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Perceptions of InSpIRE: Training for Idaho Alternatively Certified CTE Teachers

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This study aimed to assess the level of preparedness of alternatively licensed teachers who completed the Idaho CTE InSpIRE Educate program. A survey was distributed to 67 program completers, and the data were analyzed using statistical tools. The research found that participants believed InSpIRE provided adequate training to meet the Idaho requirements for new CTE teachers, indicating a perception of preparedness and self-efficacy. Higher self-efficacy was associated with participation in the program. However, the study also revealed room for improvement in the training, aligning with previous research that emphasized the unique needs of CTE teachers. Further research was recommended to compare the support provided by alternative CTE programs to traditional certification programs, particularly in rural settings where lower self-efficacy may be observed. Other recommendations included conducting personal interviews with InSpIRE completers, making improvements to the program based on participant feedback, and exploring the impact of pedagogical theory in training.

Keywords: alternatively licensed teachers, teacher preparedness, career technical education, self-efficacy, social cognitive career theory

Introduction

According to Williwere and Siebert (2017), recruiting, mentoring, and retaining teachers in Idaho was difficult; however, these shortages were not restricted to this state. Alternate route teacher certification programs are one way that most states use to mitigate teacher shortages. According to DeMonte (2015) nearly 20% of teachers entering the workforce came from alternative preparation programs across the United States. When it comes to finding Career Technical Education (CTE) teachers, it is even more difficult to find and train qualified individuals who are already working in their chosen careers. It was because of this shortfall that Idaho created the *Industry Specialist Imparting Real-*

World Experience to Educate (*InSpIRE*) cohort program to address the need for more well-trained certified secondary and post-secondary CTE teachers (Cannon, 2017; Linder & McHugh, 2018).

Review of Literature

The idea of properly preparing teachers to educate citizens has existed since the beginning of American higher education. CTE teachers possess unique knowledge and skills that are essential in today's educational landscape. To be effective as CTE teachers, one must not only stay up to date within one's own industry but must also master teaching pedagogy and fulfilling professional obligations within their chosen field. This requirement makes it especially challenging to find and retain qualified CTE teachers (Duncan et al., 2013).

Both traditionally licensed and alternatively licensed teachers must be equipped to make sound instructional decisions. Ruhland and Bremer (2002a, 2002b) highlighted that the needs and requirements of alternatively licensed CTE teachers differ from those who receive certification through traditional education programs. This is because alternatively certified educators begin teaching immediately, as opposed to spending several years doing observations, student teaching, and completing education coursework.

According to Al-Bataineh et al. (2009), the National Center for Education Information estimated that from the mid-1980's through the early 2000's more than 250,000 people were certified to teach through alternative routes. Drawing upon data collected through the *National Teacher and Principal Survey*, McFarland et al. (2018) found that approximately 676,000, or 18%, of the 3.8 million elementary and secondary public school teachers in the 2015-2016 academic year had joined the teaching profession by means of an alternative route to certification program. Thirty percent of those teachers reported working in an occupation outside the field of education the year prior (McFarland et al., 2018). When examining the educators' main teaching assignment, McFarland et al. (2018) reported that 37% of CTE teachers had been certified through an alternate route program. This percentage was higher than average with the next closest assignment being natural sciences at 28% (McFarland et al., 2018).

Regarding the preparedness of alternatively certified teachers, Jeffery (2017) suggested that both CTE and non-CTE teachers seemed less prepared. Across the nation, states continued to create alternative certification teaching programs (Feistritzer & Chester, 2001). Concerns were raised regarding the quality of educators who received their certification through these alternative certification teaching programs. Therefore, professional development opportunities should be offered that better prepare these alternatively certified teachers (Feistritzer & Chester, 2001).

Lazaros et al. (2012) investigated the *Indiana Workplace Specialist I Licensure Training Program*, an alternative teacher licensure program, during the 2011-2012 academic year and found that "alternatively licensed teachers either agreed or strongly agreed that the WSI teacher training project was helpful with classroom management, using standards-based objectives, classroom and curriculum assessment, integrating academics into occupational program areas, [and] lesson planning" (p. 72). These

researchers recommended replicating their study in other states to generate comparisons which could determine if similar issues and results would occur in larger regions or even nationally (Lazaros et al., 2012). Research from the beginning of this century noted that teacher certification standards varied greatly between the states making it difficult to generalize about teacher's qualifications on a national level. As a result, alternate route candidates in "high standards" states may be exposed to more rigorous standards and receive substantially more professional development than those obtaining certification in "low standards" states (Darling-Hammond et al., 2001).

