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Evaluating a Life Centered Career Education Curriculum to Support Student Success

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ABSTRACT

The purpose of this study was to explore the implementation of five life skill components of Brolin's (1979) Life Centered Career Education (LCCE) program in Basic Education classrooms in school districts in the province of British Columbia (BC), Canada. Using a case study approach (Yin, 2014), LCCE Knowledge Battery pre-test was administered to a group of students with varying severity of intellectual, social, and physical disabilities. Working with school staff, families, and the community, workshops on counting money, responsible expenditures, banking, housing, and healthy living was implemented in an attempt to improve student achievement on final examinations, student self-efficacy and self-determination, and to help students develop employability skills. Analysis of the results indicated most students improved in all five areas. The LCCE is described and analyzed and specific examples are provided to explicate the methods used in this study.

Keywords: life skills curriculum, community learning, self-efficacy, career education, career readiness
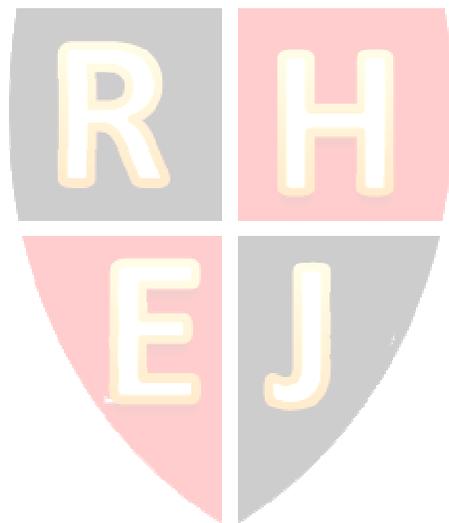
INTRODUCTION

Teachers who teach Students with Special Needs (SSN) in the Canadian Education often find it a challenge regarding the types of educational and instructional strategies that should be used in school systems across the country (Campbell, 2017; Dunn & Rabren, 1979; Fisher, 2017). The unfortunate reality is that a large number of students with special needs leave high school each year without high self-determination and the necessary skills needed to find success in society (Brolin, 1976; Brolin, 1979; Loyd & Brolin & Carver, 1982).

The question is teachers and administrators ask: what does society want for SSN-students when they graduate from high school, and do we expect them to become productive, responsible citizens? Does society want them to learn and memorize facts, or do they want them to acquire the skills they need to be successful when they leave high school? Most schools claim to emphasize the importance of functional skills, but in reality, they tend to focus primarily on a traditional, knowledge-based approach to education (Mrstik, Vasquez, Eleazar, & Cynthia, 2018). Moreover, provincial examinations focus on the regurgitation of facts that may not have any relevance to fundamental life skills for SSN-students. Little emphasis in Canadian education for special needs students focused on life-skill education (Campbell, 2017).

In addition to the confusion concerning adequate educational practices, SSN-students have difficulty succeeding in today's rapidly changing and complex society (Campbell, 2017; Ciobanu, 2017). SSN-students who attempt a transition from high school education to employment and independent living face many obstacles. Misunderstanding of their disability, labelling, social rejection, segregation, and negative attitudes are some of the obstacles that may stand in the way as SSN-students reach for personal, social, and economic fulfillment (Ciobanu, 2017). A further obstacle that SSN-students face is that being enrolled in Basic Education programs does not mean that the curriculum is developed specifically to meet their needs.

Consequently, SSN-students in Basic Education programs lack the necessary tools for successful employment and independent living. As a result, teachers and administrators needed to provide a better curricular approach with the important competencies needed for successful adult adjustment and attainment of self-determination. The unintentional message that this portrays is that SSN-students enrolled in Basic Education programs are not an important part of the district's educational initiatives.

Conversely, many schools districts are progressive and committed to accommodating SSN-students (Councel for Exceptional Children [CEC], 2018; Sailor, McCart, Choi, & Jeong, 2018; Young, 2018). However, with guidance and direction Basic Education students could receive a prescribed functional curriculum that would better serve their needs. The purpose of this case study was to implement the Life Centered Career Education program, and measure its effectiveness for children with special needs enrolled in the Basic Education classroom of a high school in British Columbia, Canada.

LITERATURE

While an abundance of literature can be found on supporting special education classrooms and inclusion of students with designated needs, there is minimal current research on incorporating a LCCE education curriculum in classrooms and its effectiveness in classrooms today. Literature revealed that there are minimal studies on Brolin's Life Centered Career Education program and its effectiveness in supporting at-risk students or SSN students. Based on

the research problem and the foundation of the study, germinal works were appropriate due to the limitations of research on this topic.

BROLIN'S LIFE CENTERED CAREER EDUCATION

Although there have been no shortages of innovators in the functional life skills program movement, amidst the vast array of theories and practices of functional life skills programming, minimal studies have been conducted that evaluated the effectiveness of the LCCE curriculum. However, past research summed up the notion that SSN-students could benefit from the use of a functional program (Brolin, 1973; 1994; Field, 1998; Gist, 1987; Goodship, 1990; Hanley-Maxwell & Collet-Klingenberg, 1999; Wehmeyer, 1995).

The following literature review provides significant themes pertinent to the studies evaluation of LCCE and the rationales for the themes were discussed in detail. As a pedagogical instrument, Yin's (2014) case study approach served this project as a useful tool to designing case studies. The bounded case study was chosen for this research. Moreover, a clear map for conducting a bounded case study included starting from designing, collecting, analysing data, and writing the case study report (Yin, 2014).

The bounded case study design meant that the case study focussed on a specific program, known as the LCCE implementation. The main focus of the research was to analyze whether the LCCE program did in fact provide SSN-students with improved functional skills necessary for independent living and employment. The LCCE research attempted to combine attributes from the descriptive and interpretive products.

The descriptive end product meant that a case study presented a detailed account of the case (Merriam, 1992; Yin, 2014). In this case, the area of investigation was the LCCE program for Basic Education students at three high schools in British Columbia, Canada. The descriptive model could assist in providing pertinent information about the success or failure of the LCCE program and how to improve the program through modifications (Yin, 2014).

