

TOWARD STUDENT-CENTERED TEACHER EDUCATION PROGRAMS

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Abstract: *The impetus for this conceptual article was the authors' reflections on their experiences as teachers and teacher educators in various Asian countries (China, Indonesia, Malaysia, Japan, Philippines, Singapore, and Vietnam), combined with their support for Social-Cognitive Theory and student-centered learning. Of course, great variations exist within and between countries in terms of development programs for educators. The present article examines actions by lecturers, policy makers, and other stakeholders which might enhance teacher education by helping it evolve to be more student-centered, thereby better preparing teachers to be lifelong learners and for those teachers to use a student-centered approach with their own students. These actions involve five possible areas: (1) students doing more research; (2) increasing learners' roles in course design; (3) going beyond basic teaching skills and the basic curriculum; (4) building the social side of learning; and (5) searching for new knowledge and learning tools.*

Keywords: *teacher education, Social-Cognitive Theory, student-centered, adult learning, course design*

Introduction

Textbooks for teacher education programs, as well as academic articles about teacher education, have long called for teachers to use student-centered methods with their students (Felder & Brent, 1996; Kaput, 2018). Student-centered education fits with modern theories of learning, such as Social-Cognitive Theory (Bandura, 1977), and cognate theories. These theories posit that people learn by constructing their own knowledge and skills in conjunction with the other people in their surroundings. This view contrasts with teacher-centered education which flows from Behaviorist Theory, a view that sees the central drivers of learning being teachers and materials developers, with students being the recipients, not the constructors.

The authors of the current article have a total of 35 and 28 years respectively as teachers and teacher educators in the Asia-Pacific, not to mention their years as students in teacher education programs. This experience suggests that the difficulties in implementing student-centered approaches described by Felder and Brent more than 25 years ago remain very much present. The focus of this article lies in changing teacher education programs in ways that facilitate a more successful shift toward student-centeredness. This can be done by changing how the programs are taught and, as a result of that, how the teachers in these programs teach their own students. None of the ideas presented here are new ideas; the hope is that policy makers will lend their weight to implement them.

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Participants in teacher education programs are often in-service teachers attempting to enhance their professional development. They bring their years of teaching practice, experiences, and insights into their teacher education courses and, given this background, are capable of enlightening their classmates as well as their lecturers. The knowledge that course participants bring to their programs constitutes one reason that the most appropriate approach to teaching teachers is student-centered. Another reason is that teachers who experience student-centered instruction may be more likely to use student-centered approaches in their own teaching (Keiler, 2018). Unfortunately, many lecturers in teacher education programs, despite what their slides, videos, and lecture notes say in favor of student-centered education, tend to position themselves as “sage on stages” and neglect the course participants’ experiences, needs, and preferences. Based on the authors’ reflections on their experiences teaching in teacher education, this article aims to highlight areas where a student-centered approach may be applied.

To enhance relevancy for the teacher participants, courses in teacher education can be transformed to be more student-centered on the following areas: (1) students doing research, (2) students playing roles in course design, (3) going beyond basic teaching skills and content, (4) enhancing the social dimension of learning, and (5) participating in the search for new knowledge and new learning tools. Each of the five areas will be addressed below. Of course, none of this underestimates the difficulties faced by both teachers and teacher educators.

Students Doing Research

Conducting research as well as being an educated consumer of research conducted by others fits well with Social-Cognitive Theory, because conducting research with others provides teachers a structured, social path to constructing their own knowledge relevant to education. Research should be included in teacher education, because it plays an important role in debates about how teaching is done, with many books and institutions claiming that their teaching is “research-based” (Puustinen et al., 2018). Unfortunately, too many teachers feel that conducting research, even reading research conducted by others, is beyond them. However, research need not involve complicated statistics, and articles that report research need not be thick with jargon.

Various forms of teacher-doable research can be conducted as part of teacher education programs. These forms of research include Action Research (Schmuck, 2008) and Lesson Study (Soto Gómez et al., 2019). Even more doable are observation tasks and reflection tasks, which can increase teachers’ confidence and skill in understanding for themselves what happens as students try to learn. Lecturers can make research seem less impenetrable by scaffolding the reading of research reports. This scaffolding can involve learning the parts of reports of various types of research (Creswell & Plano Clark, 2011), briefly seeing how citations and references work, and learning the use of various free online research databases, such as Google Scholar, ERIC, and ResearchGate. It may also be useful to read articles on disagreements about how to teach and failures of reform efforts, e.g., Creamer (2018) and Rahman and Pandian (2018). Such reading will take teachers beyond the fairytale world of happy endings too often presented in undergraduate textbooks on education.