Jeffery (2017) investigated the levels of preparedness of alternatively licensed CTE teachers in Ohio. He found evidence that alternatively licensed CTE teachers were not as well prepared as those who obtained certification through a traditional teacher preparation program. Since 2007, Ohio has implemented the *Ohio Resident Educator Program*, a formal four-year program for new teachers (Gillham et al., 2016). According to the Ohio Department of Education (2014), this program is "part of a comprehensive system that provides job-embedded, professional growth for Ohio's teachers from pre-service and throughout their professional life" (p. 4). During the final two years of the *Ohio Resident Educator Program*, the early career teachers conduct a self-assessment of their professional practice with the *Resident Summative Assessment* (RESA). Gillham et al. (2016) wrote:

> The RESA is a performance-based assessment that requires teachers to demonstrate knowledge and skills in real time through five tasks: 1) first lesson cycle, 2) formative and summative assessment, 3) second lesson cycle, 4) communication and professional growth, and 5) reflection on teaching practice from students and/or colleagues. (p. 4-5)

The RESA program was designed for alternatively licensed CTE teachers (Jeffery, 2017). Because there are very few studies which examined the preparedness levels of alternatively certified CTE teachers, questions in Jeffery's (2017) survey instrument will be used in this study, specifically the preparedness survey questions he developed related to the Ohio RESA program. Additionally, his survey was modeled after the perceptions of preparedness survey from the 2011 school and staffing survey as well as a study conducted by Darling-Hammond et al. (2013) to measure the perceptions of preparedness of preservice teachers in California.

Bartholomew et al. (2018) investigated whether principals believed that alternatively licensed CTE teachers were less prepared than those who had gone through a traditional teaching program. Thirty-nine K-12 principals from states in the western United States participated in this study. Although principals were mostly supportive of hiring alternatively certified CTE teachers, the authors noted the potential for these teachers to have lower levels of preparation and effectiveness than traditionally prepared teachers (Bartholomew et al., 2018).

There has been a mixed bag in the literature concerning the effectiveness of alternatively certified teachers compared to those who gain certification through traditional teacher preparation programs. Researchers in North Carolina found that the *Teach for America Corps* were more effective than their traditionally prepared counterpart (Henry et al., 2014). However, this same research group found that other

alternative certification programs were less effective than traditional teacher education institutions (Henry et al., 2014). Other education researchers have argued that alternative certification pathways lack the consistency of traditional preparation programs which leads to a lack of consistent influence on positive student outcomes (Bowling & Ball, 2018).

The *InSpIRE* program uses the Idaho Foundation Standards for Career and Technical Education Teachers to measure whether participants meet acceptable standards of performance in the classroom (Idaho State Department of Education, 2018). According to Williams and Seibert (2017), there was evidence that recruiting qualified teachers in Idaho was difficult. The *InSpIRE* program was developed by the University of Idaho and the Idaho Division of Career and Technical Education to meet this need. A cohort model guided the delivery of *InSpIRE*. Cohorts were created for the four of the six educational regions in Idaho. Regions five and six were combined for the eastern area of the state (Cannon, 2017).

All new CTE teachers in the program met in the summer for a pre-service workshop. At this workshop, participants received training aligned with the Idaho Foundation Standards. This included lesson planning, classroom management, safety, curriculum development, and other CTE teaching and learning foundational topics. A second summer workshop took place at the beginning of the teachers' second year. Topics for this workshop included further study of classroom management, safety, and Career and Technical Student Organizations. This workshop was held in conjunction with the Idaho CTE summer professional development conference, allowing *InSpIRE* teachers to attend that event (Cannon, 2017).

During the two school years of the program, teachers met in the cohorts for the region where their schools were located. In the cohort meetings, instruction and training aligned with the Idaho teacher preparation standards was provided. This was also aligned with the CTE teacher education courses provided by facilitators of the program from the University of Idaho. The areas of instruction were as follows:

- Methods of Teaching CTE
- Principles and Philosophy of CTE
- Evaluation and Assessment
- Guidance and Transition to Work
- Occupational Analysis and Curriculum Design (Cannon, 2017).

