Improving the Student Teaching Experience: A Delphi Study of Cooperating Teacher Needs

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Abstract

The student teaching experience has given student teachers the practical experiences they need to apply the theories and skills that they acquired in their collegiate coursework. The cooperating teacher has served in a crucial role in teacher education programs as a guide and leader of the student teaching experience. With cooperating teachers as the leaders in the most influential and critical part of the teacher education program, and with such a great impact on the next generation of agricultural educators, their support has remained vital to the success of agricultural education. This study used a three-phase Delphi approach to identify the knowledge, skills and support needed by cooperating teachers to provide an effective student teaching experience. We developed a panel of 22 experienced cooperating teachers who had previously hosted student teachers. The panel achieved consensus on six items. These results indicate a need among cooperating teachers for training and communication tools that would provide the best student teaching experiences. This study helps to identify the needs of cooperating teachers, in an effort to advance their skillset, and the positive experience of student teaching.

Keywords: cooperating teacher; preparation; student teachers; student teaching experience; teacher education; training

Introduction and Review of the Literature

In 2018, there were nearly 900 newly qualified agricultural education graduates (Smith et al., 2019). While this number comes close to closing filling the need for agricultural educators, less than 70% of the 2018 graduates planned on entering a position as an agricultural educator, further exacerbating the teacher shortage (Smith et al., 2019). Teacher educators have been challenged to determine why students do not enter the field of school-based agricultural education upon graduation (Kasperbauer & Roberts, 2007). Previous research has focused on the importance of cooperating teachers and their influence on preservice and early career teachers (Anderson, 2009; Clark et al., 2014; Kasperbauer & Roberts, 2007). The student teaching experience is the program's culmination and an opportunity for the student teacher to apply the theory and knowledge gained in the teacher education program. Although prior research has captured the importance of

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cooperating teachers (Clarke et al., 2014; Lave & Wegner, 1991), little focus has been put on theorizing cooperating teachers' work. The capstone student teaching experience allows student teachers to gain valuable knowledge and skills that will be applied in their early teaching career (Smalley et al., 2015). Teacher education programs must find ways to sufficiently train preservice teachers, ultimately paving a smooth pathway into the field of agricultural education. There is a need for literature that captures the professional needs of those who serve in a role that has been identified as the final step in forming the next generation of agricultural educators.

In consideration of possible approaches to combat attrition, the student teacher and cooperating teacher relationship has naturally come to the forefront (Kasperbauer & Roberts, 2007). Cooperating teachers can influence student teachers' development in a variety of ways, based on their use of best practices for mentoring (Clarke et al., 2014). Over thirty years ago, student teacher placement and the cooperating teacher's role were recognized as two of the most influential factors in the quality of a student teaching experience (Norris et al., 1990). Since that time, studies have explored this area of education, particularly the relationship between the cooperating teacher and the student teacher (Edwards & Briers, 2001; Roberts, 2006). With cooperating teachers playing such a key role in the development teacher in training, it is not surprising that student teachers feel that the cooperating teacher is one of the most critical aspects of their teacher preparation program (Clarke et al., 2014). In fact, because of this unique relationship and the cumulative nature of the experience, the overall level of happiness a student teacher leaves their internship with can ultimately impact the student teacher's choice to enter the field of teaching (Stewart et al., 2017).

A common thread in the literature has been the importance of mentoring through the cooperating teacher/student teacher relationship (Abell et al. 1995; Clarke et al., 2014; Crasborn et al, 2011; Hamman et al., 2006; Jones et al., 2014; Morrish, 2008). However, little research has examined the cooperating teacher's perspective on cooperating teacher preparation and assistance programs in agricultural education and its effectiveness. Crasborn et al. (2011) found with the role of mentoring as one of essential importance. Smalley et al. (2015) looked at the cooperating teacher's perspective on the student teaching experience and related activities. Russell and Russell (2011) explored nine cooperating teachers' viewpoints and their mentorship of student interns through a summer support program. Participants communicated that mentoring workshops should be a part of cooperating teacher preparation as the experience gave them the opportunity to share and discuss concerns about hosting a student teacher, made them more knowledgeable about the importance of mentoring, and advance their mentoring skills (Russell & Russell, 2011). The importance of cooperating teachers' training and development has not been consistent in research studies. Kahan (2002) found that only 8% of study participants cited their university coursework or in-service training as central to their foundational knowledge of supervising. Incidentally, most relied on their prior supervising experiences and the experience they had as a student teacher with their cooperating teacher (Kahan, 2002).

Although mentoring by a cooperating teacher is an important part of their role, cooperating teacher trainings have not been fully implemented in teacher preparation program (Gareis & Grant, 2014). Lack of training can lead to cooperating teacher deficiencies in mentorship abilities (Ganser, 2002). In a two-day training seminar, 99 cooperating teachers were engaged in mentor training (Forsbach-Rothman, 2007). A change in the way cooperating teachers viewed themselves during the student teaching experience was noted by Forsbach-Rothman (2007) after a two-day training for cooperating teachers. Cooperating teachers described transforming from leading the experience to participating in a shared learning experience for both cooperating teacher and student teacher (Forsbach-Rothman, 2007). In addition, research has also indicated a demand for more cooperation that includes the university faculty (Koerner et al., 2002; Smalley et al., 2015). The impact of this

triad to work together in communicating perceptions and instructional materials can help to better connect theory and practice (Barry, 2019; Johnson & Napper-Owen, 2009).