Roles in Course Design

Most people in teacher education programs are at least 18 years old, with many being much older. Knowles et al. (2011) identified certain characteristics of adult learners. These include a preference for playing a role in designing their own learning. Another term for this is self-directed learning, i.e., autonomy. People in teacher education programs should be empowered to draw on their life experiences and to apply or reject knowledge introduced in the program. Social-Cognitive Theory, in contrast with Behaviorism, seeks to promote intrinsic motivation which is very much in line with student-centeredness, e.g., encouraging students to design their own programs and collaborate to conduct research rather than being dependent on the research of others.

Vella (2002, p. 4) listed 12 principles for effective adult learning. These principles included: 1. needs assessment (participation of the learners in deciding what is to be learned); 2. praxis (action with reflection); 3. respect for learners as decision makers; 4. teamwork and use of small groups; 5. engagement of learners in what they are learning; 6. accountability (how do they know they know?). Even pre-service teachers come with 12 or more years of experiences in formal education and are usually keen on applying the newly acquired lessons from their teacher education courses to real situations. They also expect to be involved in the planning of their teacher education studies. This involvement in designing their course will promote motivation and autonomy.

The next part of this section on teacher education students' role in course design discusses three ideas that flow from Social-Cognitive Theory. These ideas hold the promise of increasing student involvement in course design, in the hope that such involvement boosts students' feeling of ownership, promotes greater engagement, models student-centered learning, makes the class better suited and more useful to students, and teaches new ideas and perspectives to lecturers. These three overlapping ideas are to: (a) negotiate the syllabus with education students; (b) involve students in co-teaching; and (c) include peer- and self-assessment.

Negotiated Syllabus

Negotiated syllabus means that, rather than lecturers informing students what and how they will be learning, students have some input into these matters. Negotiated syllabus offers students in teacher education programs an entry point into syllabus design (Gómez & Cortés-Jaramillo, 2019). It provides scaffolding with the hope that these students will go on to play increasingly larger roles in cooperating with their own teachers and classmates to plan their lessons and, later, to give their own students, regardless of their ages, choice in negotiating their own learning. Most teachers have spent many years in teacher-centered instructional contexts; therefore, much scaffolding may be needed along their transition to learning and teaching in a student-centered mode.

Normally, lecturers prepare a course syllabus prior to the beginning of the course and then present and explain it to students. In contrast, a negotiated syllabus invites students to participate in syllabus construction by dialoging with lecturers. Supporting Knowles et al. (2011) and Vella (2002), Shaari, Ismail, and Hamzah's study (2017) found that the practice of dialogue in classes of young adults is in line with the principles for effective adult learning, particularly respecting learners' autonomy as decision makers. What aspects are negotiated in a negotiated syllabus and how much room for change exists depends in part on university guidelines, student interest (rather than wanting to leave everything to lecturers' wishes), and the degree to which lecturers are flexible. Negotiation can be finished early in the term or can be an ongoing process.

Negotiating serves as a teaching device, because as lecturers negotiate with students, each side can learn from the other. For example, lecturers may not be fully aware of constraints students face, such as lack of reliable internet connection or part-time job commitments. Furthermore, some students may have other constraints, such as physical disabilities. Negotiating can promote learning when lecturers explain the theories, research, etc. that underlie their syllabus suggestions. For instance, discussions later in this article that explain guidelines for assignments used in the authors' courses delve into some of this point.

Exercising a negotiated syllabus may face organizational constraints, as some program administrators require lecturers to submit a completed syllabus weeks before the semester begins. In some instances, a syllabus in the making with some blank slots or tentative plans may be viewed as lack of readiness on the part of the lecturer. A fixed syllabus is thus seen like a cheque written by the lecturer to be delivered and fulfilled in a rigid way. However, an ongoing negotiated syllabus does not mean failing to meet accountability standards; instead, it can mean teachers walking their talk about student-centered instruction. That said, negotiating a syllabus with students may also mean negotiating the concept of syllabus negotiation with program administrators. Policy makers can have a role here in promoting principled flexibility.