These areas were activities and assignments designed to provide hands on and contextual experience for the new teachers. The *InSpIRE* program also assigned an observer for each teacher. Observers were in the schools to evaluate program teachers four times in year 1 and two times in year 2. Evaluation rubrics were created using Idaho's teacher assessment process as a guide. Each teacher was also assigned a mentor which was assigned by the employing school. The mentors were required to submit monthly reports concerning mentoring activities (Cannon, 2017).

At the conclusion of the second year and the *InSpIRE* program, the participants were required to submit a portfolio of all assignments and observation rubrics. Regional instructors would evaluate the portfolios using a rubric aligned with the Idaho Foundation Standards for CTE teacher preparation. Teachers were evaluated as either meeting or not

meeting standards. Upon successful completion, the University of Idaho provided the Idaho CTE administration that teachers had met the requirements and could be renewed with a standard five-year certificate (Cannon, 2017).

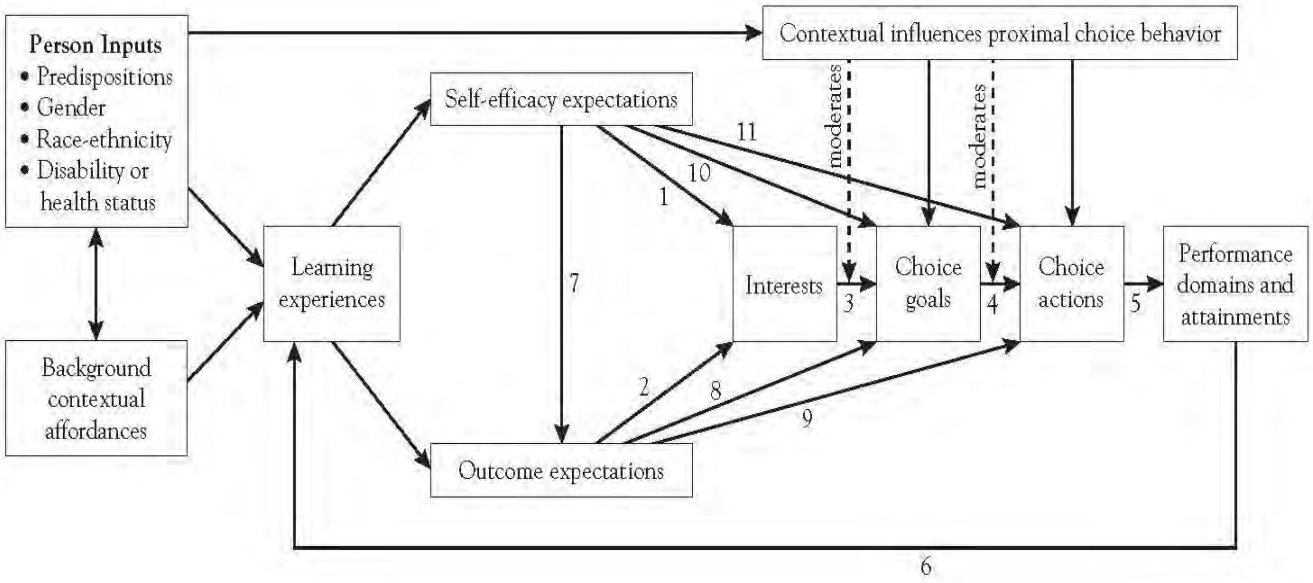
This study was guided by the theoretical underpinnings of Bandura's (1986) educational research and those who followed up on his work. Using the Bandura (1986) influenced theoretical framework allowed this research to add to the understanding of the level teaching preparedness for new CTE teachers who completed alternative certification programs such as *InSpIRE.*

Theoretical Framework

Social cognitive career theory (SCCT) model served as the theoretical framework for this study. SCCT was developed by Lent and Brown (1996) based on Bandura's (1986) theoretical base of *social cognitive theory*. This theory was used to describe the difficulties related to individuals who wished to pursue a new career, and the choices that must be considered when changing careers. The SCCT served as the framework for the research and is represented in Figure 1.

Figure 1

The Social Cognitive Career Theory Model



Note. From "Social Cognitive Career Theory," by R. W. Lent, S. D. Brown, and G. Hackett, *Career Choice and Development*, p. 269. Copyright 1993 by R. W. Lent, S. D. Brown, and G. Hackett.

