

CREATING SUSTAINABLE COOPERATIVE EDUCATION PROGRAMS

Abstract

In 1981 the United States Department of Education invested \$26,589,700 to move cooperative education forward as a national agenda. Previous research has found that approximately half of the cooperative education programs that received federal funding that year still exist thirty years later in 2011. This study will explore common success factors in the sustainability of those cooperative education programs. A survey was administered to existing cooperative education programs that received federal funding in 1981 to identify the changes in program size. These programs were also asked to rate the importance of potential characteristics of cooperative education programs. The results of this survey were analyzed to determine common characteristics of cooperative education programs that self reported growth within the last thirty years. Results suggest that programs with an increase in student growth had effective collaborations between employers and the cooperative education programs. This collaboration includes providing students with quality work experiences and assessing students' performances during the work term.

Creating Sustainable Cooperative Education Programs

Cooperative Education was founded at the University of Cincinnati in 1906 by Herman Schneider in order to integrate the theory and practice of engineering and has expanded to disciplines outside of engineering (Reilly, 2006). This methodology allows students to alternate school terms between the academic classroom and working full-time in paid, discipline specific positions. (Cedercreutz, 2008). In 1981 the United States Department of Education invested \$26,589,700 to move cooperative education forward as a national agenda.

Thirty years later, a two phase research project has been designed to uncover the evolution of cooperative education with respect to the operation of a cooperative education program at those institutions; whether there has been replacement by or expansion into two other forms of experiential learning (internships and service learning). Often in the US, internships and service learning experiences are unpaid and part time. The first portion of this study was to examine web sites of institutions who received Title VIII funding in 1981 to determine the status of their cooperative education program in 2011. Additionally the web sites were reviewed to find the contact information for the individuals responsible for the cooperative education programs. Phase II of the project was to determine characteristics of successful cooperative education programs and is the focus of this paper.

Methodology

In the first half of 2012, a survey was developed at the University of Cincinnati by past and present leading experts in experiential education. A past leader was chosen for the historical perspective and knowledge of the Title VIII grants, and two current leaders were chosen to add a more current understanding of the field.

The past leader's credentials included consultant to the US Department of Education and Reviewer of Title VIII Grants. This person was also elected leader of the two national co-op organizations, the Cooperative Education Association (now known as the Cooperative Education and Internship Association) and the Cooperative Education Division (now known as the Cooperative and Experiential Education Division) of the American Society of Engineering Education, during the time of Title VIII funding. The current leaders' credentials include experiences as Associate Provost and Director of a large scale cooperative education program, principle investigators on a U.S. Department of Education grant, editorial leadership of an academic journal in the field, and positions on the executive boards of the Cooperative Education and Internship Association, the Cooperative and Experiential Education Division, the World Association for Cooperative Education and the Accreditation Council for Cooperative Education.

The survey was designed to identify common characteristics of sustainable cooperative education programs. The survey comprised of two sets of questions. The first set of questions focused on the student experience, and the second set of questions focused on the organizational structure of the program. Both sets of questions were based upon a list of cooperative education characteristics identified by experts and listed in Table 1. The root for the first set of questions was:

Please select from the following list of descriptors those which best describe the majority of student experiences within your cooperative education program.

This root was followed by the list of characteristics for which respondents would select all that apply. This list included four questions designed to determine prevalent models of cooperative education, one question related to compensation, two questions regarding relationship to

discipline and career goals, three questions related to academic notation, five questions related to program definition, standards and policies, three questions related to physical location, two questions related to reporting lines, four questions related to program creation and operations, three questions related to mission alignment, three questions related to learning outcomes, and three questions related to students' academic area of study.

A second set of survey questions used a list of cooperative education programs' organizational structures of the program as seen in Table 2 and based on the root:

Please rate your agreement with the following statements.

A two-pole, five-choice Likert- like scale was provided for responses. The terms "Strongly Agree" and "Agree" were used at the high end, and the terms "Disagree" and "Strongly Disagree" were used at the low end. The option of "Neutral" was also provided. The survey included two questions related to leadership, one to communication, two to resources, three to commitment, five to involvement of all three parties in the co-op triad, five to institutional responsibility for program operations and two to preparation for program participation.