Co-Teaching

Co-Teaching means that students do some of the teaching of their teacher education courses. This arrangement provides another way to put students front-and-center in the design of their courses as they witness student-centered instruction being modeled for them (Burns & Mitzberg, 2019). Additionally, involving learners in lesson planning and teaching can have other benefits, including the fact that students may have better understandings of what their peers know and do not know (Ghrear et al., 2021; Pinker, 2014). Pinker called this the “curse of knowledge,” i.e., the way people’s own knowledge, such as lecturers’ knowledge, causes difficulty in understanding what others, such as students, might or might not know. Thus, peers may occasionally outperform teachers in facilitating knowledge construction. Furthermore, engagement via co-teaching promotes learning, as teaching often leads to intense involvement by those students teaching their peers. In other words, as Seneca (cited in Chau & Jacobs, 2021) is believed to have stated about 2000 years ago, “Those who teach learn twice.”

Table 1 presents a set of guidelines used by one of the authors of this article for co-teaching. Obviously, the larger the class, the shorter the teaching time for each student, but teaching can also be done online.

Table 1. Guidelines for Students Doing Co-Teaching with the Lecturer

Guidelines for Co-Teaching
<p><u>Background</u>: You have 2.5 hours for the lesson you are co-teaching with the course lecturer, inclusive of a 10-minute biobreak. Please reserve the final 20 minutes of the 2.5 hrs for you, with help from classmates and the lecturer, to critique your lesson in relation to the guidelines presented below.</p>
<p><u>Objectives</u> At the beginning of the lesson, please identify one relevant and measurable objective of your lesson and explain why it is relevant and how it will be measured, and then measure the objective during the session and report whether the objective was achieved.</p>
<p><u>General Guidelines</u></p> <ol style="list-style-type: none"> 1. The level of content fits with the level of your course, e.g., what is taught with first-year university students and with doctoral/master level students will overlap, but there may be differences, including: <ol style="list-style-type: none"> a. Discuss practical difficulties and complexities. For example, with Extensive Reading, difficulties and complexities might include how to convince students to do extensive reading, how to find appropriate reading materials (especially in languages other than English), how to gain parental support, working with administrators and government bodies, and whether teachers will feel unimportant when students are doing silent reading in class. b. Trust classmates to learn independently, e.g., assign classmates a video to watch before class or give them questions to consider before class. A system is put in place to nudge classmates to do this pre-class work, e.g., forming pairs who encourage each other. c. Ask a question to which you do not know the answer and brainstorm answers with classmates. For instance, you can do some Socratic Questioning (Paul & Elder, 2019). This fits with the idea that teachers/lecturers are not “sages on stages” who know all the answers. An example of such a question on the topic of with Extensive Reading might be: Is it better for students to read and listen to a text simultaneously or should they read the text at one time and listen to it at another time?

Table 1. Guidelines for Students Doing Co-Teaching with the Lecturer (continued)

d.	Use questions/tasks to challenge students to go beyond the information given, rather than only repeating what you have been taught.
2.	Make connections to previous sessions in the course and theories in those sessions, as well as to other theories. Explore the different perspectives of various theories. For example, what can Humanistic Theory and Social Interdependence Theory each contribute to how to do Extensive Reading?
3.	Explore the impact of society on your topic, e.g., what various segments of society promote and discourage Extensive Reading, and could this be changed?
4.	Explore the impact of understanding or implementing your topic on your society, e.g., in what ways can your knowledge of the topic be used to contribute to the society?
5.	Try something in your teaching you have never done before or seen done before, e.g., use a different software, a different form of formative assessment, a different technique for promoting student-student interaction, or something you have yet to try to foster higher order thinking.
6.	Keep to the time limit.
7.	Prior to the class you are co-teaching, please consult with the lecturer at least twice, in person or online. Please come prepared to these sessions, rather than depending too much on the lecturer.