The SCCT is predicated on three connected aspects of career development:

1) How basic academic and career interests come into existence;
2) How educational and career choices are decided upon; and
3) How academic and career success is achieved.

This theory considers many related ideas such as abilities of the individual, their interest level in addition to environmental factors. SCCT highlights the relationships among three variables that regulate career-oriented behavior: self-efficacy, outcome expectations, and personal goals. These three variables operate in the context of an environment that may either provide opportunities or present barriers to pursuing career goals (Lent & Brown, 1996).

This research study examined the self-efficacy element of SCCT, as related to perceptions of preparedness to teach in a CTE setting. According to Jeffery (2017):

> If an alternatively licensed career and technical education teacher reports lower levels of self-efficacy, he or she should then in turn report lower levels of perceptions of preparedness. Additionally, a teacher who reports higher levels of self-efficacy should also report higher levels of perceived preparedness. (p. 68)

He went on to argue that principles of SCCT could be used to measure teachers' perceptions of preparedness (Jeffery, 2017).

Purpose and Research Question. The purpose of this study was to add to the understanding of the level of preparedness of alternatively licensed teachers who completed the *InSpIRE* program by examining the self-efficacy element of SCCT, as related to perceptions of preparedness to teach in a CTE setting. The specific research question that guided this study was:

1. How do the initial participants of Idaho's InSpIRE Educate CTE teacher certification program perceive their level of teaching preparedness at the conclusion of the program?

Methods and Procedures

This quantitative evaluation study sought to measure the 2017 *InSpIRE* cohort participants' perceived readiness to teach as standard occupational specialists (SOS) in Idaho's secondary schools as a result of their participation in this state funded program. This study also sought to explore ways the program may be improved in order to increase its participants' levels of preparedness. The researchers distributed a 38-question survey to 67 *InSpIRE* completers with the goal of achieving a 50% response rate.

Population. In 2017, the initial *InSpIRE* cohort began with 83 participants. There were six areas in which participants could teach at the secondary or post-secondary level: Agriculture/Food & Natural Sciences, Business & Marketing, Engineering & Technology Education, Family & Consumer Sciences and Human Services (FCS), Health Professions & Public Safety, and Trades & Industry. The number of participants for each of these areas is identified in Table 1.

Table 1
Participant Teaching Area by Level

	Secondary	Post-Secondary	Total
Ag./Food & Natural Sci.	0	0	0
Business & Marketing	19	2	21
Engineering & Tech. Ed.	10	2	12
Family & Consumer Sci.	7	2	9
Health Prof. & P. Safety	13	1	14
Trades & Industry	19	8	27
Total	**68**	**15**	**83**

Note. Source: Idaho Department of Education (2019)

Only completers of the initial program were included in this research. Because individuals who dropped out did not have an opportunity to participate in all training, their input would not be reliable for this study.

Instrument Design. The instrument was based on a questionnaire used by Jeffery (2017). Because Jeffery (2017) assessed the level of preparedness of alternatively licensed CTE teachers, the instrument was appropriate for this study given that *InSpIRE* was designed to prepare alternatively licensed CTE teachers. Because the Idaho Department of Education uses the State Foundation Standards for CTE teachers to evaluate teachers' readiness before awarding the standard occupational specialist certificate (SOS), the researchers found it necessary to modify the original instrument. This method of evaluating new CTE teachers was different from the system used in Ohio, which was the state of focus for Jeffery (2017). The survey process began with an informed consent specific to *InSpIRE* participants. The researchers determined appropriate revisions specific for the new CTE teachers in *InSpIRE*, and edits were made to the survey questions while maintaining the integrity of the survey instrument.

This study used the same scaling as Jeffery (2017) which was a four-category Likert scale: 1 = very unprepared, 2 = unprepared, 3 = prepared, and 4 = very prepared. This scaling was originally used by the National Center for Education Statistics (1999) to evaluate teachers' perceived levels of readiness making its use appropriate in this study as well.

The modified questionnaire was reviewed by a panel of CTE experts with experience at both the secondary and post-secondary levels. The panel consisted of three education professionals: a former high school business teacher and current post-secondary instructor; an Associate CTE professor and CTE Program coordinator, and an *InSpIRE* trainer. Additionally, a 2017 *InSpIRE* cohort completer was given the questionnaire so the researchers could obtain feedback from a participant who had completed the program.