With the significant shortage of educators in agricultural education, training effective cooperating teachers is of the utmost importance (Barry, 2019; Foster et al., 2019). It is crucial to prepare and train cooperating teachers who will play such a vital role in developing future agricultural educators (Foster et al., 2015). Determining the preparation and support needs of cooperating teachers is essential in providing appropriate professional development and assistance. Roberts (2006) presents a model for cooperating teacher effectiveness was presented, with four major categories that emerged: teaching instruction, professionalism, student teacher/cooperating teacher relationships, and personal characteristics (Figure 1). The area of student teacher/cooperating teacher relationship can be strengthened through preparation programs and ongoing support to increase cooperating teacher effectiveness (Barry, 2019). However, the preparation and support need of cooperating teachers had not yet been identified.

Figure 1

Adapted version of Roberts' (2006) Model of Cooperating Teacher Effectiveness
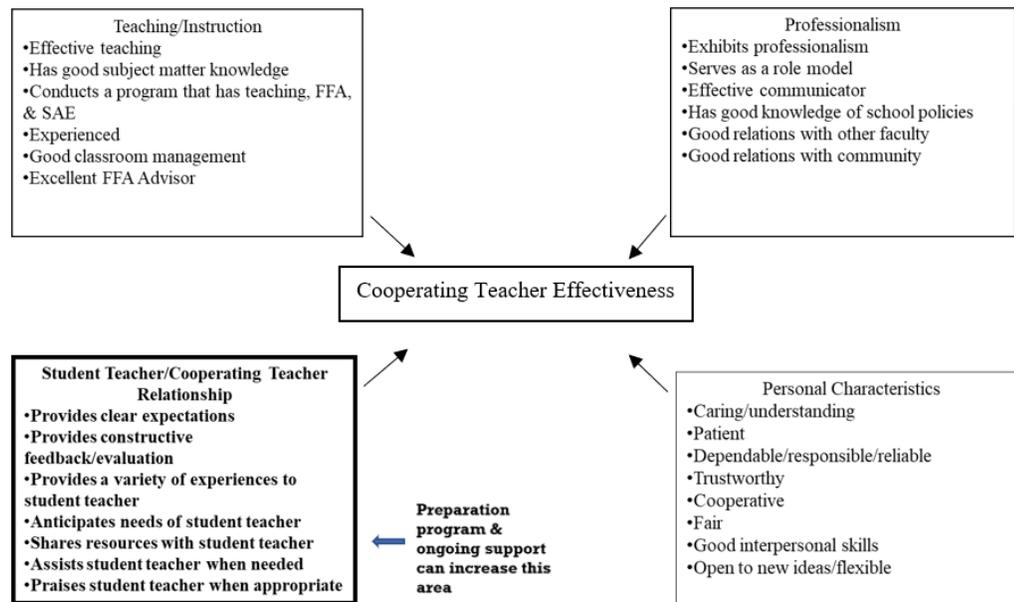
Conceptual Framework

The theoretical foundation for this study was rooted in constructivism, where assumptions are made that learners construct their own knowledge through experiences that are presented in complex social environments (Vijaya Kumari, 2014; Vygotsky, 1978). In addition, the lens of consensus building was used with the goal growing institutional capacity by allowing multiple perspectives of real-world situations (Cars et al., 2002; Innes, 2004). Consensus building has been utilized in various disciplines such as water policy and management, fisheries, conservation, urban planning, and education (Baron, 2008; Connick & Innes, 2003; Innes, 2004; McKearnan & Field, 1999; Wilson, 1999). Consensus building is vital to moving forward with solving multifaceted problems in an increasingly complex world (Burgess & Spangler, 2003). Consensus building

provides stakeholders the opportunity to give input in a joint effort, often providing higher quality solutions (Innes & Booher, 1999).

The role of the cooperating teacher provides educators with a new professional role, that even for veteran teachers, challenges educators to contribute to their profession in new ways (Ganser, 2002). Mentor teachers may find that their role as an effective mentor may be limited with classroom experience alone, and that their needs may extend further (Ganser, 2002). When practitioners gain a deeper understanding of cooperating teachers' needs, there is a greater ability to facilitate their role and the advancement of the work of cooperating teachers (Clarke et al., 2014).

To build consensus, needs assessments can provide an avenue to collect stakeholder and expert input on items of importance. Needs assessments are not new to education and have been utilized historically to determine the needs and appropriate training areas for agricultural educators (Barrick t al., 1983). Needs assessments guide teachers' training and professional development to better equip them with the necessary information and materials (DiBenedetto et al., 2018).