Source: Authors

The guidelines have been reported to be useful by graduate students who are used to teaching and thus, the opportunity of co-teaching allows them to make the most of their prior experiences as teachers into their graduate class. Examples of student-centered methods from Table 1, with the guidelines for co-teaching, include:

- (1) In the section on Objectives, to make the task more doable, only one objective needs to be stated, but the attainment of that objective should be measured in some way, perhaps using a subjective measure, e.g., asking what people feel or believe. Consistent with Point 1d, later in Table 1, the task should involve higher order thinking, e.g., coursemates need to analyze and evaluate content examined in the lesson, not merely recall it (Bruner, 1964; Ozdem-Yilmaz & Bilican, 2020).
- (2) Point 1b in Table 1 encourages course members to try a Flipped Classroom approach (Umam et al., 2019) and asks them to consider what they might do to increase the probability that their course mates will do the pre-class reading and thinking. This is a matter that the teachers studying in teacher education programs are likely to grapple with when teaching their own students.
- (3) Point 1c calls on the co-teachers to ask a question to which they themselves are not sure of the answer. The purpose here is to reinforce the concept from the student-centered paradigm (Jacobs & Farrell, 2001) that teachers are not all-knowing and, in fact, teachers need to learn from and along with students.
- (4) Point 2 urges co-teachers to make connections between the session they are doing and previous or future sessions. One way of doing this involves linking theories. These can be different theories or different applications of the same theory, as well as clashing theories. Too many courses tend toward a silo effect in which each lesson involves a separate topic (Stolz, 2021), and

once that topic is covered, it is forgotten until, perhaps, the final exam or the comprehensive exam.

- (5) Points 3 and 4 call for a different sort of connection, connection between society and the formal education system, e.g., what is the impact on the use of cooperative learning (a.k.a., collaborative learning) when elements in the wider society emphasize the benefits of competition (Attle & Baker, 2007). Examining such connections provides one way to encourage “big picture” perspectives among students. Furthermore, education needs to raise the awareness that students are part of the society and to connect students with others in and out of school. Read Jacobs and Crookes (2022) for language teachers’ personal accounts of “community-engaged education,” including Lie (2022).

Despite the possible advantages of students doing co-teaching, as with many other elements of student-centered learning, co-teaching can be seen as a strategy used by less motivated teachers who want students to do the work that their teachers are being paid to do. Here, policy makers can play a role in clearing a path for student-centered changes by encouraging co-teaching in teacher education programs.

Assessment

So far, this section has looked at how students in teacher education programs can engage in social construction of their learning with classmates and teachers by negotiating their syllabus and co-teaching. Of course, learning cannot be complete without assessment, and students can also negotiate their own assessment. Furthermore, student-centered assessment includes peer- and self-assessment, as well as students assessing teachers, course materials, and the food and beverages made available to students and staff (as to whether they are tasty, reasonably-priced, healthy, and environmentally friendly). Assessment from such a 360-degree perspective attempts to accomplish assessment of all the players in the education ecosystem (Dagal & Zembat, 2017). For example, lecturers are assessed by the main people with whom they interact: administrators, fellow lecturers, and students. Involving students in this kind of broad assessment means that they are involved not only in peer feedback and self-feedback but also in assessment of materials, lecturers, and the institution where they are studying. This puts more responsibility on students’ shoulders, thereby preparing them to be lifelong learners and contributors to the lifelong learning of others. Knowledgeable assessment requires understanding of how the parts of education systems function. When students expand their understanding of these parts, their ability to design their learning increases. Policy makers can play a role here by being transparent about their goals and the constraints they face.

Peer assessment in any education course is important for at least three reasons. One, too often, the only ones viewing and learning from student work are their teachers/lecturers. Peer assessment activities enlarge the readership of students’ papers and thus provide a greater sense of purpose for the creators. Two, the art and science of providing and responding to feedback is important for everyone in education to learn as part of the pathway to ongoing progress. Three, peer interaction plays a key role in lifelong learning. Table 2 shows guidelines for an assignment in a graduate course in education in which students are to write and also to provide peer feedback. (This particular assignment may not be appropriate for all classes. An alternative would be for students to dialogue about a topic discussed on the course.) The peer feedback aspect of the task is explained near the bottom of the table.