An interpretive model is produced when a case study researcher gathers as much information about the problem as possible with the intent of interpreting or theorizing about the problem in question (Yin, 2014). According to Yin (2014), a case study is an effective reseach design when supporting theoretical assumptions held before the data is being gathered. In this case study, the research should demonstrate the potential of the LCCE program, and interpreting data should assist in providing conclusive evidence to this theory. In sum, the descriptive and interpretive products would allow a better understanding of the LCCE program, and justify the implementation of the LCCE in all Basic Education programs in schools in British Columbia, Canada. The descriptive and interpretive strategies may also help to identify any necessary modifications to possible weak areas of the LCCE program.

Yin (2014) also pointed out the strengths of case study design for researcher's consideration before choosing the case study qualitative approach. The main strength is that a case study could provide a detailed description and analysis of a phenomenon. Therefore, a case study that is qualitative can play an important role in advancing the research knowledge base about a particular program or phenomenon.

As with the descriptive and interpretive products, the strength of the case study qualitative approach helped gain a better understanding of the LCCE program and perhaps possible modifications that will ultimately enhance LCCE's ability to augment SSN student's self-determination and functional skills. In addition, Yin (2014) suggested that qualitative case

studies rely on interviews, observation, and physical evidence to study a specific program. Researchers could use multiple methods of data collection called triangulation. A combination of observation, interview, and physical evidence were used for data collection and analysis.

Creswell (2014) also pointed out possible limitations of case study research. For instance, certain biases could affect the validity of case study research because researchers rely on sensitivity and integrity to the investigation. Thus, a reliance on instinct and abilities throughout most of the research effort was used. Merriam (1992) also suggested that "case study research relies on observation and interviewing, and that most researchers partaking such research do not have sound training in these areas" (p. 44).

A further limitation is that a researcher may exaggerate the results of the research in question and ultimately shape the results to a desired outcome. Additionally, case study research can be lengthy. Thus, policy makers and educators may not have the time to read and use the case study.

Creswell (2014) also pointed out that a researcher was the primary instrument for gathering and analyzing data. In order to produce a good case study, the examiner should posses' certain characteristics. For instance, a researcher should have tolerance for ambiguity, should be sensitive in data collection, data interpretation and analysis, and should be a good communicator.

Tolerance of ambiguity was needed throughout the case study of the LCCE. Yin (2014) argued case study research required a researcher to be prepared to face unforeseen events or change direction in pursuit of data. Being sensitive in data collecting is important because the primary instrument in qualitative case study research is the researcher whose observations and analysis is filtered through their worldview. It is also important that gathering data could come from a wide variety of sources.

Promoting self-determination within a career education framework with a purposeful sequence of planned educational activities is particularly useful for SSN-students. A case study can assist researchers to gather information on a particular career education program. In fact, this case study helped gather pertinent information that determines whether the LCCE can help Basic Education students become self-determined citizens. SSN-students acquisition of self-determination was the premise behind Brolin's (1997) Life Centered Career Education program for students with learning disabilities. Brolin defined self-determination as "both the attitudes, which lead people to define goals for themselves and to their ability to take the initiative to achieve these goals," (Brolin, p. 3).

SELF-EFFICACY

Students' level of self-efficacy can serve as both a barometer and a proximal element for high-level confidence and self-determination (Cengiz & Tilmac, 2018). Some students are eager to learn and self-determined, while others seem uninterested or unmotivated. Some students demonstrate high levels of confidence in their abilities, while others seem unsure of themselves. Understanding a student's self-efficacy is an important factor in understanding how students succeed in the classroom.

Brolin argued, "self-efficacy was one of the fundamental attitudinal components of self-determined individuals" (Bolin, 1997, p. 3). Brolin also suggested that within the LCCE model was the recognition that students acquire positive self-efficacy (Bolin, 1982). Therefore, an integral aspect of the case study was to provide an analysis of the main components to high self-efficacy and attempted to link these components to the LCCE's 1,110 workshops.

Bandura provided his theory and various components to high self-efficacy. Howardson and Behrend (2015) provided information on Albert Bandura's theory of self-efficacy. According to the authors, Bandura believed self-efficacy referred to a belief in one's capability of performing a specific task (Howardson & Behrend). Moreover, Bandura argued that self-efficacy was different from self-esteem. Bandura suggested, self-esteem tends to pervade a wide variety of activities.

Thus, people are described as having generally high or low self-esteem…self-efficacy is more situational" (Rice, 2001, p. 147). For instance, an individual may have high self-efficacy about driving a car but not about driving a motorcycle. Bandura argued that there were four components that he believed self-efficacy could be learned and the expectations that are acquired: performance accomplishments, verbal persuasion, and vicarious learning. Bandura also had a fourth theory of how self-efficacy is learned. Rice also suggested that Bandura believed that physical/affective status had an effect on the development of self-efficacy.

Furthermore, Folk (2016) argued that self-efficacy intervention is important for students. The author not only provided strategies for teaching self-efficacy, but also argued that these learning experiences must integrate school-based learning with real-life conditions. Folk's (2016) views on self-efficacy theory aligns with the LCCE program because it requires the integration of classroom instruction with community-based experiences and the active involvement of family members, employers, and human service agencies.

Brolin (1997) argued that community resources needed to work cooperatively with schools in order to help prepare SSN-students with the skills necessary to be productive and successful upon making the transition from school to community life and employment. According to Howardson and Behrend (2015), connecting learning to its relevance in the workplace could assist with improving efficacy to life skills. All 1,110 workshops outlined in LCCE connect the community to school. Moreover, "Life Centered Career Education required the effective use of community resources so that students may adequately explore and be prepared for the real world" (Brolin, 1976, p. 18).

Similarly, Gist (1987) examined the effects of self-efficacy training on task performance. He found that "managers who received [efficacy] training intervention consisting of mastery with positive feedback developed higher self-efficacy perceptions and performance than a group who received traditional training" (Gist, p. 253). In addition, Gist argued that many training courses were lecture-based and in order to yield higher productivity and learning within the workforce, courses needed to focus on enactive mastery of a specific task. By giving individuals the opportunity to master a specified task by practicing it prior to actually being accountable for that duty, resulted in a higher self-efficacy toward that task.