When looking at current practices for providing support and preparation, it is generally recognized that the work being done to prepare cooperating teachers professionally is insufficient (Glickman & Bey, 1990; Knowles & Cole, 1996). To move away from an untenable cycle of assumptions about cooperating teacher needs, identifying the professional needs of cooperating teachers through needs assessment and consensus building can help address shortcomings in teacher education programs and their partnership with cooperating teachers (Barry, 2019). Previous studies have shown that professional development and support can help develop mentoring skills of cooperating teachers, and in turn, strengthen the effectiveness of the student teaching experience and the success of new teachers entering the profession (Russell & Russell, 2011; Sayeski & Paulsen, 2012). Experienced cooperating teachers who have served in this role have the experience needed to identify gaps in their preparation and support to guide in their mentoring and supervision practices with the student teacher (Barry, 2019). Before this study, the needs of cooperating teachers had not yet been assessed.

Purpose and Objectives

The purpose of this study was to determine the specific needs for preparation and support components for cooperating teachers in agricultural education. The objectives of this study were to identify the knowledge and skills needed by agriscience cooperating teachers prior to supervising student teachers, determine the support needed by agriscience teachers during the semester in which they supervise student teachers, and determine if consensus on cooperating teacher needs can be achieved.

Methods

This study utilized the Delphi technique to determine the preparation and support needs of cooperating teachers. Delphi is a broadly applied method for consensus building through questionnaires given in a series to experts in a given field (Hsu & Sandford, 2007). The Delphi technique consists of a research-based method to obtain group consensus (Warner, 2015). This process is utilized when information about an area is not readily available but is beneficial for gaining perspective from stakeholders, without any geographical limitations (Brodeur et al., 2011; Warner, 2015). The Delphi panel was comprised of Florida secondary agriscience teachers who had served as cooperating in collaboration with the Department of Agricultural Education and Communication (AEC) at the University of Florida and the teacher education program. Cooperating

teacher rosters were obtained from the teacher education coordinator at the University of Florida and served as the source of contact information when reaching out to the targeted population.

An email invitation was sent to 43 cooperating teachers who served in their role between 2016-2018. Participants were asked to respond with their willingness to participate and phone number if they were interested in further discussing the study. Twenty-two (51%) teachers agreed to participate in the Delphi study, well above the threshold of 13 panelists as recommended by Dalkey (1969; 2002). Forty-nine percent of respondents did not respond or declined the invitation to participate.

Data Collection and Analysis

This study utilized a sequence of online surveys to collect data from our expert panel. The surveys were administered using Qualtrics® software for all three iterations. The first round of the study used a survey with the open-ended item:

"Based on your experiences as a cooperating teacher, what kinds of support and/or preparation would have benefitted your experience with the student teacher(s)/intern(s) that you have previously hosted?"

Although Delphi studies do not have a definitive number of iterations, most studies find consensus within three iterations (Custer et al., 1999; Ludwig, 1997). Follow-up phone calls were made to participants one week after the initial link was sent. Overall a 95% ($N = 21$) response rate was achieved for the first round. Twenty individual items were identified after combining similarly worded responses. The researcher worked with a team of researchers to compare results for the removal of repeated responses.

For round two, each of the 22 participants was asked to rate the identified in the first round using a five-point, Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree). A 77% ($N = 17$) response rate was achieved for round two. The survey also provided an open response for any additional input that respondents wanted to contribute. A threshold was set of at least two-thirds of the respondents selecting a strongly agree or agree as the required level of consensus and inclusion into the third round of the survey (Conner et al., 2013).

In the third and final round, participants were asked to repeat the same process as they did in round two. The same seventeen cooperating teacher panelists that responded in round two, responded again in the third round, with a 77% response rate that reached a consensus on six items.

Rigor and Trustworthiness

Several procedures were followed in this study to ensure that credibility was maintained. A team of faculty from the agricultural education and communication department engaged in a peer review process where perspectives on the data sets were reviewed from raw data, open coding, and thematic organization. Each team member provided their input and insight on the organization of responses, and any discrepancies were then agreed upon by the researcher and the peer evaluators. Constant comparative methods were employed during the open coding of the first-round of data to help prevent any bias (Yin, 2016).

Debriefing of the research process was reviewed and given constructive feedback to strengthen the study's methods and analyses. The Delphi study allowed for a second lens to help establish validity and trustworthiness. This lens was that of the participant, which allowed for open

responses and additional input in the subsequent round of data collection, a form of member checking (Creswell & Miller, 2000).

The selection of panelists to participate in the Delphi is thought of as one of the most vital steps in the process, potentially strengthening the study (Hsu & Sandford, 2007). Panelists from round two and three in this study collectively had a $M = 18.35$ years of teaching, with a $SD = 10.95$ ($n = 17$), having previously hosting a $M = 3.88$ interns, with a $SD = 3.61$ ($n = 16$). The experience of the panelists as current agricultural educators, and their role as previous mentor cooperating teachers of student teachers, gave the perspective that the researcher sought in this study.