Table 2. Guidelines for Dialogue Entries

Guidelines for Dialogue Entries
<p>Instructions:</p> <p>Choose an article from an academic journal. The article should report primary research of any type: qualitative, quantitative, or mixed methods. The article should be relevant to a topic we have already discussed in class. Please refer to this webpage when selecting a journal in which to find an article:</p> <p>Write a dialogue entry related to the article and the topic.</p> <p>GUIDELINES</p> <p><u>Your Entry</u></p> <ol style="list-style-type: none"> 1. The academic journal chosen for the activity must be peer-reviewed. 2. The article chosen for the activity must be approved by the lecturer prior to the writing of the dialogue entry. 3. The tone of the dialogue entry may be conversational and informal, or it can be formal. 4. Provide the APA-style reference for the article you chose. 5. Reflect on why you chose the article, how the topic is relevant to your context, and how you could utilize ideas from the article in your teaching/learning context. 6. Highlight at least two features you liked in the article. 7. What is one controversial point relevant to the topic of the article? 8. What is one theory relevant to the article? 9. If you did a similar study in a context in which you learn/teach, would the result probably be similar? Why or why not? 10. Make sure that the entry would be comprehensible to people sitting next to you on a bus, i.e., explain any education jargon, please. 11. Your dialogue entry must have 1000 to 1500 words (plus or minus 10%). 12. Include four APA-style references, in addition to the reference for the article you read. 13. Any penalty for late submission will be decided on a case-to-case basis. 14. Email your dialogue entry to the lecturer and your classmates. <p><u>Feedback on a Colleague's Entry</u></p> <ol style="list-style-type: none"> 15. Each student must give 180-word (plus or minus 10%) feedback on one entry by a classmate. Everyone should receive feedback on their entry from one of their classmates. To facilitate this, please email everyone to let us know to whose entry you will be giving feedback. 16. This feedback should contain at least one elaborated, i.e., explained, point of praise and one elaborated question. To facilitate this elaboration, the feedback should contain at least one reference written in APA style. The reference is not included in the 180 words. 17. The feedback should be submitted by email to the lecturer and all your classmates no more than five days after the dialogue entry was received. Before you write your feedback, please inform us whose dialogue entry you chose.

Source: Authors

A few points deserve mention regarding the peer feedback in this assignment. All of these points link with the concept highlighted elsewhere in this paper of using Social-Cognitive Theory to encourage student-centered lifelong learning. First, students are asked to give positive peer feedback and to ask a question. The emphasis on the positive aims to urge educators to use more positive than negative feedback with students, peers, and others in their lives, in the hope that positive feedback can promote a more supportive atmosphere (Miers, 2021; Seligman, 2011). Second, questions have the benefit of potentially keeping alive the interaction among the students and animating the use of questions in the spirit of Socratic Questioning and Higher Order Thinking (Paul & Elder, 2019). Third, “elaboration” is a key concept, as too often in students’ dialogue entries and in their feedback

on peer's entries, it seems that the level of thought exhibited is of the "off the top of my head" and the "superficial pleasantries" variety.

For certain kinds of assignments, a shared rubric or checklist would help the self- and peer-assessment so that students can use the same points of reference. The assessment instrument, too, can be designed together with the students and negotiated to be more meaningful and relevant. Again, the use of peer- and self-assessment can be seen, not as a valuable learning strategy but, as a strategy for teachers to reduce their workloads. Policy makers can provide invaluable support for this and other student-centered strategies.

Beyond Basic Teaching and the Basic Content

Mastering basic teaching skills is essential for any teacher. However, in the experience of the authors of this article, too many teacher learners in our teacher education courses, even those with many years' experience and strong teaching skills, while they are highly skilled in teacher-centered instruction, lack an equivalent level of skill in student-centered teaching methods: (1) they speak the large majority of the available class time; (2) almost all interaction is teacher-student with little or no student-student interaction; and (3) they leave out formative assessment, devoting time only to summative, high-stakes assessment (Tien et al., 2020).

Education courses can address some of these shortcomings. Lecturers can model student-centered methods and involve course members in using such methods themselves, as was done in the co-teaching described in Table 1 or in students reflecting on their use of student-centered methods when doing their Dialogue Entrees (Table 2). For instance, one way to encourage efficient time management during co-teaching is to appoint a session chair. The job of the chair includes introducing the presentation topic and speakers, keeping the time, recording the presentation, and managing the flow of questions and answers. This resembles what a session chair often does at education conferences. In teacher-centered instruction, teachers play all these roles.