Enactive mastery of given tasks is the focal point of the LCCE program. Not only are most of the LCCE's lesson plans experiential, but assessment batteries also required student's demonstrated competency in the specific task. Gist (1987) also demonstrated that vicarious learning helped promote self-efficacy with the trainees. By observing co-workers attempt the same task, trainees were able to gain confidence in their ability when they witnessed co-workers struggle with tasks. As a result, co-workers that were interviewed by Gist suggested that they did not feel as intimidated by the task when it was their turn to practice the exercise (Gist, 1987; Schunk, 1985).

Schunk (1985) also supported the theory that developing self-efficacy augmented the perceptions and performance of individuals. Schunk discussed an experiment that tested the hypothesis that participation in goal setting enhanced self-efficacy. Control group A in this

experiment consisted of children in sixth grade that had been classified as learning disabled in mathematics. Children received subtraction remediation that included practice opportunities and goal setting. Control group B consisted of sixth grade children who received the same training but without setting specific goals.

Schunk (1985) found that participation in goal setting led to higher self-efficacy than the group without goal setting because control group A had ownership to the tasks. In other words, control group A's self-efficacy for their perceptions and performance of subtraction improved because they were involved in setting their own goals. Participation in goal setting therefore, may help promote more active task engagement (Schunk, 1985).

Setting goals is an important component of LCCE. Life Centered Career Education allowed the student, parents, and teachers the opportunity to work together by designing Individual Educational Plan goals that are manageable and relevant to the student's life (Brolin, 1997). Once the LCCE pre-test is administered and results tabulated, Brolin (1973) suggested that the Individualized Educational Plan (IEP) design team review the LCCE's competency chart and choose competencies that the pre-test demonstrated the student was weak in. For instance, if a student was tested and the pre-test score result demonstrated that the student was weak in subcompetency one, counting money and making correct change, then the Individualized Education Plan (IEP) design team could incorporate this as a learning outcome in the IEP. Subsequently, the student has a better opportunity to reach self-efficacy because the student had ownership to the goal (Brolin, 1997). In addition, an IEP can help students monitor progress. Brown (1999) also suggested that "self-monitoring and self-assessment is another component to self-efficacy intervention" (para. 2).

LCCE is an outcome-based program. Thus, Brolin (1994) suggested that outcome-based education should help students become equipped with the efficacy to life skills, and knowledge that is needed for success in school and the workplace. In addition, outcome-based education suggested that schools needed to provide conditions, which maximized achievement for students (Brolin). LCCE was comprised of 22 outcomes that were critical to basic knowledge and skills, required for students to improve their efficacy to specific life skills, and become productive and successful citizens.

Additionally, Margolis and Macabe (2003) argued "for students to meaningfully involve themselves in learning, for sustained periods, requires sufficient self-efficacy" (p. 165). The authors suggested that SSN-students tend to have low self-efficacy toward life skills. There are two important reasons for students experiencing low self-efficacy toward life skills. First, social learning theorists proposed that individual past failures and successes had a significant factor to low or high self-efficacy (Rice, 2001). Rice argued "students with learning disabilities students who typically have encountered failure after failure in classroom activities often have low self-efficacy" (p. 148).

However, Rice (2001) advocated that low self-efficacy is modifiable when low achievers believed that academics equalled failure and frustration. Margolis and Macabe (2003) offered practical modifications teachers could implement to help improve student's low self-efficacy with regard to academics. Margolis and Macabe (2003) also demonstrated that self-efficacy remediation could augment SSN student's low self-efficacy. Margolis and Macabe provided practical strategies in order to create a classroom that was risk-free. The article was used as a guide to setting up an optimal classroom environment for self-efficacy training. For example, Margolis and Macabe (2003) suggested that a safe classroom meant that the student's rights are not violated, but rather respected. Role-playing put-downs and how to address students

respectfully was incorporated prior to the evaluation of LCCE.

Clearly, Special Education teachers need to use resources that focus on the development of high self-efficacy to specific life skills so that SSN-students could potentially reach a state of self-determination. It is important to consider materials that possess the necessary ingredients to lead SSN-students down the road to the development of high self-efficacy. The literature advocated that one important component teachers needed to consider when teaching self-efficacy is that lessons should offer situational experiences (Gist, 1987).

That is, life skills programs should be enactive and focus on placing SSN-students in situations that are experiential. Bandura argued "the greatest increases in self-efficacy perceptions are deemed to arise from enactive mastery and modeling experiences, yet many training courses rely heavily on lectures" (as cited in Gist, p. 250). The LCCE approach designed by Brolin (1979) contained substantial elements that relate to an experiential career education program that offered concepts of transition from high school to the workforce, functional skills, and self-determination.

Brolin and Gysbers (1979) contended "SSN-students encounter serious problems integrating successfully into society and therefore require an experiential life centered curriculum approach" (p. 260). Brolin (1990) believed that efficacy of 22 life skill competencies were essential for successful community living and employment. Students must demonstrate mastery of 22 experiential life skill competencies that link to the three broad domains (Brolin, 1997). Table 1 (See Appendix A) outlined the three domains and 22 competencies of the LCCE:

Brolin and Gysbers (1979) advised, "educators must begin to take responsibility to teach SSN-students these 22 fundamental competencies necessary for [adult adjustment]" (p. 258). For instance, as part of the daily living domain, students were required to demonstrate successful maintenance and safe start up producers with a lawn mower (Brolin, 1997). SSN-students that believed they could not perform mechanical tasks may begin to develop the self-efficacy to overcome this negative perception.

Bandura argued that students "often consider the successes and failure of other students, especially those of similar ability" (as cited in Rice, 2001, p. 149). Bandura maintained that if students observed their peers successfully model a specific behaviour, they were more likely to believe they could accomplish the same task, rather than observe an adult model the behaviour (Rice). Observing others attempt the same task may help to improve self-efficacy. Thus, materials that focused on enhancing self-efficacy should incorporate situations that allow students to watch other classmates experience success. LCCE provided many workshops that invited students to role-play scenarios. In classrooms, students have numerous opportunities to watch classmates role-play and demonstrate competency in the given task.