Results

Round 1

A total of 41 open-ended responses were collected in round one, based on the open-ended question that asked, "Based on your experiences as a cooperating teacher, what kinds of support and/or preparation would have benefitted your experience with the student teacher(s)/intern(s) that you have previously hosted?" After combining responses that overlapped in their context and meaning, there were 20 unique responses that were identified from 22 participants (91%) that were then utilized in the second iteration. Themes focused on the many areas of need such as needs for examples and explanation of student teaching handbook forms; meeting with their intern before the start of the internship; a cooperating teacher workshop or training; clarification on the expectation of the cooperating teacher; and instruction on the internship handbook, including daily procedures and expectations. Participants also stated that they wanted to learn more about their interns' strengths and abilities before the start of the internship and that there would be benefit from having early communication between cooperating teacher and student teacher. Other unique responses included the desire to have copies of university lesson templates; seeing the intern seminar topics before interns go to their seminars; the desire to attend an agriculture education course with their student teacher before they intern; the need to meet with UF faculty and the intern together before the internship starts; and seeing samples of the interns' classwork among others.

Round 2

Seventeen of the 22 individuals responded in the second round, for a 77% response rate. In the second round, participants were asked to rate their level of agreement with the 20 preparation and support needs identified in round one, or if there were any items they felt needed to be added to the list of items. Consensus was achieved on seven items, while the other 13 did not reach the two-thirds agreement requirement and were removed for the third iteration (Table 1). Consensus was reached on seven items as indicated in Table 2. Major themes included the desire to have examples of student teaching handbook components, copies of the lesson plan templates from University/AEC courses, the hosting of a cooperating teacher workshop, being able to learn about the intern's strengths and abilities prior to the internship beginning, the desire to attend a meeting with the intern before the start of the internship to get to know them better and plan, financial support to attend a meeting with the intern before the internship, and the need for more strategies to be put in place for establishing early communication with the cooperating teacher from the student teaching intern.

Table 1
Level of Agreement on Items during Round Two

Identified Need	% agreement
I would like to be able to attend a meeting(s) with my intern prior to the start of their internship, to get to know each other and plan for the semester.	94%
I would like to have the opportunity to learn more about the intern's strengths/abilities before the internship begins.	88%
I would like to have a copy of the student teachers' lesson plan template that they use in their University/AEC courses.	82%
It would benefit the student teaching experience if more strategies were put in place to establish early communication/contact between the cooperating teacher and the student teacher.	82%
I would benefit from examples/explanations of forms and reports that are used from the student teaching handbook.	77%
I would benefit from a cooperating teacher workshop/meeting.	71%
I would like to have financial support to pay for a substitute while attending a meeting with my intern, prior to the start of the internship.	71%
I would like to have instruction on the internship handbook, including daily procedures and expectations.*	65%
I would like to have financial support to help pay for FFA related travel for my intern.*	59%
I would like to have further clarification on the expectations for the cooperating teachers during the student teaching experience.*	59%
I would like to meet with UF faculty and my intern before the start of the internship.*	59%
I would like to see examples of some of the work that my intern has completed during their coursework at UF.*	59%
I would benefit from training and support on how to appropriately document feedback to my intern.*	59%
I would like to have an outline of the intern seminar topics before my intern goes to the seminar.*	53%
I would like to be able to obtain input and advice from experienced cooperating teachers.*	53%
I would like to gain access to feedback from previous interns, to obtain additional perspective.*	53%
There needs to be updates/modifications to the weekly evaluation form, including more applicable and meaningful language.*	44%**
I would like to be included in the communication of weekly forms from the intern to the university supervisor.*	35%
The feedback forms need revisions, streamlining their use.*	35%
I would like to have the opportunity to sit in and attend a UF/AEC class that my intern is enrolled in, prior to the start of the internship.*	29%

*Item did not achieve consensus and was removed for the third round.
**Item was missing a response, with n=16

Round 3

In the third round, only items that reached consensus in round two were sent to respondents for their feedback. Study participants were asked to repeat the same process in round three as they did in round two so that any changes in their agreement or opinion could be reassessed. Consensus was achieved on six of the seven items that were included in round three (see Table 3). Seventeen of the cooperating teacher panelists responded in this round, with a 77% response rate. Only one item, financial support to attend meetings, did not gain consensus.

Table 2
Level of Agreement on Items during Round Three

Identified Need	% agreement
I would like to have a copy of the student teachers' lesson plan template that they use in their University/AEC courses.	94%
I would like to be able to attend a meeting(s) with my intern prior to the start of their internship, to get to know each other and plan for the semester	88%
I would benefit from a cooperating teacher workshop/meeting.	88%
It would benefit the student teaching experience if more strategies were put in place to establish early communication/contact between the cooperating teacher and the student teacher.	88%
I would benefit from examples/explanations of forms and reports that are used from the student teaching handbook.	82%
I would like to have the opportunity to learn more about the intern's strengths/abilities before the internship begins.	77%
I would like to have financial support to pay for a substitute while attending a meeting with my intern, prior to the start of the internship. *	53%

*Item did not achieve consensus
Note. n=17

Conclusions

The specific needs for preparation and support components for cooperating teachers in agricultural education was determined in this study. Objective one tasked the researcher with identifying the knowledge and skills needed by cooperating teachers prior to supervising student teachers. Consensus from the cooperating teacher panel revealed six items, including the desire to have examples of student teaching handbook components, lesson plan templates, and the hosting of a cooperating teacher workshop. In addition, panelists identified the following needs: to be able to learn about the interns' strengths and abilities before the beginning of the internship, receive financial support to attend a meeting with the intern before the internship, and to have strategies put in place for establishing early communication with the cooperating teacher from the student teaching intern.