At the same time that teachers need basic skills in student-centered classroom instruction, teacher education should also help teachers go beyond the basic curriculum by linking with issues outside the classroom, e.g., the United Nations' Sustainable Development Goals (SDGs) (Leal Filho et al., 2019), which include addressing poverty (Lie, 2022) and climate change (Cates, 2022). Educators are facilitators in their classrooms and can be facilitators beyond classrooms as well, e.g., by educating the students in their classes, as well as the general public, about how their diets impact their own health, the health of nonhuman animals, the health of the environment, and the lives of those living in poverty (Chau et al., 2022).

Such curriculum links fit with Dewey's (1926) view that education consists of more than preparing students for the careers they will enter after they have finished their schooling. Dewey advocated that by showing students how their education plays a present-day role in improving society, what happens at all levels of the education system can become more engaging for students. However, new teachers may be focused exclusively on teaching their designated subject area, e.g., Indonesian language, in a narrow sense, and often teaching materials reinforce this silo view (Trust et al., 2017). As part of the "social" in Social-Cognitive Theory, teacher education programs need to help teachers – and, in turn, their students – appreciate the role their learning plays in society as a whole. Policy makers can support the breaking down and silos, as educators move toward more integrated curricula.

Maley (2017), in a book about integrating the SDGs in language education, argued that a narrow "I only teach the basics of my subject" view of teaching is "cheating" students and the whole of society. Instead, a broader view is needed, a view in which students learn and teachers teach not so that individuals can rise higher in society, above others, but so that people generally can rise together. Maley's (2017) perspective is reflected in the following poem of his from his previously cited edited book on teaching language via the SDGs:

Teacher

What do you do?

I'm a teacher.

What do you teach?

People.

What do you teach them?

English.

You mean grammar, verbs, nouns, pronunciation, conjugation, articles and particles, negatives and interrogatives ...?

That too.

What do you mean, 'that too'?

Well, I also try to teach them how to think, and feel – show them inspiration, aspiration, cooperation, participation, consolation, innovation, ... help them think about globalization, exploitation, confrontation, incarceration, discrimination, degradation, subjugation, ...how inequality brings poverty, how intolerance brings violence, how need is denied by greed, how –isms become prisons, how thinking and feeling can bring about healing.

Well I don't know about that. Maybe you should stick to language, forget about anguish. You can't change the world.

But if I did that, I'd be a cheater, not a teacher.

Building the Social Side of Learning

The word *social* has become increasingly common in the understanding and practice of learning, including formal learning as part of preschool, primary, secondary, and tertiary institutions, as well as informal and nonformal learning. As in Social-Cognitive Theory, Vygotsky (1980), in Socio-Cultural Theory, highlighted how learning begins on the social plane before being internalized. Along with the increased prominence of *social*, another sign of the times, i.e., zeitgeist, term is *community*, as people collaborate to learn and act. Terms such as Communities of Practice (Wenger, 1998) and Communities of Inquiry (Castellanos-Reyes, 2020; Garrison, Anderson, & Archer, 1999) signal people coming together to learn and to apply their learning. The Community of Inquiry (CoI) model was proposed by Garrison et al. (1999) to offer a shared experience to intensify students' higher-order thinking skills through their harmonized roles of individuals and society.

Communities of Inquiry are created when three domains reinforce one another optimally. The first domain is Cognitive Presence, referring to the degree of students' capability to construct understanding and interpret meanings (Swan et al., 2008). To enhance Cognitive Presence, students are empowered to think critically as well as learn autonomously through the second domain, Teacher Presence, which requires teachers to perform collaborate with students to design, select, and provide meaningful collaborative learning activities for learners, to be a model for students as to how to lead, guide, and employ effective strategies to deliver instructional content (Garrison, et al., 2001). The third CoI domain, Social Presence, covers students' emotional state towards the learning interactions with classmates or teachers around intellectual activities and tasks (Swan et al., 2008).

The CoI model is apparent in many professional communities. These communities have senior and novice members, as do similar organizations in education, including teachers' unions, as well as local, national, and international associations, such as teachers who teach particular learners, e.g., Indonesia Association of Teachers of English as a Foreign Language and teachers who wish to explore and promote a particular methodology, e.g., Extensive Reading Foundation.