Procedures and Data Collection. Harkiolakis (2017) stated that once the quantitative methodology is chosen and the research questions developed, a formal plan

is to be developed and followed. An email survey is a quick and inexpensive way to collect information for studies, and this type of survey is quite common in quantitative research. Procedures suggested by Dillman et al. (2014) were used for survey implementation and data collection. In this study, the researchers used an email survey, which participants received on October 27, 2020. Three additional emails were sent approximately one week apart requesting completers to participate in the survey if they had not done so already.

Data Analysis. To analyze the survey data, the researcher used Microsoft Excel®, Statistical Package for Social Sciences (SPSS), and R. Once survey data from the sample was collected, the researcher coded the data and entered it into each of the statistical tools for analysis. During this coding and entering process, the researcher reviewed the raw data for inconsistencies, duplicates, and other potential errors as well as compared the entered data with the original raw data (Morgan et al., 2012). Characteristics of the respondents and their teaching situations were presented as the frequencies and percentages for each of these variables: gender, age, teaching level, region, education level, type of school at when they taught, and years of trade experience. Preparedness of teachers at the end of the program was revealed by the percentage of respondents who rated themselves as either prepared or very prepared.

Multiple regression was used to discover any relationship that the characteristics of the respondents and their teaching situations had with their overall rating of preparedness (Privitera, 2015). The variables gender, age, educational experience, and work experience were entered as predictors of preparedness rating in a linear regression model. This was done to determine each variable's unique contribution to variation in preparedness ratings. The teaching situation variables type of district and grade level were entered as predictors of preparedness rating in a different analysis by multiple linear regression to determine each variable's unique contribution to variation in ratings of preparedness. The criterion for statistical significance was alpha $\leq .05$. Using multiple regression to examine multiple variables and teaching-situation variables reduced inflation of error rate that would occur if each variable were tested with an alpha = .05. Lower ratings of preparedness related to an organismic variable or related to a teaching situation could reveal differences in how broadly suitable the training was and whether there were any subgroups of participants or teaching situations with which the training needed to improve for better relevance to those participants or teaching situations. Factorial ANOVA was not used because the sample sizes in some cells would not have been sufficient for analysis.

Findings

Demographics. In 2017, the initial *InSpIRE* cohort, began with 83 participants. There were six areas in which participants could teach at the secondary or post-secondary level: Agriculture/Food & Natural Sciences, Business & Marketing, Engineering & Technology Education, Family & Consumer Sciences and Human Services (FCS), Health

Professions & Public Safety, and Trades & Industry. The number of participants for each of these areas is identified in Table 2**.**

Table 2
Participant teaching area by level

	Secondary	Post-Secondary	Total
Business & Marketing	19	2	21
Engineering & Tech. Ed.	10	2	12
Family & Consumer Sci.	7	2	9
Health Prof. & P. Safety	13	1	14
Trades & Industry	19	8	27
Total	**68**	**15**	**83**

Source: Idaho Department of Education (2019)

After two years in *InSpIRE*, 67 participants completed the program, which was a completion rate of 78%. Initial findings from the study indicated that 21 males (58.33%) and 15 females (41.66%) completed *InSpIRE* with more than half the participants between the ages of 35 and 44, or older than 55. Twenty-five participants (69.45%) taught in secondary schools, and 11 participants (30.55%) taught in post-secondary institutions (See Table 3). Nearly 70% of the respondents taught high school.

Table 3
Participants by Gender, Age Range, and Teaching Level

		Frequency	Percent
Gender	Male	21	58.33
	Female	15	41.66
Age Range	26-34	7	19.44
	35-44	11	30.55
	45-54	8	22.22
	55-Older	10	27.77
Teaching level	Secondary	27	75.00
	Post-Secondary	9	25.00

Research Question. The research question being investigated was "*How do the initial participants of Idaho's InSpIRE Educate CTE teacher certification program perceive their level of teaching preparedness at the conclusion of the program?*" An evaluation of the distribution of responses to each question on the survey illuminated the areas completers perceived that they were most prepared, and high levels of self-efficacy for their teaching. Table 4 displays the percentage of participants giving one of the two responses that indicated the highest preparedness or agreement. On average, 87.94% of people respond positively. The range was 75% to 100% on the individual items, revealing markedly positive reactions from the participants.

