

**Final Report for the
National Center for Intermodal Transportation for Economic
Competitiveness**

by
Principal Investigator
Dr. Lemond Irvin

Mississippi State University
Research and Curriculum Unit
Miss. State, MS, 39759

NCITEC Project No. 015105-016

Conducted for

NCITEC

January, 2014

DISCLAIMER

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. This document is disseminated under the sponsorship of the Department of Transportation University Transportation Centers Program, in the interest of information exchange. The U.S. Government assumes no liability for the contents or use thereof.

ABSTRACT

Education Outreach for Intermodal Transportation – Moving minds at the speed of time was instrumental in introducing high school students to logistics and intermodal transportation in Mississippi. The state lacked a presence in logistics and intermodal transportation for secondary students. The Mississippi Department of Education identified two school districts, Jackson Public Schools and Desoto County Schools, as pilot sites to begin instruction in this transportation pathway. A statewide curriculum was developed and implemented for secondary teachers to teach the concepts of logistics and intermodal transportation. Students were introduced to statewide transportation issues, different modes of transportation, federal and state requirements, and many other transportation- and logistics-related strategies.

Teacher training and development, the design and production of resource materials, and curriculum development were primary objectives of the project. Participating teachers developed lesson plans infusing intermodal transportation experiences into the curricula. Opportunities for teachers to utilize industry resources as well as use materials developed through the grant were key for the pilot sites to be successful.

Teachers are now better prepared to become ambassadors of intermodal transportation in the K-12 education environment and deliver the Mississippi Career and Technical Education Logistics curricula. Secondary teachers participated in a national logistics conference, acquired resources towards certification, interacted with other logistics professionals from Institutions of Higher Learning, and toured intermodal transportation business/industry sites for a better understanding of what intermodal transportation and logistics were all about.

The RCU designed and produced marketing materials for classroom and recruitment use. These materials will be excellent resources for teachers to use in educating students and parents about intermodal transportation and the logistics field. All training, resources, and knowledge gained in the pilot can now be scaled up to any school in Mississippi to develop a sustainable pipeline of workers in this field.

ACKNOWLEDGMENTS

The Principle Investigator would like to recognize the following people for their input and support to make this initiative possible.

Mike Doss-Teacher Desoto County Career and Technical Center (DCCTC)

Dr. James Pittman-Teacher Jackson Career and Development Center (CDC)

Center for Logistics, Trade, and Transportation (CLTT)-The University of Southern Mississippi

-Dr. Tulio Sulbaran-Director

-Dr. Mohammad Rahman

-Dr. MD Sarder

-Dr. Chad Miller

Cole Bernstein-The Irwin Brown Company

Jennifer Steele-UPS

Stuart McAvoy-UPS

Dr. Ernie Nichols-Director-FedEx Center for Supply Chain Management in the FedEx Institute of Technology, Associate Professor of Supply Chain Management-The University of Memphis

Curriculum Task Force

Gary Bambauer-Mississippi Construction Education Foundation

Deon Flie-Williams-Sonoma

Bo Gourley-Lockheed Martin

Jenny McLemore-Southeastern Freightlines

Shannon McMillan-UPS

Scott Percival-American Eurocopter

Chris Renfroe-AAA Transportation

Velma Richardson-Lockheed Martin

Pam Sandifer-Southeastern Freightlines

School Systems

Desoto County Career and Technical Center (DCCTC)

-Phillip Sublett-Director

-Beth Turner-Principal

-Jim Ferguson

-Lee Caldwell

-Stephanie Young

Jackson Career and Development Center (CDC)

-Dr. Brenda Jackson-Director

-Jodie Johnson-Jackson CDC

-Tabatha Kenneg-Jackson CDC

-Kathy Evans-Jackson Public Schools

Mississippi Department of Education-Career and Technical Education

Jean Massey-Associate State Superintendent

Mike Mulvihill-Bureau Director

TABLE OF CONTENTS

ABSTRACT.....	III
ACKNOWLEDGMENTS	IV
TABLE OF CONTENTS.....	VI
INTRODUCTION	1
OBJECTIVES	3
SCOPE	4
METHODOLOGY	6
DISCUSSION OF RESULTS	7
CONCLUSIONS.....	8
RECOMMENDATIONS	9
REFERENCES	10
APPENDIX.....	11

INTRODUCTION

Transportation continues to be the life blood of the United States economy as well as the global economy (2). It can be postulated that any measures to make transportation an easier, yet more efficient, process only benefits those involved. Intermodal transportation seeks to do just that.