At the same time, virtual organizations of educators also exist, e.g., both the authors of this article belong to Teachers Voices, a Facebook group with over 10,000 teachers of second/foreign languages. Additionally, many teachers have formed their own social media groups, e.g., a Whatsapp group of mathematics teachers at a particular school. Both authors have also invited their students to join online professional organizations and co-present in the conferences organized by these organizations. Collaborative projects between lecturers and students enable students to be more autonomous learners and thus their Cognitive Presence to construct knowledge is optimized. When students can think and learn autonomously, they, too, along with their lecturers, are able to perform the roles within the Teacher Presence. Within this learning partnership, the Social Presence naturally expands and integrates with the Cognitive Presence and Teacher Presence to enhance the learning experiences.

Students in teacher education programs today are fortunate to have so many ways to utilize the power of the social during their time as students, as well as throughout their careers as educators. However, to maximize the value of the above opportunities, students need guidance as to the existence of the opportunities and how best to utilize them. For example, one benefit of the pandemic has been that many universities and other organizations have put on free webinars, and the authors of this article have informed their students and colleagues whenever news of such events reached their networks.

At a graduate school of education where both authors have taught, students in every cohort need to organize a workshop for teachers and other educators as part of a mandatory project. Thanks to the internet, this workshop is open free of charge internationally. Students form a committee to invite a keynote speaker and offer workshop sessions usually delivered by some of the students themselves. The workshops serve as opportunities for professional development and networking for the students, as well as for participants. Other examples of encouraging students to look out for opportunities for social learning have occurred when both authors have invited students to co-author articles and presentations. Such situations provide a type of apprenticeship opportunity for the students.

Sharing Knowledge and Tools

As the saying goes, "The only constant is change." For example, change is constant in the knowledge base of what people in education should know, i.e., content, and know how to do, i.e., skills. The authors of this article were graduate students in education when the paradigm was shifting from one based on Behaviorism and the Audio-Lingual Method of language teaching to one based on Social-Cognitive Theory and Communicative Language Teaching. Teachers early in the authors' careers needed to know how to straddle both approaches. They needed to know how to construct and conduct Audio-Lingual substitution drills, as well as how to ask and help students answer higher order thinking questions, such as "Can you please explain your answer," as in Social-Cognitive Theory. For conducting secondary research, in the 1980s and 1990s students in teacher education programs needed to know how to search in the bound volumes of the library, and for conducting primary research, they needed to know how to make the cards that were fed into computers to run MANOVA and other statistical tests.

Times have changed! Lecturers in teacher education programs now have a responsibility to guide their students as to modern ways to read as well as conduct and publish research. This is not to mention, lecturers learning from students. Below are some examples from the authors' experiences.

The first example, from 2022, combines learning new tools, as well as learning new content. This was communicated by one of the article's authors to teacher learners via the following email.

Table 3. Sharing Knowledge and Tools

Many ways exist to learn topics relevant to education. Podcasts are one way.

An example is the podcast "A Slight Change of Plans" hosted by Maya Shankar, a cognitive scientist. The guest on one episode was Angela Duckworth (2013), a former mathematics and science teacher and now a Psychology professor, as well as author of *Grit: The Power of Passion and Perseverance*, a book everyone in education should know about even if they disagree with the book's main idea: in education and elsewhere in life, talent and other advantages are less important than effort and dedication. TED Talks offer another way to learn, and Professor Duckworth's talk on GRIT has 26 million views. TED Talks often have subtitles, including translated subtitles.

Conclusion

As with any conceptual paper, this article has the limitation that it lacks direct backing within the paper from double-blind, placebo-controlled research or a rigorously conducted qualitative study. Nonetheless, perhaps conceptual papers do have a place in the ecosystem of literature aimed at providing policy makers with ideas for improving the state of understanding and practice in education. Such papers attempt to bring together the thoughts collected by the authors based on their observations from teaching various students in various contexts, their reading of theory and research, their discussions with policy makers, colleagues, and students, and their hopes for the future. This article has contributed no new ideas; instead, it has asked and tried to answer the question of what can be done so that the very good, long-accepted ideas of Social-Cognitive Theory and student-centered learning are not as widely implemented as they might be.

Based on these thoughts, this article has highlighted important characteristics of courses in education focusing on student-centered learning and related theories including Social-Cognitive Theory. We hope that the article can spark reflection and debate about what already works well and how to improve the education experience of educators regardless of the level of the program in which they study and teach, as well as whether that education takes place at a tertiary institution, at the place where the educators teach (such as peer mentoring in primary schools by senior teachers), in non-formal or informal settings, or in some combination of all of them. Therefore, we welcome discussion and disagreement.

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