Student Teachers' Perspectives on the Benefits of Using a Microteaching Learning Cycle to Study, Enact, and Reflect on Core Teaching Practices

Kristina E. Rouech, Ph. D., *Teacher & Special Education, Central Michigan University*

Shane Cavanaugh, Ph. D., Teacher & Special Education, Central Michigan University

Disclosure: The authors report there are no competing interests to declare.

Student Teachers' Perspectives on the Benefits of using a Microteaching Learning Cycle to Study, Enact, and Reflect on Core Teaching Practices

Core Teaching Practices are frequently used in teacher education programs to build a stronger connection between theory and practice, providing a common focus and language in coursework and field placements. This study suggests that using microteaching, particularly a Microteaching Learning Cycle, can be an effective pedagogical tool for helping student teachers study, enact, and reflect on Core Teaching Practices. A four-question survey was given to 45 student teachers after their first and third experiences with microteaching. Analysis of survey responses showed that nearly all participants found the Microteaching Learning Cycle beneficial in their work with Core Teaching Practices.

Introduction

In recent years there has been a movement in teacher education to make a stronger connection between theory and practice as a way to improve the quality of teacher candidates. This often involves an emphasis on specific, frequently occurring teaching practices (Matsumoto-Royo & Ramírez-Montoya, 2021). These teaching practices can provide a focus and common language for both coursework and field placements. Our state, Michigan, has adopted the 19 high-leverage practices developed by TeachingWorks (2020), identifying them as Core Teaching Practices "that teacher candidates are to develop, practice, and demonstrate appropriate mastery of within their clinical experiences" (Michigan Department of Education, n.d.). While Core Teaching Practices are embedded throughout the teacher education program at our university, we have focused on two Core Teaching Practices (CTP #1 Leading a

Group Discussion; and CTP #2 Explaining and Modeling Content, Practices, and Strategies) in our work with student teachers. We have found microteaching a particularly useful tool for helping student teachers understand, develop, and analyse Core Teaching Practices in their own teaching.

Over several semesters of using microteaching in our student teaching seminar, we have developed and refined a Microteaching Learning Cycle that has proven useful in enacting and examining Core Teaching Practices. The Microteaching Learning Cycle guides the candidate through planning, teaching, analysing, and reflecting on a Core Teaching Practice in their student teaching placement. The process requires them to critically examine and reflect on their own practice in order to become more effective teachers. The purpose of this study is to better understand teacher candidates' experiences using our Microteaching Learning Cycle to explore and enact Core Teaching Practices.

What is Microteaching?

Microteaching has been a widely used pedagogical tool in teacher education since its beginnings at Stanford in the 1960s (Cavanaugh, 2022). At its core, microteaching consists of recording and reviewing short videos of one's teaching focused on a particular teaching strategy or skill. The microteaching video is reviewed, analysed, and reflected upon by the teacher or teacher candidate as well as peers and/or an instructor. Microteaching can involve teaching actual students, teaching to one's peers, or simply teaching to the camera without an audience or participants. It is most often used in pre-service teaching methods classes, but also with student teachers in their classroom placements, and as professional development with practicing teachers. While there are many forms of microteaching, its most essential

quality is that of brevity - the videos are brief and focused on one specific skill. This allows microteaching videos to be easily filmed and reviewed, and offers, "…an often intense under-the-microscope view of … teaching" (Hattie, 2009, p. 112).