Bragdon defines intermodal transportation to be “the safe and efficient integrated movement of people, goods, and information involving air, land, and sea in a four dimensional virtual environment” (1). The United States Department of Transportation defines it as “the convenient, rapid, efficient, and safe transfer of people or goods from one mode to another (including end-point pick-up and delivery) during a single journey to provide the highest quality and most comprehensive transportation service for its cost.” (4) Graham et al. defines it as “an attempt to incorporate all modes of transportation” and “the shipment of cargo and the movement of people involving more than one mode of transportation during a single, seamless journey” (3).

There have been key developments in creating an intermodal transportation system. The first major step to this goal was taken by the United States Government. In 1991 the Intermodal Surface Transportation Efficiency Act which stated that “it is the policy of the United States Government to encourage and promote development of a national intermodal transportation system in the United States to move people and goods in an energy efficient manner, provide the foundation for improved productivity growth, strengthen the Nation’s ability to compete in the global economy, and obtain the optimum yield from the Nation’s transportation” (3). The second development of containerization, which “permits individual commodities to be loaded by consignor at the point of origin without interim handling again until the container arrives at its ultimate destination and is unloaded by the consignee. A container may be transported as a single unit by motor, rail, water, or air carriers with a substantial reduction in transit time, expense, loss, damage, and theft from that experienced under traditional break-bulk carriage” (Graham, Cassady, Bowden, & Lemay). Several cities and metropolitan areas are incorporating intermodal transportation using buses, automobiles, trains, and airport connections (4).

OBJECTIVES

All activities were focused around the accomplishment of the following four objectives:

1. Develop new career and technical education Logistics curriculum
2. Provide training to Logistics instructors
3. Design and produce marketing materials
4. Evaluate the implementation of the Logistics curriculum and the effectiveness of the teacher training

SCOPE

The new Logistics program will prepare individuals to manage and coordinate all logistical functions in an enterprise, ranging from acquisitions to receiving and handling, through internal allocation of resources to operations units, to the handling and delivery of output. The curriculum includes instruction in acquisitions and purchasing, inventory control, storage and handling, just-in-time manufacturing, logistics planning, shipping and delivery management, transportation, quality control, resource estimation and allocation, and budgeting. It also includes instruction in transportation systems and technologies; multi- and intermodal-transportation systems; transportation planning and finance; demand analysis and forecasting; carrier management; behavioral issues; transportation policy and law; intelligent systems; and applications to aviation, maritime, rail, and highway facilities and systems.

Training was provided by collaborating with the University of Southern Mississippi, the University of Memphis, as well as on-site industry visits to intermodal-transportation companies. The workshops provided secondary instructors relevant and practical knowledge on logistics concepts, transportation, and intermodal facility functions to K-12 students. The workshop modules were designed around the fundamental concepts of intermodalism, impact of intermodalism in transportation and economy, future perspectives of intermodal transportation professionals, and lean concepts. The workshops shared resources and best practice examples to develop rigor and relevance in the high school curriculum. Participant activities included developing sample lesson plans, providing an overview of the various intermodal transportation, logistics and supply chain activities, and career development opportunities that can be used in the classroom.

Partnering with industry was vital to the success of this pilot. Visits to intermodal-transportation industries allowed teachers access to the most current technology and to experience firsthand what intermodal transportation is. Teachers collaborated with industry leaders and received invaluable knowledge that they can now share with their high school students.

A descriptive intermodal-transportation brochure for teachers to use for student recruitment and parent information was designed and produced for the new Logistics program.

Evaluation of the new curriculum's implementation was conducted by school administrators, as well as through classroom observations by the Principle Investigator. Qualitative evaluation also occurred as to the effectiveness of the industry site visits and verbal feedback

was collected after each IHL-provided workshop. The RCU will continue to gather feedback to understand obstacles and best practices as this new logistics initiative grows.

METHODOLOGY

The research methodology required gathering observational and self-report data from the logistics teachers at the two pilot schools. Both being first-time teachers, and due to a total population size of two, it was determined that the best indicator of success was 1) for the PI and school director/principal to watch the teacher conduct class and compare the rubric results; 2) allow the teacher to rate themselves on a self-efficacy scale that reported teacher satisfaction; 3) get verbal feedback after industry site visits as well as conference attendance.

Data Collection

Data collection consisted of surveys, classroom observations, and discussions with the two teachers as well as their administrators. The *Teachers' Sense of Efficacy Scale* (long form) is a 24-item survey instrument developed at The Ohio State University to measure teacher satisfaction regarding their performance in the classroom. The *NCITEC CTE Teacher Observation Classroom Checklist* is a 20-item observational rubric used by Southern Regional Educational Board (SREB) and used by permission to train Mississippi teachers.

