version], from the Illinois Network of Child Care Resource & Referral Agencies site:
<http://www.ilchildcare.org/providers/idc/forms/IDC%20Direct%20Route%20Packet.pdf>.
3. Shroyer, Sandra F., "The Basics of a Credentialing Operation", *Behavioral Health Management*, Vol. 24, Issue 4, Jul/Aug 2001.
4. Sweeny, Thomas J., "Accreditation, Credentialing, Professionalism: The Role of Specialties", *Journal of Counseling & Development*, Nov/Dec 95, Vol. 74, Issue 2.