The contacts identified during the first phase of the project were sent email requests for participation with a link to the survey through Survey Monkey®. Three email requests were sent and responses collected between July and November 2012.

Results

The total number of responses was 75. A sustainable cooperative education program was defined as having more students enrolled in the program in 2011 than in 1981. For data analysis, the responses of 12 participants were eliminated because the response did not indicate the growth

or decline of their program size. An additional 23 surveys were eliminated because the number of students participating in their institution's program had not increased.

To identify common characteristics of sustainable cooperative education programs, institutions were asked to identify descriptors that describe the majority of student experiences at their institution. Results can be seen in Figure 1 and suggest that sustainable cooperative education programs have student experiences that are recognized by the institution on the student's academic record by 85% of all respondents. These experiences were identified as being discipline related by 88% of all respondents and career related by 83% of all respondents. Student experiences were identified as being assessed by the employer in 80% of responses and compensated / paid by the employer in 78% of responses. Respondents indicated that student experiences were offered in technical fields such as STEMM (Science, Technology, Engineering, Math and Medicine) in 71% of responses. Student experiences were aligned with institutional mission and college mission by 76% of responses.

In the second area of inquiry, respondents were asked to rate their agreement with a series of statements from Strongly Agree to Strongly Disagree. Averages of all responses can be seen in Figure 2. Results indicated that respondents had strongest agreement with the statements: accepted responsibility for developing work / learning experiences, had strong employer participation / strong base of employers, had strong employer support, accepted responsibility for direct and ongoing contact with employers and prepared students before sending them into the work / learning environment.

Discussion

This research focused upon those programs that have been able to grow student enrollment their cooperative education programs in the past thirty years from the time that they received federal funding in 1981. It is suggested that these institutions have found the key to sustainability in cooperative education within the United States of America. It can be argued that multiple key factors are needed in order to develop a sustainable cooperative education program. These key factors include a focus on positions that are discipline and career related, institutional notation on the student's academic record, assessment of the student experience by the employer and alignment with mission. These common factors indicate attention to the quality of the experience and recognition of importance of those experiences by academic notation. Furthermore those same sustainable programs agree with statements related to working directly with employers, taking responsibility for developing positions, creating a strong employer base and strong employer support, and preparing students before then enter the workplace. These statements indicate a focus upon meeting the needs of employers.

By condensing ideas down to their lowest common denominator there are two key foundational concepts of sustainable cooperative education programs. The first element is attention to the positions themselves as viable academic experiences that advance the mission of the educational program. It could be argued that providing discipline related work experiences is part of an early foundation for successful cooperative education programs since in 1981, 90% of coop institutions provided discipline related work experiences, and 50% of employers evaluated student achievement during the work term (McMullen, 1981). The second element is attention to the needs of the employer as an educational partner who has the important responsibility of providing and assessing student learning on behalf of the educational program. This foundation

was apparent during the Title VIII funding period as evidenced by studies by Dromgoole and McMullen. (Dromgoole, Nielsen, & Rowe, 1986) Without the employers providing positions for students cooperative education programs struggle to expand, and over half of the cooperative education programs in the United States and Canada had employers evaluate student work performance (Dromgoole, Nielsen, & Rowe, 1986) (McMullen, 1981). Both of those indicate an external focus upon the workplace itself as a learning environment. Therefore it can be argued that in order to create sustainable cooperative education programs, a focus upon the quality of the experience itself and its recognition as a viable educational methodology inside the institution is critical.

Conclusion

Given the significant financial investment in cooperative education by the federal government in the United States of America, a thorough investigation of sustainability is long overdue. The preliminary data suggests that an academic and employer collaboration focused on developing quality work experiences creates a foundation for sustainable cooperative education programs, though this theory offers an opportunity for a more thorough analysis. Given the small number of responses during the quantitative phase of the research, a third phase is warranted and will be conducted by this research group. Given the results of phase two, a case study methodology of sustainable programs will begin in 2014. The expectation is that a profile can be created of institutions that fit the parameters of these sustainable programs. The implication is that profiles can serve as best practices for institutions to model their cooperative education programs. While these efforts may not lead to conclusions that are above scientific reproach, it is important to advance our understanding of the key sustainability factors in order to evolve the concept of work integrated education and focus in on the models that are sustainable.