Building confidence is another significant ingredient to high self-efficacy. Norman and Hyland (2004) suggested that confidence in one-self is part of self-efficacy. Moreover, Norman and Hyland conducted a student-teacher survey and asked participants to define confidence. Some felt it "was the belief in one's knowledge and ability" (Norman & Hyland, p. 21). Margolis and McCabe (2003) raised the question of what counted as fundamental training strategies for self-efficacy improvement among SSN-students.

Margolis and McCabe (2003) contended that SSN-students needed successful experiences to acquire confidence. Out of LCCE's 1,110 lessons, 89 workshops were designed to build confidence and ultimately lead to high self-efficacy and self-determination. These workshops commenced by teaching students to express feelings of self-worth (Brolin, 1992).

METHODOLOGY AND PROCEDURES

The problem is that some secondary schools in British Columbia, Canada, lack a functional curriculum for Basic Education students to learn the needed fundamental life skills in society in order to become responsible self-determined citizens. The purpose of this case study was to implement the Life Centered Career Education program, and measure its effectiveness for children with special needs enrolled in the Basic Education classroom at a high school in British Columbia, Canada. Similarly, some SSN-students do not receive the adequate education that is needed in the Basic Education classroom to help prepare them with the functional skills necessary for employment, independent living, and self-determination. Consequently, some SSN-students who attempt a transition from high school education to employment and independent living may graduate with low self-efficacy to important life skills and self-determination.

The research took place at a high school in British Columbia, Canada. The school aligned with the mission to "foster a lifelong desire to learn social responsibility, attainment of potential, and adaptability to change" (Hanley-Maxwell & Collet-Klingenberg, 1999, p. 23). There are approximately 400 students from grades eight through 12 in the school used for this study. The school is a full service school and offers a full range of provincially prescribed courses and electives that students could benefit from. SSN-students enrolled in the Basic Education program attending each school participated in the study (n=16). This case study approach was used to assess whether the LCCE program provided the functional skills needed for Basic Education students to function as responsible, independent citizens. Specifically, Brolin's Life Centered Career Education curriculum was used to support the framework for the study.

DATA COLLECTION AND ANALYSIS

The data collection process took place at a high school in British Columbia, Canada. Data collection occurred via pre- and post-testing using a case study approach, and involved 16 students in grades 8 to 12. Only those students in the Basic Education classroom were involved in the study. The case study provided: (a) successful implementation strategies, (b) tracking systems for students and for the program, (c) assessment strategies, and (d) delineation of scores for different sets of objectives within the program by student.

For the parents, a pre- and post-survey with regard to their knowledge of their child's attitudes and behaviours was designed. A letter to parents was sent home that informed them of the LCCE program that was being adopted into the classroom. Pre-test Knowledge Battery forms for Basic Education students were used to assess their knowledge of the daily living, personal/social, and occupational guidance domains. Pre-test scores gathered the baseline data for each student and for program objectives. SSN-students received LCCE's Competency Assessment Knowledge Battery Form A.

The pre-test was a non-standardized criterion referenced instrument designed to give an approximate index of an individual's level of knowledge with regard to functional life skills. The battery consisted of 200 multiple-choice questions and took approximately two to four hours to complete. Form A was given one domain at a time. In addition, Form A identified areas of Basic Education student's strengths and needs in functional skills for instructional planning purposes. It should be noted that student knowledge was measured against the Life Centered Career Education program's competency areas and not against the test results of other students.

In addition, due to the American configuration of some of the questions within the pre- and post-tests, modification was required. For instance, one question pertained to the American president. Instead, the question was modified to address the Canadian Prime Minister. Subsequent to minor modifications, baseline data from Knowledge Battery (Form A) assisted in developing Basic Education student's IEP. LCCE's IEP sections were integrated into the current IEP design of the high school used in this study.

In the high school that was involved in this study, the IEP sections were as follows:

Section 1: Present level of educational performance

Section 2: Annual goals

Section 3. Specific educational services

Section 4. Short-term individual objectives

Section 6. Individuals responsible for implementing the IEP

Section 7. Objective criteria, evaluation procedures, and schedule for assessing objectives

Secondly, throughout the course of the 2017-2018 academic year, Basic Education students worked through specific LCCE lessons relevant to their IEP goals. The research implemented a bounded qualitative case study. The focus of the case study was to analyze whether LCCE would in fact provide Basic Education students with improved self-determination and functional skills necessary for independent living and employment after graduation from high school.

The use of a case study provided the format to help analyze the credibility of the LCCE program at a high school in British Columbia, Canada. For instance, physical evidence such as LCCE's competency rating scale, portfolio collections, digital images, and video assisted in tracking student's progress. In addition, teacher and Certified Educational Assistants (CEAs) observation was used to monitor student progress. Rubrics were designed in order to aid in providing physical evidence of observations from the case study

Next, students received Performance Batteries designed to assess the mastery of Brolin's 3 domains. The Performance Batteries were evaluated in the form of a rubric and used to determine which competencies had been successfully achieved. Moreover, students received LCCE's Competency Assessment Knowledge Battery forms. This post-test assisted in measuring whether the student had gained the knowledge in accordance to their IEP objectives along with Basic Education students to demonstrate competencies in their specific IEP objectives.

LCCE's Performance Battery was a criterion-referenced instrument designed to measure absolute mastery of a specific competency. Students were required to role-play scenarios and undergo hands-on activities to prove they had mastered the IEP objective. Mastery of the specific task assessed consisted of 80% or greater on the Performance Battery. For instance, a student would need to receive a mark of eight out of ten or higher.

Case notes were analyzed from interviews to develop themes or patterns. A list of the results of the pre-test (Form A) and post-test (Form B) for every child that participated in the study was compiled. The results from the list were bar graphed.

Furthermore, the action research project relied on a combination of observation, interviews, and physical evidence. Behaviour and feelings were observed throughout the action research project. There were three reasons observation was preferred.