Literature Review

The literature shows many positive outcomes in using microteaching with pre-and in-service teachers for a variety of goals. Particularly relevant to our use of microteaching as a practice-based tool, studies have found it to be a useful way to connect learning theory with classroom practice (Bliss & Reynolds, 2004; Kourieos, 2016). A large area of research focuses on increasing awareness of the nuances of teaching, noting that new teachers in particular tend to focus their observations largely on the teacher rather than the students (Star & Strikland, 2007). Often research in this area will focus on "noticing" (van Es & Sherin, 2008; Star & Strikland, 2007) and use microteaching to shift the pre- or in-service teacher's focus from the teacher's actions to the student's learning (Johnson & Cotterman, 2015; Sherin & Han, 2004; Zhou & Xu, 2017). Analysing a video of teaching allows the viewer to observe or "notice" individual students' thinking and behaviour, typically hard to do during the complexities of teaching. Other researchers have examined ways microteaching can improve math or science pedagogical content knowledge (Altuk, et al., 2012; Borko et al., 2008, Godek, 2016; Handayani & Triyanto, 2022; van Es & Sherin, 2008). These studies again tend to focus on noticing students' learning through microteaching, but with a focus on content understanding.

The reflective nature of microteaching is one of its biggest draws as a pedagogical tool and the literature suggests that it may improve a teacher candidate's ability to reflect on and analyse their teaching. With the goal of improving teacher

practice, Ostrosky et al. (2013) used microteaching in a preservice methods class to "...develop reflective thinking by viewing their actions and comparing them with their intent" (p. 19). Tuluce & Cecan (2017) found that microteaching encouraged critical reflection which enabled preservice teachers to better notice their teaching strengths and weaknesses. Similarly, Rich & Hannafin (2009) reported that preservice teachers who analysed their own microteaching video had more accurate perceptions of their abilities than those who did not. As part of in-service teacher professional development, Zhang et al. (2011) used three forms of video analysis - published videos of expert teaching, videos of peers teaching, and videos of their own teaching. The teachers in this study reported that analysis of their own classroom teaching was the most helpful, many called it "eye-opening" (p. 461) and found that watching the video multiple times was especially valuable. Kourieos (2016) found that after a facilitator-led reflection process, preservice teachers were more critical of their teaching than they initially reported, showing that some scaffolding of the reflection is beneficial for deeper reflection. These findings support the notion that simply watching teaching is unlikely to result in meaningful reflection, but that videos "... must be viewed with a clear purpose in mind" (Brophy, 2004, p. 419).

A number of studies report an increase in pre-services teachers' teaching self-efficacy after using microteaching in methods classes (Arsal, 2014; d'Alessio, 2018; Godek, 2016; Ledger & Fischetti, 2020). This stands to reason since microteaching allows pre-service teachers to practice using their emerging teaching skills in a simplified manner, typically short lessons taught to their classmates. Classmates often serve as more than an audience for microteaching, they also provide valuable feedback for their peers and a rich discussion of teaching (Arsal, 2015; Borko, et al., 2008;

Ostrosky, 2013; Rich & Hannafin, 2009; Sydnor, 2016). Nearly all the literature on microteaching describes peer review or discussion as an essential part of the microteaching process.

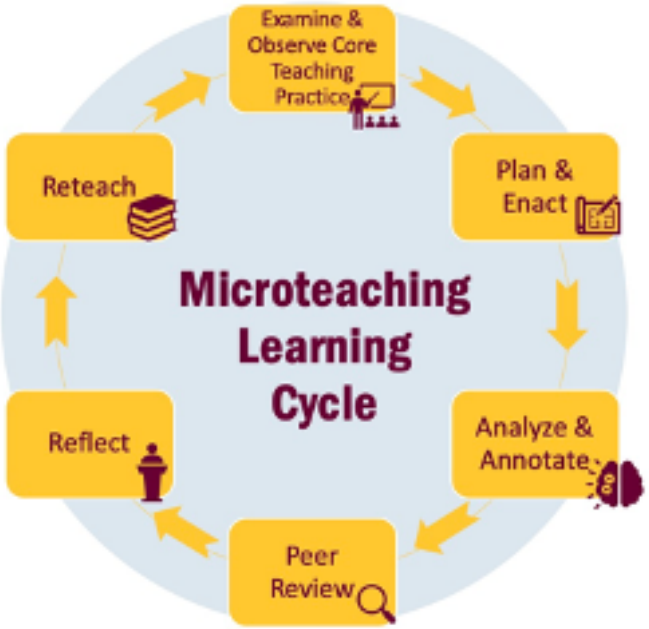
Hattie's (2009, 2016) meta-analysis of factors affecting student achievement has consistently found microteaching to be a high-impact practice; the 2016 meta-analysis shows it as the second highest-impact practice with an effect size of 0.88. Microteaching has the potential to be a powerful tool in preparing teacher candidates. In our work, we implemented microteaching video analysis in student teaching seminars to highlight effective teacher moves related to the Core Teaching Practices. With self and peer review of the videos, teacher candidates can *see* what is happening rather than reflect on what they *thought* happened. This was described well by Johnson & Cotterman (2015), who wrote that using videos with pre-service teachers, "...allows students to observe the realities of practice and to notice nuances of teaching and student behaviour that would likely go unnoticed in the moment of teaching" (p. 396).