Table 1: Common Characteristics of Cooperative Education Programs

Common Characteristics of Cooperative Education Programs	
1	Full time work placements that alternate with full time academic terms
2	Part time work placements that occur in the same term as academic courses
3	A combination of full time and part time work placements as described above
4	Compensated (paid) by the employer
5	Discipline related
6	Career related
7	Recognized by the institution on the student's academic transcript
8	Required as part of an academic program
9	Program standards are widely understood and accepted in the campus community
10	Assessed by the employer
11	Assessed by the student
12	Assessed by the faculty
13	Happening in an urban environment
14	Reporting through the academic affairs structure on your campus
15	Reporting through the student affairs structure on your campus
16	Requires multiple terms are completed by each student
17	Operates as a centralized unit on the university level
18	Operates as a decentralized unit at the college / department level
19	Created by faculty members
20	Created by administrators
21	Operated by faculty members
22	Operated by administrators
23	Aligned with the institutional mission
24	Aligned with the college mission
25	Aligned with the departmental mission
26	Based upon institutionally prescribed learning outcomes
27	Based upon student developed learning outcomes
28	Based upon employer prescribed learning outcomes
29	Grade from the experience will impact students overall institutional GPA
30	Offered in a technical field such as STEMM (Science, Engineering, Technology, Math, Medicine)
31	Offered in a non-technical business field
32	Offered in a non-technical liberal arts field
33	Published definition of cooperative education approved at the institutional level
34	Published definition of cooperative education approved at the college level
35	Basic policies for cooperative education approved at the institutional level.
36	Basic policies for cooperative education approved at the college level
37	Have modern and appropriate physical facilities for effectively operating the program
38	Have physical facilities centrally located for ease of access for students and employers

Table 2: Organizational Structures of Cooperative Education Programs

Organizational Structures of Cooperative Education Programs	
1	Had a single leader with strong credentials
2	Program leader has appropriate rank/position title in institutional organizational structure
3	Effective communication links between faculty and program leader and staff
4	Had sufficient resources to operate a program of its size
5	Enjoyed strong institutional commitment to the program from upper administration
6	Has operated in a college / university culture in which it is valued
7	Had strong faculty support / commitment to co-op as an educational strategy
8	Has integrated student learning into the curriculum
9	Has enjoyed “champions” that have influence over decision makers
10	Has a separate budget that is under the control of the program leader
11	Criteria for assessing program performance is well defined and agreed to by those in key roles
12	Had strong faculty involvement
13	Had strong employer participation / strong base of employers
14	Had strong employer support
15	Had strong student participation
16	Accepted responsibility for developing work / learning experiences for students
17	Accepted responsibility for student placement rather than documenting student developed positions
18	The rotation schedule(s) for the alternation of school and work are well defined and provide predictability for students and employers
19	Accepted responsibility for direct and ongoing contact with employers
20	Prepared students before sending them into the work / learning experience
21	Prepared employers to accept students into the work environment through employer training