Firstly, observation allowed an opportunity at a firsthand experience. Observation offered an opportunity to witness whether the LCCE program was effective. Secondly, the case study was the first of its kind in the high school used in this study.

During the performance battery observation, this helped to determine whether each

student had acquired the self-efficacy of the functional skill taught. The methods of observation included videotaping, rubrics, notations written in students IEP's, and digital images. Similarly, the physical evidence that the case study included to analyze the LCCE program was rubrics, digital images, pre- and post-tests, projects, portfolios, and attitudinal surveys.

DATA ANALYSIS

In the first month of the study, a consent form and information letter was sent to the parents of the individuals that participated in the study. Once the forms were collected and reviewed, a pre-intervention survey was sent to the parents. The pre-intervention questionnaire entailed the study details and questions, which pertained to the program that was used in the Basic Education classroom. Before the study commenced, the surveys were analyzed. Once all of the forms were received, materials and LCCE lesson plans were studied in detail. This provided course sequencing for the 22 competencies.

During the second month, the Knowledge Battery pre-test Form A was administered to all students that participated in the case study at the high school in British Columbia, Canada. Once the pre-tests were collected, these tests were marked and recorded the results of each of the three domains. Once all of the data was analyzed, IEP goals were developed and the LCCE program for the Basic Education students was implemented. In sum, 16 students participated in the case study.

During the next six months of 2017, there was further introduction of the LCCE program to Basic Education students in the classroom. The purpose of this was to augment Basic Education student's efficacy to five life skill competencies of Brolin's LCCE. The majority of these months focussed on direct instruction where: (a) necessary materials during instruction was provided, (b) used the assessment Performance Batteries and Competency Rating Scale (CRC) in accordance with student's IEP goals, and (c) taught all lessons using the LCCE program.

In months nine and ten, final lesson plans were completed and the Knowledge Battery post-test (Form B) was administered. A post-intervention survey was sent to the parents of the children involved in the case study. The post-intervention survey entailed questions pertaining to the development of functional skills during the period of the study. Once the post-intervention surveys were collected, results were analyzed. Also, assessment batteries and the post-tests were examined to see if any themes or patterns had developed.

An evaluation of the instructional effectiveness of the three domains from Brolin's Life Centered Career Education program was implemented. Basic education students received the LCCE program during instruction in the Basic Education classroom. Scores were entered on the Student Competency Assessment Record (SCAR), which depicted the student's results on all competency tests for both the Knowledge and Performance Batteries. SCAR provided a systematic means of assessing student mastery of LCCE subcompetencies. Both batteries' scores were used to determine the level of mastery achieved.

Criteria for rating a student's level were mastery, partial mastery, or not mastered. For a given competency, a student had achieved mastery when he or she scored at a level of mastery on both the knowledge and performance items that related to the competency. Mastery is considered 80% or greater. Partial mastery was when a student had scored 80% or above on either Knowledge Battery pre-test Form A or Knowledge Battery post-test Form B. If the student had not met the 80% criterion, then the student had not mastered either battery.

Case study results indicated that the LCCE program enhanced the necessary functional

skills. Similarly, Basic Education teachers had readily accessed, identified, and effectively used the LCCE program. Additionally, high school Basic Education students at CBSS showed greater improvement based on the performance assessments.

Moreover, all Basic Education students except for one, achieved mastery on their Performance Batteries with the use of the LCCE program. For example, the assessment demonstrated that student A received eight out of 10 on the Personal Finances Competency Performance Battery. In addition, student A scored eight of 10 on the Personal Finances Knowledge Battery Post Test (Form B). Therefore, student A received mastery of personal finances. Thus, SCAR provided a clear representation of each student's status relative to LCCE competencies. Table 2 (see Appendix B) provides the pre- and post-test averages of each student.

Table 2 also illustrates the average results of the five competencies tested during intervention of the LCCE program. The pre-test Form A was administered in June 2016 and the post-test Form B in March 2017. The pre- and post-test consisted of 200 multiple-choice questions each, and answer key and bubble templates were used for scoring. Scores were then recorded on the SCAR sheet.

The five competencies tested were: counting money, responsible expenditures, banking, housing, and healthy living, and were all contained in the daily living skills domain (Table 2). The numbers on this table indicate that the average post-test scores were higher than the average pre-test scores (Figure 1; see Appendix D). Since the post-test scores were higher than the pre-test scores, the results from the table illustrates that the LCCE program can be an effective curricular approach for teaching the functional skills to SSN-students.

The pre-test is also known as Form A and the post-test as Form B. The sample size is n=16. Testing for the pre- and post-tests were in June 2011 and March 2012, respectively. The data indicated the average post-test scores were significantly higher than pre-test scores. The results also showed that the mean of the pre-test score was 5.25 and the mean of the post-test score was 8.38.

The means showed a significant increase in competency mastery, from pre-testing to post-testing. The standard deviation for the pre-test is 1.045 and the post-test is 0.645. The median for each are M=5 for the pre-test and M=7.75 for the post-test. Lower median results for the pre-test indicated that students had a limited understanding of the material and vice versa. Thus, Basic Education students except for one gained an understanding of the LCCE competencies for the five competencies tested. Table 3 (see Appendix C) shows the descriptive statistics for the six competencies for each student.

The data collected in table three shows the Performance Battery test results of each of the students participating in the study. This battery required SSN-students to demonstrate or perform an activity reflecting adequate command of the LCCE competencies. The Performance Battery test consisted of open-ended questions, role-playing scenarios, card sorts, and hands-on activities. The Performance Battery was used after completing the Knowledge Batteries (pre-test Form A and post-test Form B) and in the competency areas where the student had scored 80% or above. There were five scores for each subject; each score was for each competency that was tested in the study.

The score was out of ten. Almost all subjects achieved a score of eight or greater out of ten. This indicated that mastery was achieved; mastery level is 80% or greater. However, results for subject K were below mastery level (below eight out of 10 on all five competencies tested). Student K's average mark for all of the five competencies tested was x=6.1, indicating that the student did not achieve mastery overall. Thus, student K had not met the 80% criterion overall

and on each competency tested. The low marks on the Performance Battery may be due to the lack of attendance in the classroom by student K. Testing for the Performance Battery was completed in June 2012.