Multiple discussions occurred with each teacher and their administrators to provide more in-depth understanding and opportunities for follow-up. Using such a qualitative approach will add value to future Career and Technical Directors willing to start a logistics program.

The research from this project will become an asset to new program administrators. As for my own experience with this undertaking, I have gained tremendous insight into the opportunity to implement new logistics programs within the state and what resources are available to new teachers.

DISCUSSION OF RESULTS

The results indicate that the implementation of a logistics program has been successful at the two pilot sites. Feedback from teachers, school administrators, and the PI all confirm that students do like the new program. Survey data also suggests that both teachers feel quite comfortable with their roles. Survey data from school administrators and the PI observing classroom teaching confirm that the teachers are following through with the competencies of the new curriculum. All feedback indicates a high level of satisfaction by both the teachers and their administrators of this new program.

CONCLUSIONS

The conclusions that can be drawn from this initiative are far reaching. Mississippi was lacking a logistics presence at the high school level. Therefore, monies provided through the grant allowed implementation on a level that otherwise would not have been possible. As stated, the objectives included:

1. Develop new career and technical education Logistics curriculum.
2. Provide training to Logistics instructors.
3. Design and produce marketing materials.
4. Evaluate the implementation of the Logistics curriculum and the effectiveness of the teacher training.

All curriculum material, training material, marketing material, and evaluations have taken place and available for use in developing new logistics programs. All feedback indicates that intermodal transportation and logistics is a viable program that can be taught at the high school level. Through a strong cooperation between the two pilot school districts, The Mississippi Department of Education, partnering Institutions of Higher Learning, participating industries, and The Research and Curriculum Unit, the initiative was regarded as highly successful.

RECOMMENDATIONS

All indications are that starting a logistics program in a Mississippi high school is a good use of available time and resources. Strong local support is necessary to insure the right teacher gets hired and that the district will fully support the initiative. Also, given the current qualitative data available, new program directors will have available to them much more information to make better, more comprehensive decisions. As more emphasis is placed on the movement of goods teaching tomorrow's workforce is vital to the state's economy. Consequently, efforts toward preparing high school students for good paying jobs in the transportation area should be taken.

REFERENCES

1. Bragdon, C. (1997). Twenty-first Century Intermodal Transportation Education. *Transportation Research Board, Distance Learning and Transportation Education, Seventy-seventh Annual Meeting*, 1-9.
2. Dempsey, P. S. (2000). *The Law of intermodal transportation: what it was, what it is, and what it should be*.
3. Graham, W. D., Cassady, R. C., Bowden, R. O., & Lemay, S. A. (n.d.). *Modeling intermodal transportation systems: establishing a common language*. <http://ncit.msstate.edu/PDF/4-Modeling-Intermodal-TransportationSystems-Est-Common-Language.pdf>. Accessed May 1, 2012.
4. U.S. Department of Transportation. (1996). *Intermodal Surface Transportation Efficiency Act; flexible funding opportunities for transportation investments*. http://ntl.bts.gov/lib/jpodocs/rept_mis/6583.pdf. Accessed May 1, 2012.

APPENDIX

The following attachments are the survey instruments used for this project.

**NCITEC CTE Teacher Observation
Classroom Checklist**

Teacher's Name: _____
 Observer's Name: Administrator

Date: 12/13/13
 Course: Transportation Logistics

Instructions: Place a (✓) in the appropriate box.

I. Planning and Preparation	Unsatisfactory	Basic	Proficient	Distinguished
b. Teacher displays knowledge of interests of students [FFT1b]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Instructional goals include: (circle all that apply)	Technical content Academic content 21 st Century skills			
II. Classroom Environment				
b. The lesson, interactions and classroom environment conveys clear expectations for positive student behavior [FFT2b]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Teacher uses appropriate interventions to respond to unwanted behavior and respects the student's dignity, or student behavior is generally appropriate [FFT2d]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. The physical space includes motivational displays (circle all that apply):	Student work Career-Course content connections CTSO information Recognition of student achievements			
III. Instruction				
a. Most of teacher's questions are of high quality and adequate time is available for students to respond [FFT3b]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Representation of content is appropriate and links well with students' knowledge and experience [FFT3c]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Teacher provides students with feedback that is accurate, specific, constructive and timely [FFT3d]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. A variety of active engagement strategies are employed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Teacher integrates academic content with career/technical content (circle all that apply)	Reading Writing Mathematics Plan Create Analyze Solve problems Make decisions Apply			