Table 4

Percentage of Participants Giving Either of the Two Highest Ratings for Preparedness

#	Survey Question	% Prepared or Very Prepared
14	How prepared are you to use technology in the classroom?[1]	83%
15	How prepared are you to develop and provide opportunities that support your student's intellectual, social, and personal development?[5]	94%
16	How prepared do you feel to collect evidence to demonstrate the range of student abilities within your classroom?[3]	91%
17	How prepared are you to integrate a variety of clear and rigorous instructional strategies into your teaching pedagogy?[1, 3, & 5]	91%
18	How prepared are you to manage and motivate your students in the classroom?[1]	94%
19	How prepared are you to use a variety of communication techniques to foster learning in your classroom?[1]	100%
20	How prepared do you feel with your ability to align your learning goals with your assessments?[3 & 5]	88%
21	How prepared do you feel to integrate appropriate assessment tools into your instructional decisions?[3]	88%
22	How prepared do you feel when asked to analyze and reflect on the way you teach?[1, 3, & 5]	88%
23	How prepared are you to use effective communication techniques to connect with parents?[1]	82%
24	How prepared are you to create and manage a safe and productive environment for your students?[1 & 5]	100%
25	How prepared are you to seek professional partnerships with industry professionals to support your student's learning and future employment opportunities?[2, 4, & 5]	83%
26	How prepared are you to set up your students for success in the workplace?[2, 4, & 5]	100%
27	How prepared are you to develop professional and appropriate student-teacher relationships to support individual student academic growth?[1 & 2]	100%

28	How prepared are you to advise and mentor students through your content area's Career and Technical Student Organization?[1, 2, 5]	77%
29	How prepared are you to teach effectively as a result of your participation in the Summer Academies and Idaho CTE Summer Conference?[2]	77%
30	How prepared are you to teach effectively as a result of faculty-led *InSpIRE* monthly seminars?[1, 2, 3, 4, & 5]	80%
31	How prepared are you to teach effectively as a result of your production of an e-portfolio? [1, 2, 3, 4, & 5]	75%
32	How prepared are you to teach effectively as a result of peer-to-peer interaction with other *InSpIRE* teachers? [1, 2, 3, 4, & 5]	91%
33	As you reflect on your participation in the *InSpIRE* program overall, how did *InSpIRE* contribute to your feelings of preparedness to teach? [1, 2, 3, 4, & 5]	80%
34	Please rate this statement. I received ongoing feedback about my teaching from my *InSpIRE*-assigned mentor, principal and/or curriculum supervisor? [1, 2, 3, 4, & 5]	75%

Note. Each item has been aligned with Idaho CTE areas of instruction for new CTE certification.
[1]Methods of Teaching CTE
[2]Principles and Philosophies of CTE
[3]Evaluation and Assessment
[4]Guidance and Transition to Work
[5]Occupational Analysis and Curriculum Design

An examination of participant responses for program assessment items revealed they perceived most prepared for the following:

1) Implementing a variety of communication techniques to foster learning in the classroom;
2) Managing a safe and productive environment, preparing students for the workplace; and
3) Developing effective student-teacher relationships to support individual student growth.

"Implementing a variety of communication techniques to foster learning in the classroom" was most closely related to *Methods of Teaching CTE*. This concept can also be considered related to the *Occupational Analysis and Curriculum Design*. "Managing a safe and productive environment, preparing students for the workplace" concept was most closely related to the teacher preparation instructional areas of *Methods of Teaching CTE*, *Guidance and Transition to Work*, and *Occupational Analysis and Curriculum Design*. Finally, "developing effective student-teacher relationships to support individual student growth" was most closely related to *Methods of Teaching CTE* and *Principles and Philosophies of CTE*.

Although ratings on all survey items were quite high, a few stood out by being more than 20% *below* the most highly rated items mentioned above. Thus, there is room for improvement in three specific components of the program. Those components were as follows:

1) The *InSpIRE's* five-day summer pre-service workshop which included one day of attendance at the Idaho CTE Summer Conference;
2) Participation in faculty-led program monthly seminars; and
3) The completion of an e-portfolio at the conclusion of the program.

To examine relationships that the characteristics of the participants (gender, age, educational experience, work experience) had with the overall rating of preparedness, those four factors were entered as predictors of preparedness rating in a multiple linear regression model. Multiple regression simultaneously assessed the relationship of each factor independent from the other factors and did not inflate the error rate as multiple independent tests would have done. The result was not statistically significant ($F(4,31) = .684$, $p > .05$, $R^2 = .081$).