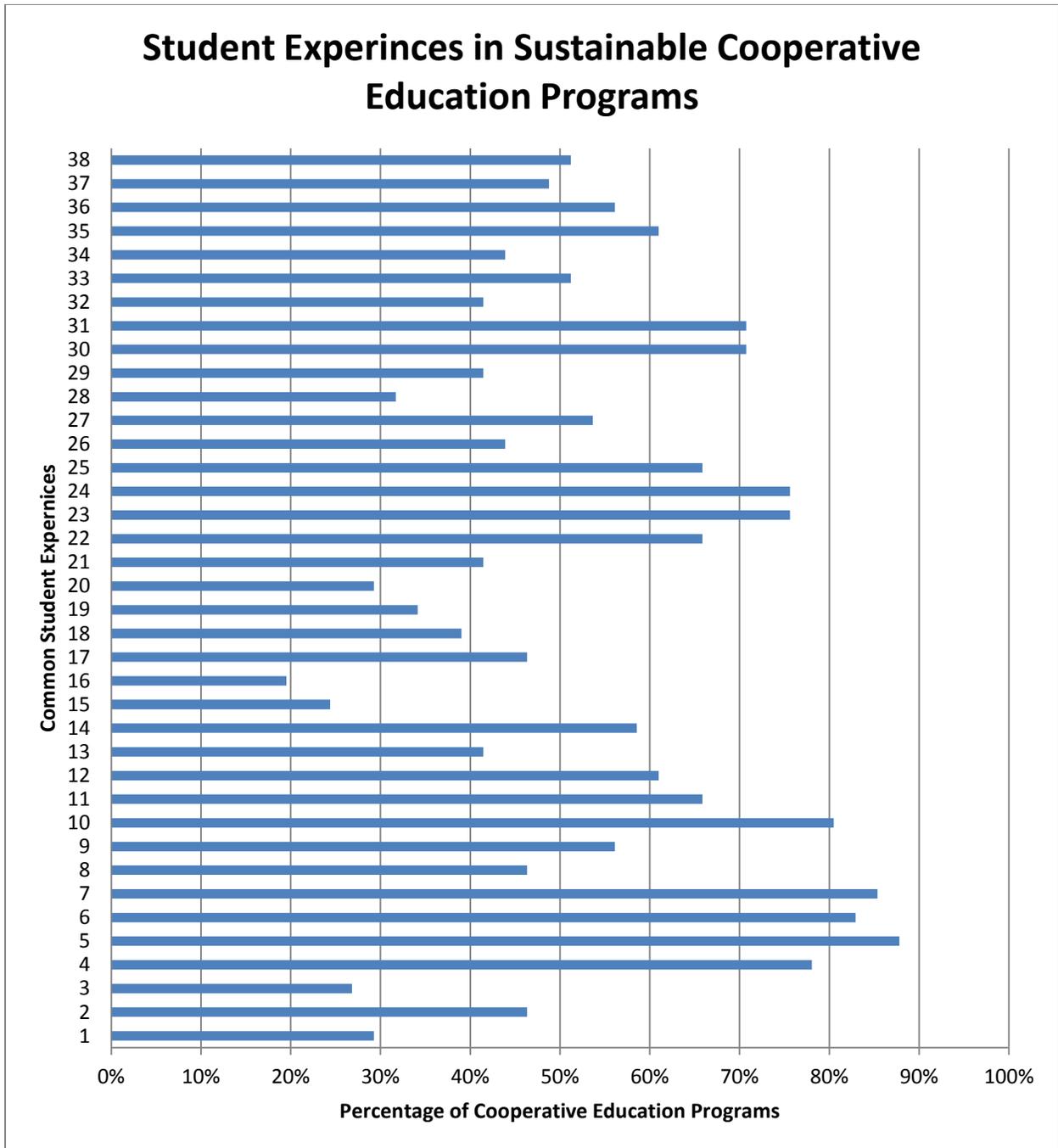


Figure 1: Common Characteristics of Sustainable Cooperative Education Programs. (The key for common student experiences can be seen in Table 1.)