Objective two sought to determine the needs of cooperating teachers during the student teaching internship. Although round one and two of the Delphi revealed items related to support during the student teaching experience, none of these items reached consensus in the third iteration (Table 3).

Objective three was to determine if consensus on cooperating teacher needs could be achieved. This was successful, with the Delphi technique used in reaching consensus from a cooperating teacher panel on agreed upon preparation and support needs of cooperating teachers. Cooperating teachers require preparation and support for their role as a mentor in the student

teaching internship experience. Zeichner (2010) described clinical experiences for cooperating teachers as "unguided and disconnected" (p.91). A review of the literature also finds that cooperating teachers lack the training needed to provide high quality mentoring that supports student teachers (Clarke et al., 2012). Cooperating teachers play a crucial role in developing preservice teachers and serve as one of the most critical pieces of student teachers' preparation program (Clarke et al., 2014). Due to this unique relationship and the cumulative nature of the experience, students' overall happiness with the internship can significantly affect the choice to enter the field of teaching or find another career path (Stewart et al., 2017). This paper represents the most pervasive needs of cooperating teachers that can be used to support them in their pivotal role.

Implications and Recommendations

Practitioners

Teacher preparation programs should consider established early training for cooperating teachers and early communication with the prospective student teacher. Cooperating teacher workshops offer the opportunity to connect with mentors within the university's teacher preparation program and begin developing a relationship and rapport with the student teacher that will spend most of a semester working with the cooperating teacher. Needs assessments are recommended for providing valuable insight into the preparation and assistance needs of cooperating teachers. This information could be utilized to put specific practices where needed or where they were weakly supported.

Prior to this study, there had not yet been an evaluation of cooperating teacher preparation and support needs both before and during the student teaching experience. The panel of experienced cooperating teachers' consensus on items suggests a need to not only host a cooperating teacher workshop or meeting, but to include the student teacher in this interaction. Panelists expressed the need for multiple items that could easily be incorporated into a workshop or meeting, including the review of student teaching forms that are used during the internship, lesson templates that student teachers used in their teacher preparation program, and the opportunity for the student teacher and cooperating teacher to learn more about each other's strengths and weaknesses.

Delphi results that did not meet consensus, but that had an agreement level of 50% or greater should also be considered by practitioners in teacher preparation programs. Items could be incorporated into a cooperating teacher workshop, and include training and support on how to appropriately document feedback to the intern, instruction on the internship handbook, with emphasis on which daily procedures and expectations, and the inclusion of University faculty and supervisors in the workshop sessions. Other recommendations included a training session that provides feedback from previous interns and cooperating teachers for additional perspective, input and advice. Training cooperating teachers had been found to improve observation skills and the quality of feedback (Phelps et al., 1986; McInryre et al., 1998; Guyton et al., 1990). Previous research indicates a need to provide knowledge and skills to cooperating teachers in advance of the student teaching internship (Andrews, 1950; Nolan et al., 2011; Roberts, 2006;). This Delphi helped shed light on the knowledge and skills needed by cooperating teachers, and could be replicated by University teacher preparation faculty at other institutions. Results from this study are not generalizable, due to the small sample size. Input from cooperating teachers helped bring a voice to this vital group, strengthening the potential for teacher success and retention (Forsbach-Rothman, 2007).

Practice

Recommendations for practice include: 1) Prior to hosting a student teacher, there should be early communication that includes the on-boarding of cooperating teachers and information that clearly includes expectations, review of forms and evaluations, time to plan with the student teacher and learn about their personality attributes, and the communication of best practices for mentoring and their impact on the success of the student teaching experience and the trajectory of the student teacher into a successful career teaching. 2) During the student teaching internship, cooperating teachers need constant support from the university. Regular communication to cooperating teachers could serve as a reminder for the completion of forms and evaluations, as well as upcoming dates for intern seminar or meetings.

Research

Not only is it recommended to replicate this study in other teacher preparation programs, it is also recommended that teacher preparation programs continue to collect feedback from cooperating teachers on a regular basis, making adjustments to the types of preparation and support for cooperating teachers that best fits their needs. This study found consensus for cooperating teacher preparation and support needs. Although there has been research conducted on cooperating teacher effectiveness (Roberts & Dyer, 2004; Roberts, 2006), further investigation into cooperating teacher preparation and support, and professional development can help bring a wider frame into the development of theory to support this gap in teacher preparation programs. Researcher are encouraged to explore the establishment of a cooperating teacher community for support during the internship experience. For example, teacher preparation programs could establish Zoom™ sessions on a regular basis, where mentor teachers can be supported through planned or open discussion. In addition, opportunities to share as a group could be supported via a discussion board through a website or other platform.