Microteaching Learning Cycle

As previously mentioned, we developed and refined a Microteaching Learning Cycle over several semesters of using microteaching with student teachers. It has evolved based on our own experiences and the influence of other practice-based learning cycles such as McDonald, Kazemi, and Kavanagh's (2013) Learning Cycle and The University of Michigan's TeachingWorks (2020) High-Leverage Practice Learning Cycle. The later cycle consists of four parts – Introduce, Prepare, Enact, and Analyse. While these learning cycles provide "guided assistance to candidates to learn particular practices" (Lampert et al., 2013, p. 229), our cycle uses similar stages but is applied to

the practice of microteaching. Since our Microteaching Learning Cycle was developed for student teachers rather than pre-service teachers, we place more emphasis on teaching and analysing pieces. The six stages of our Microteaching Learning Cycle are shown in the following figure and described below:

Figure 1: Microteaching Learning Cycle



1. Examine & Observe Core Teaching Practice: During the first stage of the cycle, students are asked to recall what they have learned about the Core Teaching Practice in past courses and learn more through assigned reading and independent research. As a class, we study a breakdown of the components of the Core Teaching Practice and watch microteaching videos of master teachers enacting the practice. Students are asked to identify the components of the Core Teaching Practice in the exemplar teaching videos. It can also be helpful to show “non-example” videos with a discussion of the difference between the two.

2. Plan & Enact: The second step consists of planning and teaching the Core Teaching Practice. Planning and enacting are combined in one step because we see them as part of the same integrated process. Student teachers must complete a highly-scaffolded planning document before teaching, one that requires them to plan for each component of the Core Teaching Practice and answer questions about specific teacher moves and anticipated student thinking, motivation, and behavior. The student teacher's lesson demonstrating the Core Teaching Practice (either CTP #1: Leading a Group Discussion or CTP #2: Explaining and Modeling Content, Practices, and Strategies) is then taught and video recorded.
3. Analyse & Annotate: The student teacher must now edit their video down to a 5–10 minute microteaching clip, only including significant parts of the lesson that highlight the Core Teaching Practice. We require a concise video for a few reasons – it forces the student teacher to find and focus on the components of the practice, and a short video can be watched multiple times by the student teacher and their peers in class. The video is then uploaded to an online video assessment software tool, we use one called GoReact. Once on GoReact, students will add assigned time-stamped annotations where they will identify components of the practice and make note of any questions they have for their peers regarding their teaching.
4. Peer Review: In small groups or pairs, students privately watch and analyze each other's videos using what they have learned about the Core Teaching Practice, writing focused annotations on each other's microteachings. Then, the group or pairs will watch portions of the microteaching videos together and discuss their

experiences, suggestions, and questions. This step not only provides peer feedback for each student teacher, it also allows them to see each other's teaching and classrooms. At first, students tend to be nervous about having their teaching analyzed by peers, but this fear fades as they realize their peers have the same challenges in the classroom.