Figure 1 (see Appendix D) illustrates the mean results of the five competencies tested (also see Table 2). The mean scores were based on the sum of each competency divided by the number of subjects in the study. The competency where subjects scored the highest was the personal finances section (x=8.47). Subjects scored the lowest on the personal needs section (x=8.09). The average mean of all of the results from the performance batteries was above 80%, indicating LCCE benefited SSN-students.

According to one Certified Educational Assistant, a possible reason why students scored highest on the personal finances section was because "students appeared to show more interest when working with money, because money is associated with buying consumer items such as MP3 players, and video games" (R. Saland, personal communication, September 28, 2017). In addition, many students with special needs find it difficult to deal with life skills that are non-tangible (Ciobanu, 2017). For instance, during the case study it was noted that Basic Education students had difficulty expressing their emotions during instruction on Personal Needs.

Triangulation was used to corroborate the findings and assure validity. The three methods that were used when applying triangulation are: 1) interviews; 2) instructional observations; and 3) a review of documents. Although the majority of the data collection will derive from the interviews, the instructional observations and review of documents will help to validate the themes identified from the interviews (Creswell, 2014). The instructional observations and review of documents add validity to the findings from the interviews and add rigor to the study (Yin, 2014).

Firstly, from an observational point of view, the researchers and CEA's determined that SSN-students in the Basic Education program at CBSS continued to attain the results of LCCE. For instance, one Certified Educational Assistant (CEA) that was interviewed noticed "when the Basic Education students went to the grocery store for a shopping lesson, most students were able to count their change effectively (CEA 1, personal communication, September 28, 2017). Also, "one student was able to list the four main food groups almost immediately after the food items were displayed on the table" (CEA 2, personal communication, September 12, 2017).

Secondly, it was concluded that when IEP goals were reviewed with the students and their parents, retention of information was maintained. For example, through interviewing, one parent stated "my child told me that she was happy [higher self-efficacy] because she felt more confident to help make dinner the other day" (Parent A, personal communication, November 02, 2017). Additionally, Student D stated, "It is cool to buy a video game and be able to count my money so that I know that I have received the correct change. Now I am able to rent a video game without getting ripped off."

Finally, before this case study commenced, three out of 16 subjects had bank accounts at their local bank. Conversely, physical evidence demonstrated that at the end of the study, nine out of 16 subjects showed a bank transaction record, or a bank statement book. This indicated that the subjects had the self-efficacy to maintain a bank account.

In addition, the five competencies that were tested previously were reviewed with the subjects. The reason for the review was because the summer break may have caused subjects to lose the retention of information learned from the LCCE program. A multiple-choice test that consisted of 25 questions was administered, reiterating the five competencies studied. Subjects demonstrated that they sustained or improved their knowledge of the five competencies learned.

FINDINGS AND DISCUSSION

The goal of this case study was to address whether the Life Centered Career Education program was an effective curricular initiative that would adequately prepare and graduate Basic Education students with the functional skills necessary for employment, independent living, and self-determination. As a result, the LCCE program proved to be a successful approach that could lead SSN-students to develop significant life skills and self-determination. It is important to note that due to time factors and for the purpose of the case study, all 22 competencies from Brolin's LCCE program could not be implemented. Each competency covered a vast area of topics, and Basic Education students work at a slow and individualized pace. Therefore, only five competencies were covered.

This study extended previous advocates on the positive effects that the Life Centered Career Education approach could have on students with special needs (Brolin, 1979; 1990; 1982; 1973; Goodship, 1995; Field, 1998). Furthermore, this case study simultaneously implemented more than one competency during intervention. Based on evidence from the case study, statistical data, and supporting literature, educators and caregivers could use the LCCE with reasonable confidence that it could be a useful tool for educational initiatives that focus on developing life-skills with SSN-students.

The LCCE is easy to implement in many environments and is inexpensive. LCCE proved to have positive results with Basic Education students who had diverse exceptionalities. Nonetheless, further research is still needed to assess the specific effectiveness of the LCCE for a variety of individuals across settings.

RECOMMENDATIONS FOR FURTHER RESEARCH

Although the LCCE program was proven successful, there are recommendations that would help to provide teachers with a sound environment for successful implementation of LCCE. For instance, one limitation to LCCE is that it involves a communal effort from school personnel. Teachers working with students who are involved in the LCCE program need to understand that some of LCCE's competencies should be taught in their classroom and not solely in the resource room. For example, Basic Education students at CBSS may work on buying, preparing, and consuming food in the Home Economics class. Teachers would need to work closely with the Basic Education teachers if this program is to be successful.

The team teaching concept could be a frustrating task, as some classroom teachers may feel that if the student is in their class they should be able to do the same work as students without intellectual limitations. The second limitation is that LCCE is an infusion concept. LCCE is comprised of career education concepts that are not taught as a course, but rather integrated into the student's educational experience. For example, when teaching English concepts, the teacher involved could use practical examples of how to relate the instruction to productive work activities in the home, community, job, and recreational situations. Infusing educational activities into real-life concepts may not always be an easy task for teachers due to time constraints and lack of resources.

LCCE does not replace curriculum already in progress. Therefore, the third limitation is that pertinent educational personnel may need to plan on how LCCE could be integrated into existing curriculum; this could be an exhaustive task. The fourth limitation

is that LCCE requires substantial experiential opportunities. Most people learn best with hands-on activities. Many SSN-students perhaps learn best if experiential opportunities are a major focus of their instructional program.

Experiential activities require immense preparation time and effort. The feedback from teachers was that there are at times a slip in consistency in regard to maintaining a communal effort with Basic Education teachers due to the lack of time, and thus may view the four limitations as an overwhelming addition to their busy schedules. To counter the feeling of being overwhelmed, a communal effort between the regular classroom teacher and the Basic Education teacher is integral. The fifth limitation is that LCCE focuses on developing general life skills. An individual must have a healthy attitude towards concepts such as personal hygiene, cleaning, table manners, taking care of children, work motivation, dependability, promptness, safety, and consideration for others; partly because students are influenced by these value systems at home.