It is recommended that further research be conducted in other regions or states to evaluate the preparation and support needs of cooperating teachers to determine appropriate measures for mitigating those needs. Replication of this study is recommended to determine whether there is consistency among other cooperating teachers throughout the nation for similar preparation and support needs. Additional studies should follow this Delphi, where the identified needs for training and support found in this study are evaluated for their efficacy. The results of this research of this nature should be disseminated to stakeholders and populations of interest, including experienced and future cooperating teachers and teacher preparation programs.

References

Abell, S.K., Dillon, D.R., Hopkins, C.J., McDerney, W.D., & O'Brien, D.G., (1995). Somebody to count on: mentor/intern relationships in a beginning teacher internship program. *Teaching & Teacher Education*, *11*(2), 173-188. https://doi.org/10.1016/0742-051X(94)00025-2

Anderson, Derek. 2009. The Impact of Cooperating Teachers on the Teaching Perspectives of Student Teachers. *The International Journal of Learning: Annual Review*, 16 (1), 119-134. https://doi.org/10.18848/1447-9494/CGP/v16i01/45883

Andrews, L.O. (1950). Experimental programs of laboratory experiences in teacher education. *Journal of Teacher Education, 1*(4), 259-267. https://doi.org/10.1177/002248715000100402

Baron, D. (2008). Consensus Building: A Key to School Transformation. *Principal Leadership, 8*(6), 56-58.

Barrick, R. K., Ladewig, H. W., & Hedges, L. E. (1983). Development of a systematic approach to identifying technical in-service needs of teachers. *Journal of American Association of Teacher Educators in Agriculture, 24*(1), 13-19. https://doi.org/10.5032/jaatea.1983.01013

Barry, D. (2019). *Evaluation of student teacher supervision and mentoring through the preparations and assistance for cooperating teachers (PACT) program for assisting and supporting agriscience cooperating teachers in Florida* (Publication No. 27546454) [Doctoral dissertation, University of Florida]. ProQuest Dissertations Publishing.

Brodeur, C. W., Higgins, C., Galindo-Gonzalez, S., Craig, D. D., & Haile, T. (2011). Designing a Competency-based New County Extension Personnel Training Program: A Novel Approach. *Journal of Extension, 49*(3). https://joe.org/joe/2011june/a2.php

Burgess, H. & Spangler, B. (2003). *Consensus Building.* https://www.beyondintractability.org/essay/consensus_building

Cars, G., Healey, P., Madanipour, A., De Magalhaes, C. (Eds.) (2002). *Urban Governance, Institutional Capacity and Social Milieux*. Routledge, https://doi.org/10.4324/9781315202877

Clarke, A., Triggs, V., & Nielsen, W. (2014). Cooperating teacher participation in teacher education: A review of the literature. *Review of Educational Research, 84*(2), 163-202. https://doi.org/10.3102/0034654313499618

Conner, N. W., Roberts, T. G., & Harder, A. (2013). Competencies and experiences needed by entry level international agricultural development practitioners. *Journal of International Agricultural and Extension Education, 20*(1), 19 – 32. https://doi.org/10.5191/jiaee.2013.20102

Connick, S. & Innes, J.E. (2003). Outcomes of collaborative water Policy making: Applying complexity thinking to evaluation. *Journal of Environmental Planning and Management*, *46*(2), 177-197. https://doi.org/10.1080/0964056032000070987

Crasborn, F., Hennissen, P, Brouwer, N., Korthagen, F., & Bergen, T. (2011). Exploring a two-dimensional model of mentor teacher roles in mentoring dialogues. *Teaching and Teacher Education, 27*(2), 320-331. https://doi.org/10.1016/j.tate.2010.08.014

Creswell, J. W. & Miller, D. L. (2000). Determining validity in qualitative research. *Theory into Practice, 39*(3), 124-130. https://doi.org/10.1207/s15430421tip3903_2

Custer, R. L., Scarcella, J. A., and Stewart, B. R. (1999). The modified Delphi technique: A rotational modification. *Journal of Vocational and Technical Education, 15*(2), 1-10.

Dalkey, N. C. (2002). Toward a theory of group estimation. In H. A. Linstone & M. Turoff (Eds.), The Delphi method: Techniques and applications [electronic version] (pp. 231-256). New Jersey Institute of Technology.

Dalkey, N. C. (1969). The Delphi method: An experimental study of group opinion. The Rand Corporation.