Differences in gender, age, educational experience, and work experience did not predict the overall rating of preparedness. Although the overall rating of preparedness was 20% of scores in the bottom half of the rating scale, unprepared or very unprepared, that variation in overall rating was not related to any organismic variable. Thus, at this time there is no specific recommendation to be made regarding changes in the training to improve its suitability for people of varied backgrounds or teaching in the environments encountered by the participants.

To examine the relationships that characteristics of the setting (type of district, grade level) had with the overall rating of preparedness, these two factors were entered as predictors of preparedness rating in a multiple linear regression model. Multiple regression simultaneously assessed the relationship of each factor independent from the other factors and did not inflate the error rate as multiple independent tests would have done. The result was not statistically significant (F (2, 33) = 2.646, p = .086, R-squared = .138, adjusted R-squared = .086). Although the overall model was not significant, the type of district was related to ratings of preparedness (t = 2.048, p = .049, Table 5). Although the sample size was small, this finding did not suggest that perceptions of preparedness may have differed among those participants teaching in different types of school districts.

Table 5

Multiple Linear Regression of Ratings of Preparedness on Type of District and Grade Level in which Participants Taught

Coefficients	Estimate	Std. Error	*t* value	*p* value
(Intercept)	3.8468	0.3938	9.769	< .0001
District	-0.2462	0.1202	-2.048	0.0486
Grade Level Taught	-0.2339	0.2394	-0.977	0.3357

Note. For each teaching situation variable, Estimate describes the change in the dependent variable, ratings of preparedness, per unit of change in each factor. The *t* value tests whether that change is different from zero.

To examine the relationship more closely between type of district and ratings of preparedness, Table 6 displays the distribution of the different ratings by each of the three types of districts. In rural settings, none of the 13 participants rated themselves as 'very prepared' whereas in suburban settings, the rating 'very prepared' garnered half, 9 of 18, of the ratings by participants. This pattern suggests further investigation into the preparation of participants to teach in rural settings is needed.

Table 6
Ratings of Preparedness by Participants in Different Types of Districts at End of InSpIRE

	School Setting		
Preparedness	Urban	Suburban	Rural
Very Unprepared	1	1	1
Unprepared	1	2	1
Prepared	2	6	11
Very Prepared	1	9	

Conclusions

Implications. Only 37 (53%) of the population of the cohort responded to the survey, and the researchers did not conduct non or late response testing. Because of this, the findings are limited to those participating in the study. Generalizations should not be made beyond this group of beginning Idaho CTE teachers**.**

The theoretical lens for this study was Lent and Brown's (1996) *social cognitive career theory* (SCCT). Bandura's (1986) *social cognitive theory* served as the foundation for SCCT. There were several implications gathered from this research, including the result that participants believed *InSpIRE* provided sufficient training to meet the Idaho Foundation Standards for CTE teachers. Perception of preparedness, which Jeffery (2017) associated with a feeling of self-efficacy, is critical to people pursuing a personal goal of teaching. Although necessary but not sufficient for success, higher self-efficacy seems to be associated with participation in the program. Higher self-efficacy is defined as a participant ranking their self-efficacy at a 3 or 4 when taking the survey. It is notable that the resulting higher self-efficacy of the participants did not depend on the participants' sex, age, education level, or work experience. Thus, there is no reason to believe that the training cannot serve aspiring career and technical educators from a variety of backgrounds.

Theoretically, the beginning CTE teachers came away from *InSpIRE* with higher perceptions of self-efficacy. The findings showed that a vast majority of teachers

perceived that they were either "prepared" or "very prepared" to teach CTE and their content area. This was evident across gender, age, educational background, industry experience, and other demographic categories. It can be argued that *InSpIRE* provided an avenue for new teachers to build their self-confidence leading to higher levels of self-efficacy (Lent & Brown, 1996). Long-term this may be a factor that leads to higher retention rates for this group of CTE teachers.

Practical implications show that the program was successful and a valuable investment of Idaho taxpayer dollars. Eighty percent of the original participants completed *InSpIRE*, and these beginning CTE teachers were still teaching into their third year. This was a higher percentage than the teaching profession, where literature has shown between 40% and 50% of teachers have left the profession before entering the fifth year (Cells et al., 2023). The cohort model was successful in this instance. The components of *InSpIRE* (summer workshops, regional meetings, observations, and mentors) should be considered as a viable alternative teacher preparation training.