Therefore, if the value systems are not in accordance with LCCE objectives, it will be difficult, but not impossible, for LCCE to change these unhealthy values. It is recommended that the Basic Education teachers involve parents with regard to LCCE objectives. This will perhaps contribute to assisting parents reinforce LCCE objectives with their children. The sixth limitation is that LCCE requires the school to work more closely with the family and community resources. Further, Table 3 (see Appendix E) outlines the recommendations Basic Education teachers should follow when teaching the instructional units of the LCCE.

Partnerships were important to the successful implementation of the LCCE program during this case study. Due to different circumstances, it is sometimes difficult to form these partnerships. Thus, Basic Education teachers, the school, and the community need to work together to form a collaborative partnership.

REFERENCES

Brolin, D. E. (1973). Career education needs of secondary educable students exceptional children. *Rural Special Education Quarterly, 39*(8), 619-624.

Brolin, D. E. (1973). Vocational evaluation: Special Education's responsibility education and training of the mentally retarded. *Rural Special Education Quarterly, 8*(1), 7-12.

Brolin, D. E. (1976). *Life centered career education: Assessment batteries* (2nd ed.). Reston, VA: Council for Exceptional Children.

Brolin, D. E. (1982). Life skills for independent living. *Career Development for Exceptional Individuals, 12*(2), 167-177.

Brolin, D. E. (1982). *Life centered career education: A competency based approach* (3rd ed.). Reston, VA: Council for Exceptional Children.

Brolin, D. E. (1990). The challenge of career exploration in early adolescence. *Review of Educational Research, 14*(3), 392-403.

Brolin, D. E. (1994). Going the distance with Life Centered Career Education. *Rural Special Education Quarterly, 13*(1), 64-67.

Brolin, D. E. (1997). *Life centered career education: A competency based approach* (5th ed.) Reston, VA: Council for Exceptional Children.

Brolin, D. E., & Carver, J. T. (1982). Lifelong career development for handicapped individuals. *Advances in Special Education, 3*(6), 186-198.

Brolin, D. E. & Gysbers, N. (1979). Career education for persons with handicaps. *The Personnel and Guidance Journal, 12*(3), 258-261.

Brown, B. L. (1999). Self-efficacy beliefs and career development. *Eric Clearinghouse on Adult Career and Vocational Education.* Retrieved from http://www.ericdigest.org/1995-4/self.htm

Campbell, C. (2017). Developing teachers' professional learning: Canadian evidence and experiences in a world of educational improvement. *Canadian Journal of Education, 40*(2), 1-33. Retrieved from EBSCOhost database.

Cengiz, C. & Tilmac, K. (2018). High school students' exercise-related stages of change and physical activity self-efficacy. *Eurasian Journal of Educational Research, 73*, 59-76. Retrieved from EBSCOhost database.

Ciobanu, N. R. (2017). Integrated education and inclusive education. *Romanian Journal of School Psychology, 10*(20), 35-39. Retrieved from Education EBSCOhost database.

Council for Exceptional Children. (2018). Special ed topics. Retrieved from http://www.cec.sped.org/

Creswell, J.W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th edition). Thousand Oaks, CA: Sage Publications, Inc.

Dunn, C., & Rabren, K. (1979). Functional mathematics instruction to prepare students for adulthood. *Journal of Learning Disabilities, 10*(6), 35-41.

Field, S. (1998). Promoting successful outcomes through self-determination: Demonstration of youth with disabilities who have dropped out of school or are at school. Retrieved from http://www.ed.uiuc.edu/sped/tri/Michigan.html

Fisher, D. (2017). Professional legitimization for education in Canadian universities: The Canadian journal of education, 1976-1997. *Canadian Journal of Education, 40*(2). Retrieved from EBSCOhost database.

Folk, A. (2016). Academic self-efficacy, information literacy, and undergraduate course

research: Expanding Gross' imposed query model. *Journal of Library Administration, 56*(5), 540-558. Retrieved from EBSCOhost database.

Gist, M. (1987). The effects of self-efficacy training on training task performance. *Journal of Management, 13*(2), 250-254.

Goodship, J. M. (1990). Life skills mastery for students with special needs. Retrieved from http://www.ericdigests.org/pre-9216/life.htm

Hodgon, L. Q. (1995). *Solving social-behavioral problems through the use of visually supported communication*. In K.A. Quill (Ed.), Teaching children with autism: Strategies to enhance communication and socialization (p. 33-52). New York, NY: Delmar.

Loyd, R. J., & Brolin, D. E. (1997). *Life centered career education: Trainer's manual.* Reston, VA: The Council for Exceptional Children.

Hanley-Maxwell, C., & Collet-Klingenberg, L. (1999). Research synthesis on design of effective curricular practices in transition form school to the community. Retrieved from http://idea.uoregon.edu/~ncite/documents/techrep/tech09.html

Howardson, G. N. & Behrend, T. S. (2015). The relative importance of self-efficacy sources pre-training self-efficacy beliefs. *International Journal of Training & Development, 19*(4), 233-252.

Margolis, H., & Macabe, P. (2003). Self-efficacy: A key to improving the motivation of struggling learners. *Preventing School Failure. 47*(4), 159-170.

Merriam, S. B. (1992). *Case study research in education: A qualitative approach.* Jossey Bass Inc., San Francisco; California.

Mrstik, S.L., Vasquez, E., & Pearl, C. (2018). The effects of mentor instruction on teaching visuals to support to novice, special education teachers. *International Journal of Instruction, 11*(1), 414-424. Retrieved from EBSCOhost database.

Norman, M. & Hyland, T. (n.d.). Confidence and learning post compulsory vocation teacher education. Retrieved from www.triangle.co.uk

Rice, F. P. (2001). *Human development: A lifespan approach* (4th ed.) New York, NY: Prentice-Hall, Inc.