Diaz, J. M., Warner, L. A., Webb, S., & Barry, D. (2018). Obstacles for school garden program success: Expert consensus to inform policy and practice. *Applied Environmental Education and Communication*, *18*(3), 195-206. https://doi.org/10.1080/1533015X.2018.1450170

Diaz, J. M., Warner, L. A., & Webb, S. T. (2018). Outcome Framework for School Garden Program Development and Evaluation: A Delphi Approach. *Journal of Agricultural Education, 59*(2), 143-165. https://doi.org/10.5032/jae.2018.02143

DiBenedetto, C. A., Willis, V. C., & Barrick, R. K. (2018). Needs assessments for school-based agricultural education teachers: A review of literature. *Journal of Agricultural Education*, *59*(4), 52-71. https://doi.org/10.5032/jae.2018.04052

Duckett, J., & Carter, G. (1975). *The delphi technique for curriculum planning. A-1 setting instructional goals, document no. 10a. Independent study training material for professional supervisory competencies.* https://login.lp.hscl.ufl.edu/login?url=https://search-proquest-com.lp.hscl.ufl.edu/docview/63990978?accountid=10920

Edwards, M. C., & Briers, G. E. (2001). Cooperating teachers' perceptions of important elements of the student teaching experience: A focus group approach with quantitative follow-up. *Journal of Agricultural Education, 42(*3), 30-41. https://doi.org/10.5032/jae.2001.03030

Etikan, I., Abubakar, M., & Alkassim, R. S. (2015). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1-4. https://doi.org/10.11648/j.ajtas.20160501.11

Forsbach-Rothman, T. (2007). The mentor-role: is training necessary*? Journal of In-service Education, 33*(2), 245-247. https://doi.org/10.1080/13674580701293135

Foster, D. D, Lawver, R. G., & Smith, A. R. (2015). *National Agricultural Education Supply and Demand Study, 2015 Executive Summary.* http://aaaeonline.org/resources/Documents/NSD%20Summary_2015.pdf

Ganser, T. (2002) How Teachers Compare the Roles of Cooperating Teacher and Mentor. *The Educational Forum*, *66*(4), 380-385. https://doi.org/10.1080/00131720208984858

Gareis, C.R. & Grant, L.W. (2014). The efficacy of training cooperating teachers. *Teaching and Teacher Education*, *Volume 39*, 77-88. https://doi.org/10.1016/j.tate.2013.12.007.

Glickman, C. D., & Bey, T. M. (1990). Supervision. In W. R. Houston, M. Haberman, & J. Sikula (Eds.), *Handbook of research on teacher education* (pp. 549-566). Macmillan.

Hamman, D., Olivárez Jr., A., Lesley, M., Button, K., Chan, Y.K., Griffith, R., & Elliot, S., (2006). Pedagogical influence of interaction with cooperating teachers on the efficacy beliefs of student teachers. *The Teacher Educator*, *42*(1), 15-29. https://doi.org/10.1080/08878730609555391

Hsu, C.C. and Sandford, B.A. (2007). The Delphi Technique: Making Sense of Consensus. Practical Assessment, Research, and Evaluation: Volume 12. Article 10. DOI: https://doi.org/10.7275/pdz9-th90 Available at: https://scholarworks.umass.edu/pare/vol12/iss1/10

Innes, J.E. (2004). Consensus building: clarifications for the critics. *SAGE Publications*, *3*(1), 5-20. https://doi.org/10.1177/1473095204042315

Innes, J.E., & Booher, D.E. (1999). Consensus building and complex adaptive systems: a framework for evaluating collaborative planning. *Journal of the American Planning Association, 62*(4), 460-472. https://doi.org/10.1080/01944369908976071

Johnson, I.L., Napper-Owen, G. (2009). The Importance of Role Perceptions in the Student Teaching Triad. *The Physical Educator*, *68*(1), 44-56. https://js.sagamorepub.com/pe/article.view/28/21

Jones, C. K., Kelsey, K. D., & Brown, N. R. (2014). Climbing the steps toward a successful cooperating teacher/student teacher mentoring relationship. *Journal of Agricultural Education*, *55*(2), 33–47. https://doi.org/10.5032/jae.2014.02033

Kasperbauer, H. J., & Roberts, T. G. (2007). Influence of the relationship between the student teacher and cooperating teacher on student teacher's decision to enter teaching. *Journal of Agricultural Education*, *48*(1), 8-19. https://doi.org/10.5032/jae.2007.01008

Koerner, M., Rust, F.O., & Baumgartner, F. (2002). Exploring roles in student teaching placements. *Teacher Education Quarterly*, *29*(2), 35-58. https://www.researchgate.net/publication/234767934_Exploring_Roles_in_Student_Teaching_Placements

Knowles, G. J., & Cole, A. L. (1996). Developing practice through field experiences. In F. B. Murray (Ed.), *The teacher educator's handbook: Building a knowledge base for the preparation of teachers* (p. xv). Josse.