Pinchak and Berns (2014) stated that the needs of CTE teachers are different from other content areas. In this case, the *InSpIRE* cohort responded that the standards for CTE were met albeit at a lower level than desired in some cases. The research also echoed previous research showing there was room for improvement in training programs such as *InSpIRE*. According to Duncan et al. (2013), traditionally certified teachers had higher perceived levels of self-efficacy than those who were alternatively certified. While the results of this study did not directly compare traditionally certified and alternatively certified CTE teachers, it was indicated that further research should be conducted to ensure that alternative CTE programs provide the same level of support as traditional certification programs.

Recommendations. Finding qualified CTE teachers is difficult. Therefore, the CTE teaching profession consistently faces teaching shortages (McCandless & Sauer, 2010). Going forward, it would be beneficial to conduct in-depth personal interviews with all *InSpIRE* completers rather than create a survey instrument to elicit more information. Such qualitative information obtained via interview could suggest specific ways that the training could be improved. The perceptions of preparedness of future completers of the program would presumably improve after the changes in training are implemented.

Duncan et al. (2013) stated that traditionally certified teachers may be exposed to more pedagogical and learning theories than alternatively certified teachers, and this could increase their effectiveness in the classroom. Of the four components of training, the e-portfolio received the lowest ratings. This may be an area that could be improved or modified to allow space for inclusion of different training that be useful, such as broader coverage of pedagogical theory. The impact of these changes could be assessed with survey responses of future completers of *InSpIRE*.

It is recommended that alternative teacher licensure/certification programs consider activities that provide new teachers with opportunities to develop the following skills:

1) Implementing a variety of communication techniques to foster learning in the classroom;
2) Managing a safe and productive environment, preparing students for the workplace; and
3) Developing effective student-teacher relationships to support individual student growth.

These are basic areas for new teachers. Many new teachers fail to develop these skills, which leads to an early departure from teaching. Programs like *InSpIRE* can provide the environment for new teachers to effectively develop these skills, leading to higher levels of self-efficacy and success in the classroom and laboratories. With increased self-efficacy in these areas, early career teachers could develop increased levels of self-efficacy to teach important components of CTE such as technology integration into the classroom and safety requirements for the laboratory.

It would also be useful to interview *InSpIRE* instructors and administrators at participating schools to help monitor progress of the program. Jeffery (2017) stated "further research can be conducted to determine if perceived levels of preparedness, especially perceptions of unpreparedness, negatively affected teachers to the point in which they quit the teaching profession altogether" (p. 149). Administrators are afforded a unique perspective on teachers because they observe directly or indirectly the dynamics between teachers and students, as well as between teachers themselves. Conducting a survey among administrators at institutions employing completers of the *InSpIRE* program could shed light on deficiencies in alternative routes to certification that could be addressed through training modifications. Effective changes would be expected to reduce the reports by administrators of issues with teachers that may result from their being sub-optimally prepared.

Teaching in rural settings has always been a challenge for Idaho schools and further research is needed in this area. According to Barley and Brigham (2008) "rural schools face difficulties recruiting and retaining a qualified teacher workforce. Potential contributing factors include social and collegial isolation, low salaries, multiple grade or subject teaching assignments, and lack of familiarity with rural schools and communities" (p. 58). With these challenges for rural teachers in mind, the *InSpIRE* training program may be improved by including preparation for teaching in situations in which different ages of students require differing teaching techniques. In this regard, completers of *InSpIRE* should be invited to participate in a panel discussion as to how to improve preparation specifically for the teaching situations in which there was a perception of being less prepared. Effectiveness in training could be evaluated by continued monitoring of future completers' rating of preparedness to see if those ratings increase after changes in training.

It is recommended that facilitators of *InSpIRE* and similar programs create an evaluation instrument to measure effectiveness. Participants' rating of preparedness is one of several benchmarks that could be used to assess program effectiveness. A more complete picture of effectiveness might come from including standards such as ability to apply critical concepts and principles of learner development and learning differences, plan for instruction, using questioning and discussion techniques, and use of assessment

in instruction. Assessing the teachers on these components could happen at three points during training: beginning, middle, and end. Comparing scores from the three points would serve as a measure of effectiveness for *InSpIRE*.

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