Teachers' Sense of Efficacy Scale¹ (long form)

Teacher Beliefs		How much can you do?								
Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.		Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal				
1.	How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)	(6)	<input checked="" type="radio"/>	(8)	(9)
2.	How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	<input checked="" type="radio"/>
3.	How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
4.	How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
5.	To what extent can you make your expectations clear about student behavior?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	<input checked="" type="radio"/>
6.	How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
7.	How well can you respond to difficult questions from your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	<input checked="" type="radio"/>
8.	How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
9.	How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	<input checked="" type="radio"/>	(8)	(9)
10.	How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)	(6)	<input checked="" type="radio"/>	(8)	(9)
11.	To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	<input checked="" type="radio"/>
12.	How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5)	<input checked="" type="radio"/>	(7)	(8)	(9)
13.	How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
14.	How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)	<input checked="" type="radio"/>	(7)	(8)	(9)
15.	How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
16.	How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
17.	How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	<input checked="" type="radio"/>
18.	How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	<input checked="" type="radio"/>
19.	How well can you keep a few problem students from ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
20.	To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	<input checked="" type="radio"/>
21.	How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)
22.	How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	<input checked="" type="radio"/>	(8)	(9)
23.	How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	<input checked="" type="radio"/>
24.	How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<input checked="" type="radio"/>	(9)

**NCITEC CTE Teacher Observation
Classroom Checklist**

Teacher's Name: _____

Date: _____

Observer's Name: Administrator

Course: Transportation/Logistics

Instructions: Place a (✓) in the appropriate box.

I. Planning and Preparation		Unsatisfactory	Basic	Proficient	Distinguished
a.	Teacher displays understanding of students' skills, knowledge and needs, including special learning needs (FFT1b)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Teacher displays knowledge of interests of students (FFT1b)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Instructional goals (e.g. standard and objective) are clearly visible and written in language students can understand	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Instructional goals include: (circle all that apply)	Technical content Academic content 21 st Century skills			
II. Classroom Environment					
a.	Teacher-student interactions are friendly and demonstrate warmth, caring and respect (FFT2a)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	The lesson, interactions and classroom environment conveys clear expectations for positive student behavior (FFT2b)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Transitions occur smoothly, with little loss of instructional time (teacher starts class ready to go and has a clear closing at end of class) (FFT2c)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Teacher uses appropriate interventions to respond to unwanted behavior and respects the student's dignity, or student behavior is generally appropriate (FFT2d)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	The classroom and laboratory space are orderly and support learning (FFT2e)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f.	The physical space includes motivational displays (circle all that apply):	Student work Career-Course content connections CTSO information Recognition of student achievements			
III. Instruction					
a.	Most of teacher's questions are of high quality and adequate time is available for students to respond (FFT3b)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	The lesson has a clearly defined structure of activities and is well-paced. Instruction is from bell-to-bell (FFT3c)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Representation of content is appropriate and links well with students' knowledge and experience (FFT3c)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Instructional groups are productive and fully appropriate to the students or to the instructional goals of a lesson (FFT3c)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.	Teacher provides students with feedback that is accurate, specific, constructive and timely (FFT3d)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f.	Students are engaged in real workplace projects and problem solving experiences	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g.	A variety of active engagement strategies are employed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h.	Teacher uses frequent formative assessment to check for understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i.	Teacher integrates academic content with career/technical content (circle all that apply)	Reading Writing Mathematics			
j.	Students are engaged in intellectually challenging tasks (circle all that apply)	Plan Create Synthesize Analyze Solve problems Make decisions Apply			

Teachers' Sense of Efficacy Scale¹ (long form)

Teacher Beliefs		How much can you do?								
Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.		Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2.	How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3.	How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4.	How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5.	To what extent can you make your expectations clear about student behavior?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6.	How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7.	How well can you respond to difficult questions from your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8.	How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9.	How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10.	How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11.	To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12.	How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13.	How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14.	How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15.	How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
16.	How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17.	How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18.	How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19.	How well can you keep a few problem students from ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20.	To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
21.	How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
22.	How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
23.	How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
24.	How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

**NCITEC CTE Teacher Observation
Classroom Checklist**

*PI
Teacher #1*

Teacher's Name: _____

Date: 10/17/13

Observer's Name: _____

Course: _____

Instructions: Place a (✓) in the appropriate box.