LaMorte, W. (2020, November 17). Behavior Change Models: The Theory of Planned Behavior. Boston University School of Public Health. https://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories3.html

Lave, J., & Wenger, E. (1991). Legitimate Peripheral Participation. In *Situated Learning: Legitimate Peripheral Participation* (Learning in Doing: Social, Cognitive and Computational Perspectives, pp. 27-44). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511815355.003

Ludwig, B. (1997). Predicting the future: Have you considered using the Delphi methodology? *Journal of Extension, 35*(5), 1-4. http://www.joe.org/joe/1997october/tt2.html

McKearnan, S., & Field, P. (1999). Conducting a Conflict Assessment. In L. Susskind, S. McKearnan & J. Thomas-Larmer (Eds.), *The consensus building handbook: A comprehensive guide to reaching agreement* (pp. 99-136) SAGE Publications, Inc. http://dx.doi.org/10.4135/9781452231389.n21

Morrish, D. (2008). Relationships between Agricultural Science Student Teacher Placement Methodology and the Quality of the Student Teacher Experience. *NACTA Journal*, *52*(1), 25-32. http://www.jstor.org/stable/43766073

Nolan, J. F. & Hoover, L.A. (2011). *Teacher Supervision and Evaluation: Theory into Practice.* Wiley/Jossey-Bass education.

Norris, R. J., Lark, Jr., A., & Briers G. E. (1990). Selection of student teaching centers and cooperating teachers in agriculture and expectation of teacher educators regarding these components of a teacher education program: A national study. *Journal of Agricultural Education*, *31*(1), 58-63. https://doi.org/10.5032/jae.1990.01058

Phelps, L., Schmitz, C. D., & Boatright, B., (1986). The effects of halo and leniency on cooperating teacher reports using Likert-type rating scales. *Journal of Educational Research, 79*(3), 151-154. https://doi.org/10.1080/00220671.1986.10885668

Roberts, T. G. (2006). Developing a model of cooperating teacher effectiveness. *Journal of Agricultural Education, 47*(3), 1-13. https://doi.org/10.5032/jae.2006.03001

Roberts, T.G. & Dyer, J.E. (2004). Characteristics of Effective Agriculture Teachers. Journal of Agricultural Education, 45(4). https://doi.org/10.5032/jae.2004.04082

Russell, M. & Russell, J. (2011). Mentoring Relationships: Cooperating Teachers' Perspectives on Mentoring Student Interns. *The Professional Educator*, *35*(2). https://files.eric.ed.gov/fulltext/EJ988202.pdf

Sayeski, K. L., & Paulsen, K. J. (2012). Student teacher evaluations of cooperating teachers as indices of effective mentoring. *Teacher Education Quarterly, 39*(2), 117-130. https://files.eric.ed.gov/fulltext/EJ989787.pdf

Skulmoski, G.J., Hartman, F.T., & Krahn, J. (2007). The Delphi Method for Graduate Research. *Journal of Information Technology Education, 6*, 1-21. http://jite.org/documents/Vol6/JITEv6p001-021Skulmoski212.pdf

Smalley, S. W., Retallick, M. S., & Paulsen, T. H. (2015). Cooperating teachers' perspectives of student teaching skills and activities. *Journal of Agricultural Education, 56*(4), 123-137. https://doi.org/10.5032.jae.2015.04137

Smith, A. R., Lawver, R. G., & Foster, D. D. (2019). *National Agricultural Education Supply and Demand Study, 2018 Executive Summary.* http://aaaeonline.org/resources/Documents/NSD2018%20Summary%20(1).pdf

Stewart, J., Lambert, M. D., Ulmer, J. D., Witt, P. A, & Carraway, C. L. (2017). Discovering quality in teacher education: Perceptions concerning what makes an effective cooperating teacher. *Journal of Agricultural Education, 58*(1), 280-299. https://doi.org/10.5032/jae.2017.01280

Trafimow, D. (2009). The theory of reasoned action: A case study of falsification in psychology. *Theory and Psychology, 19*(4), 501-518. https://doi.org/10.1177/0959354309336319

Turoff, M., & Hiltz, S. R. (1995). Computer-based Delphi processes. In M. Adler and E. Ziglio, *Gazing into the Oracle: The Delphi method and its application to social policy and public health* (pp. 56-88). Jessica Kingsley Publishers.

Vijaya Kumari, S.N. (2014). Constructivist approach to teacher education: an integrative model for reflective teaching. *Journal on Educational Psychology, 7*(4), 31-40.

Vygotsky, L. V. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.

Warner, L. (2015). *Using Delphi technique to achieve consensus: A tool for guiding extension programs*, (AEC521). http://edis.ifas.ufl.edu/wc183

Wilson, D. C. (1999, Nov 11 - 12). Fisheries science collaborations: the critical role of the community [Conference Presentation]. *Conference on Holistic Management and the role of Fisheries and Mariculture in the Coastal Community, Tjarno Marine Biological Laboratory, Sweden. https://link.springer.com/chapter/10.1007/1-4020-3778-3_19*

Yin, R. K. (2016). *Qualitative Research from Start to Finish*. The Guilford Press.

Zeichner, K. (2010). University-based teacher education: rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *Journal of Teacher Education, 61*(1-2), 89-99. https://doi.org/10.1177/0022487109347671