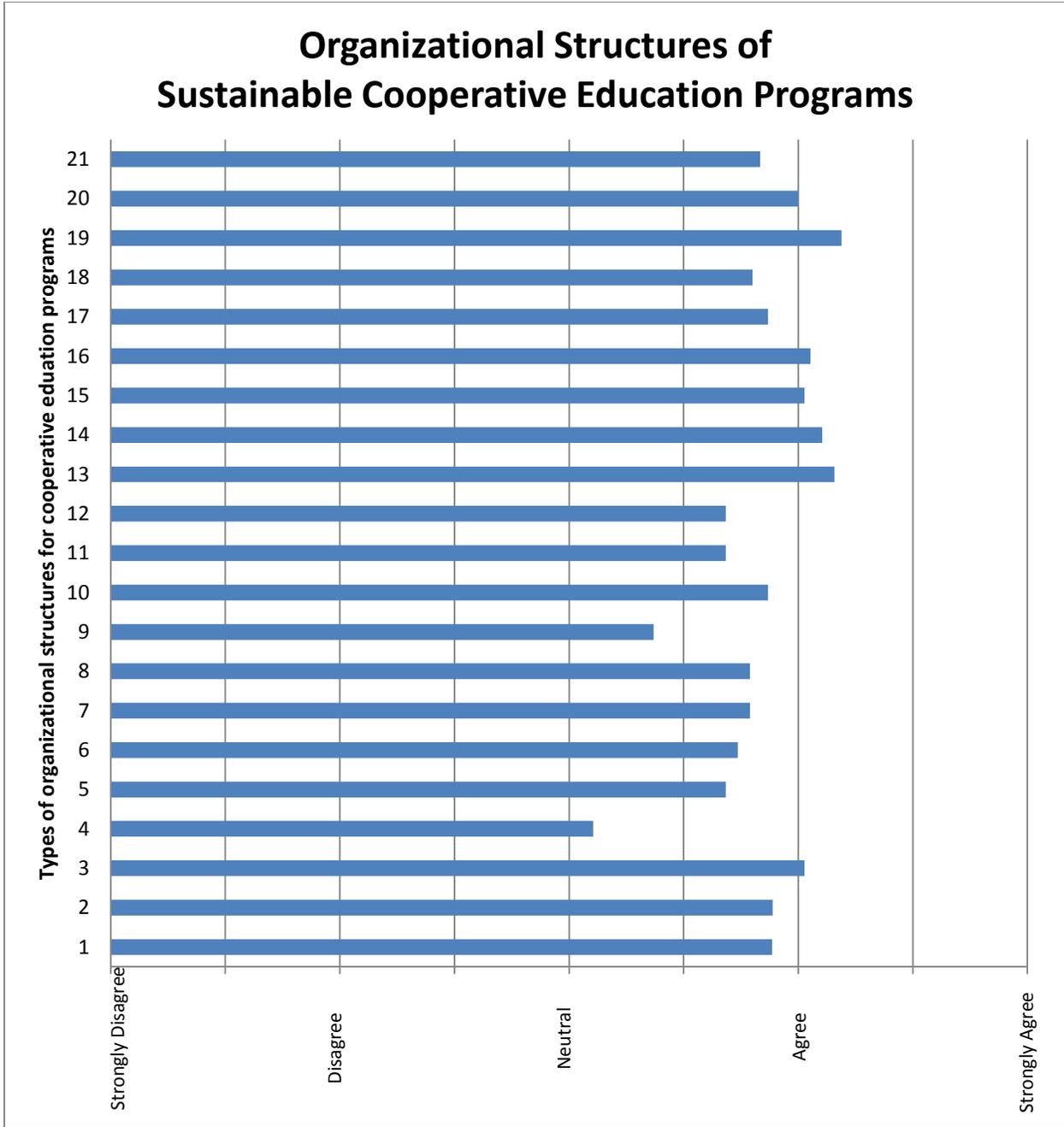


Figure 2: Organizational Structures of Cooperative Education Programs (The key for the organizational structures can be seen in Table 2.)

Works Cited

- Cedercreutz, C. C. (2008). *Leveraging Cooperative Education to Guide Curricular Innovation: The Development of a Corporate Feedback System for Continuous Improvement*. Cincinnati, Ohio: Center for Cooperative Education Research and Innovation.
- Dromgoole, J., Nielsen, R., & Rowe, R. (1986). Change Management in Cooperative Education: The Expansion and Development of Title VIII Comprehensive Large Scale Co-op Programs. *Journal of Cooperative Education*, 7-16.
- McMullen, W. (1981). The Impact of Title VIII Funding on Operational Characteristics of Two and Four Year Cooperative Education Programs. *Journal of Cooperative Education*, 67-78.
- Reilly, M. (2006). *The Ivory Tower and the Smokestack: 100 Years of Cooperative Education at the University of Cincinnati*. Cincinnati: Emmis Books.