I. Planning and Preparation		Unsatisfactory	Basic	Proficient	Distinguished
a.	Teacher displays understanding of students' skills, knowledge, and needs, including special learning needs [FFT1b]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Teacher displays knowledge of interests of students [FFT1b]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Instructional goals (e.g. standard and objective) are clearly visible and written in language students can understand	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Instructional goals include: (circle all that apply)	Technical content Academic content 21 st Century skills			
II. Classroom Environment					
a.	Teacher-student interactions are friendly and demonstrate warmth, caring and respect [FFT2a]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	The lesson, interactions and classroom environment conveys clear expectations for positive student behavior [FFT2b]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Transitions occur smoothly, with little loss of instructional time (teacher starts class ready to go and has a clear closing at end of class) [FFT2c]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Teacher uses appropriate interventions to respond to unwanted behavior and respects the student's dignity, or student behavior is generally appropriate [FFT2d]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	The classroom and laboratory space are orderly and support learning [FFT2e]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	The physical space includes motivational displays (circle all that apply):	Student work Career-Course content connections CTSO information Recognition of student achievements			
III. Instruction					
a.	Most of teacher's questions are of high quality and adequate time is available for students to respond [FFT3b]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	The lesson has a clearly defined structure of activities and is well-paced. Instruction is from bell-to-bell [FFT3c]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Representation of content is appropriate and links well with students' knowledge and experience [FFT3c]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Instructional groups are productive and fully appropriate to the students or to the instructional goals of a lesson [FFT3c]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Teacher provides students with feedback that is accurate, specific, constructive and timely [FFT3d]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f.	Students are engaged in real workplace projects and problem solving experiences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	A variety of active engagement strategies are employed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Teacher uses frequent formative assessment to check for understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i.	Teacher integrates academic content with career/technical content (circle all that apply)	Reading Writing Mathematics			
j.	Students are engaged in intellectually challenging tasks (circle all that apply)	Plan Create Synthesize Analyze Solve problems Make decisions Apply			

**NCITEC CTE Teacher Observation
Classroom Checklist**

PI
Teacher #12

Teacher's Name: _____

Date: 11/8/13

Observer's Name: _____

Course: Transportation
Logistics

Instructions: Place a (✓) in the appropriate box.

	Unsatisfactory	Basic	Proficient	Distinguished
I. Planning and Preparation				
a. Teacher displays understanding of students' skills, knowledge, and needs, including special learning needs [FFT1b]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b. Teacher displays knowledge of interests of students [FFT1b]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Instructional goals (e.g. standard and objective) are clearly visible and written in language students can understand	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d. Instructional goals include: (circle all that apply)	<input checked="" type="checkbox"/> Technical content <input checked="" type="checkbox"/> Academic content <input checked="" type="checkbox"/> 21 st Century skills			
II. Classroom Environment				
a. Teacher-student interactions are friendly and demonstrate warmth, caring and respect [FFT2a]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b. The lesson, interactions and classroom environment conveys clear expectations for positive student behavior [FFT2b]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Transitions occur smoothly, with little loss of instructional time (teacher starts class ready to go and has a clear closing at end of class) [FFT2c]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d. Teacher uses appropriate interventions to respond to unwanted behavior and respects the student's dignity, or student behavior is generally appropriate [FFT2d]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. The classroom and laboratory space are orderly and support learning [FFT2e]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f. The physical space includes motivational displays (circle all that apply):	<input type="checkbox"/> Student work <input checked="" type="checkbox"/> Career-Course content connections <input type="checkbox"/> CTSO information <input type="checkbox"/> Recognition of student achievements			
III. Instruction				
a. Most of teacher's questions are of high quality and adequate time is available for students to respond [FFT3b]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. The lesson has a clearly defined structure of activities and is well-paced. Instruction is from bell-to-bell [FFT3c]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c. Representation of content is appropriate and links well with students' knowledge and experience [FFT3c]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Instructional groups are productive and fully appropriate to the students or to the instructional goals of a lesson [FFT3c]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e. Teacher provides students with feedback that is accurate, specific, constructive and timely [FFT3d]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Students are engaged in real workplace projects and problem-solving experiences	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
g. A variety of active engagement strategies are employed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Teacher uses frequent formative assessment to check for understanding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
i. Teacher integrates academic content with career/technical content (circle all that apply)	<input checked="" type="checkbox"/> Reading <input checked="" type="checkbox"/> Writing <input type="checkbox"/> Mathematics			
j. Students are engaged in intellectually challenging tasks (circle all that apply)	<input checked="" type="checkbox"/> Plan <input checked="" type="checkbox"/> Create <input checked="" type="checkbox"/> Synthesize <input checked="" type="checkbox"/> Analyze <input checked="" type="checkbox"/> Solve problems <input checked="" type="checkbox"/> Make decisions <input checked="" type="checkbox"/> Apply			