Sailor, W., McCart, A. B., & Choi, J. H. (2018). Reconceptualizing inclusive education through multi-tiered system of support. *Inclusion, 6*(1), 3-18. Retrieved from EBSCOhost database.

Schunk, H. D. (1985). Participation in goal setting: Effects on self-efficacy and skills of learning disabled children. The *Journal of Special Education, 19*(3), 307-317.

Transition assessment practices for students ages 18-21 with significant disabilities. Retrieved From EBSCOhost database.

Wehmeyer, L. M. (1995). A career education approach: Self-determination for youth with mild cognitive disabilities. *Intervention in School and Clinic, 30*(3), 157-164.

Yin, R. (2014). *Case study research: Design and methods* (5th ed). Thousand Oaks, CA: Sage Publications, Inc.

Young, K. (2018). Co-create: Teachers' voices to inform special education teacher education. *Issues in Educational Research, 28*(1), 220-235. Retrieved from EBSCOhost database.

Zahhar, N. E. (2002). Fulbright university partnership program: Report of the Suez Canal University team to Georgia State University. Retrieved from EBSCOhost database.

Appendix A

Table 1

*Brolin's Life Centered Career Education Domains and Competencies*

Domains	22 Competencies
Daily Living Skills	1. Managing personal finances.
	2. Selecting and managing a household.
	3. Caring for personal needs.
	4. Raising children and meeting marriage responsibilities.
	5. Buying, preparing, and consuming food.
	6. Buying and caring for clothing.
	7. Exhibiting responsible citizenship.
	8. Utilizing responsible citizenship.
	9. Getting around the community.
Personal-Social Living Skills	10. Achieving self-awareness.
	11. Acquiring self-confidence.
	12. Achieving socially responsible behaviour.
	13. Maintaining good interpersonal skills.
	14. Achieving interdependence.
	15. Making adequate decisions.
	16. Communicating with others.
Occupational Guidance and Preparation	17. Knowing and exploring occupational possibilities.
	18. Selecting and planning occupational choices.
	19. Exhibiting appropriate work habits and behaviour.
	20. Seeking, securing, and maintaining employment.
	21. Exhibiting sufficient physical-manual skills.
	22. Obtaining specific occupational skills.

Appendix B

Table 2

Knowledge Battery Pre and Post-Test Average Results (n=16)

Subject participated in study	Pre-test average (Form A)	Post-test average (Form B)
Subject A	5	9
Subject B	4	8
Subject C	5	9
Subject D	6	8.5
Subject E	4.5	8.5
Subject F	5.5	9
Subject G	5.5	8
Subject H	4.5	7.5
Subject I	4	8.5
Subject J	5.5	9.5
Subject K	3	7
Subject L	6.5	8
Subject M	6	8
Subject N	4	8
Subject O	7	8.5
Subject P	5	9
Mean score (x) for n=16	x=5.06	x=8.38
Median (M)	M=5	M=7.75
Standard deviation	SD=1.045	SD=0.645
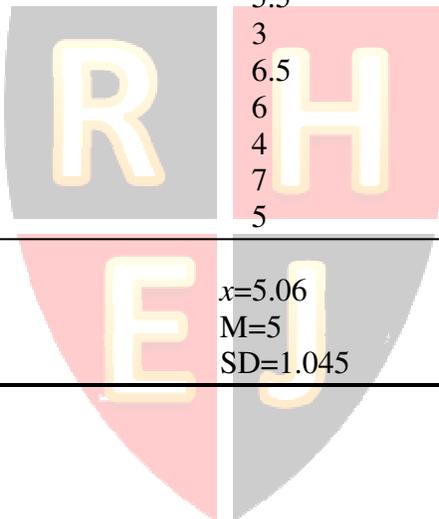
Appendix C

Table 3

Summary of Performance Battery Results (n=16)

	Competencies					
Subject	Finances	Home Management	Personal Needs	Food	Citizenship	Average
Subject A	8	9	8	9	8	8.4
Subject B	8.5	8	8	8	8.5	8.2
Subject C	9	8.5	8	9	8.5	8.6
Subject D	8	9	7	8.5	8	8.1
Subject E	9.5	9.5	8	8	9	8.8
Subject F	8.5	7	8.5	8	9	8.2
Subject G	9	8	9.5	7	8	8.3
Subject H	9.5	8.5	8	8	7.5	8.3
Subject I	8	9	8	8.5	8	8.3
Subject J	8	8.5	9	9	9.5	8.75
Subject K	7	6	6	5.5	6	6.1
Subject L	7.5	8	8	9	9.5	8.4
Subject M	8.5	8	8	8	8.5	8.2
Subject N	9.5	9	9	8.5	8.5	8.9
Subject O	9	9	8	8	8	8.4
Subject P	8	9	8.5	9	9	8.7
Mean score (x)	8.47	8.38	8.09	8.18	8.34	8.29
Median (M)	9.25	8.25	8.75	8.25	7.75	8.3
Standard Deviation (SD)	0.741	0.885	0.800	0.911	0.851	0.63

Appendix D

Figure 1

Appendix E

Table 3

Instructional Considerations

Recommended steps to follow	Description
Develop a class instructional profile	Determine which students scored below mastery on the knowledge batteries and performance batteries. Determine which competencies and subcompetencies should be the focus. Include functional and transitional objects from subcompetencies in the student's IEP.
Plan the instructional intervention	Plan the instructional strategy and review the competency unit overview and overviews for each subcompetency unit.
Establish a schedule for testing and pre-testing	Use items from the Knowledge Battery and Performance Batteries. Determine which lessons need to be emphasized and which will require less emphasis.
Review lesson plans in subcompetency units	Make adaptations or accommodations as needed. Organize previously arranged materials and resources.
Schedule speakers and community trips	Have former students, parents, employers, agency workers, and other members of the community to enhance lesson plan presentation and classroom instruction.
Teach the lesson	Select lesson plans of interest and modify lessons or expand lessons when applicable. Include aspects of the curriculum from general education classes such as Math, Socials, and English.

| Post-test | Evaluate activities to determine whether SSN-students have met the lesson objectives. |