5. Reflect: After peer review, student teachers answer reflection questions about their experience enacting the Core Teaching Practice. Since students reflect on what they actually see in their microteaching videos rather than what they remember or imagined happening they are able to provide specific details as evidence.
6. Reteach: This step provides an opportunity for student teachers to reteach the Core Teaching Practice in a new lesson, with a chance to improve their teaching based on what they learned. We see the Reteach portion of the cycle as optional and tend to use it for CTP#2: Modeling, which is a complex practice nearly all student teachers find difficult.

This Microteaching Learning Cycle serves as a framework for guiding teacher candidates to a deeper examination of their budding practice, building on the knowledge and skills they learned in previous coursework. The reflection inherent in microteaching utilizes the theory learned in the university classroom to the practical application of Core Teaching Practices in the field.

Methods

The goal of this project was to better understand the experiences of student teachers with our Microteaching Learning Cycle, and to understand what aspects of the cycle they found most beneficial to their work with Core Teaching Practices. To this

end, all students from two sections of our university's student teaching seminar were invited to take a short survey after completing their first and third (of three) Microteaching Learning Cycles. Students were asked to write short responses to four questions regarding their use of the Microteaching Learning Cycle.

Survey Questions

1. What did you think of the microteaching process?
2. What was helpful in the microteaching process?
3. What was difficult in the microteaching process?
4. What value does microteaching have in helping you learn more about the core teaching practice?

Participants

Forty-five student teachers at a mid-size Michigan university chose to take the survey and participate in this research. No demographic or identifying information was collected from the participants.

Data Collection

The survey was administered twice to all 45 participants, after the first and third microteaching assignments as "exit slips". Exit slips were a standard part of the student teaching seminars and were anonymous. Seminars were held in an online, synchronous setting and the survey was administered as a Google Form during the last fifteen minutes of the class.

Data Analysis

We collected 360 written responses to the two surveys (same questions, administered twice) from 45 student-teacher participants. Deductive and inductive coding methods were used to analyse the data. The Microteaching Learning Cycle was

used as a framework for the deductive coding - we examined all student responses for each of the stages of the cycle (Examine & Observe; Plan & Enact; Analyse & Annotate; Peer Review; Reflect; Reteach).

We also inductively developed additional codes for data that did not fit the stages of the Microteaching Learning Cycle. For example, in question 1, a student comment referenced a generally positive experience with microteaching rather than a specific step in the cycle. This then became a code we called “generally positive”. Similarly, we created codes for “generally negative” and “generally neutral”. These codes were only applied to responses that did not specifically mention one of the parts of the Microteaching Learning Cycle. Three additional themes emerged in the responses to Question 3, “What was most difficult in the microteaching process?”. These “difficulty themes” include 1) technology issues (i.e. difficulty recording/uploading/editing the video); 2) logistical issues (i.e. determining when a CTP lesson could fit into the teaching schedule); and 3) increased workload (i.e. too busy for another assignment).

Individually, we applied the codes for each part of the Microteaching Learning Cycle while also making note of other potential themes. We then came together to agree on these additional themes (i.e., generally positive, difficulty with timing) and coded again. The final step involved working through the data together to agree on all coding. Each student response may contain more than one code, for example, a response may reference an aspect of “Plan & Enact” as well as “Peer Review”.

Findings

The results of our analysis are shown in Tables 1 and 2. The tables show the frequency of each code by question for survey 1 (Table 1) and survey 2 (Table 2). For

example, 23% of all responses for question 1 in survey 1 were coded for “Plan & Enact”. Table 3 provides examples of student responses represented by each code. In the following section, the most frequently found codes in the responses for each of the four questions on Survey 1 and Survey 2 are presented.

Table 1. Percentage of Survey Responses for Each Code After Microteaching #1 Cycle.

	Codes	Q1: What did you think of the microteaching process?	Q2: What was helpful in the microteaching process?	Q3: What was difficult in the microteaching process?	Q4: What value does microteaching have in helping you learn about Core Teaching Practices?
Steps in the Microteaching Learning Cycle	Examine & Observe	9%	15%	0%	10%
	Plan & Enact	**23%**	**28%**	**33%**	**29%**
	Analyze & Annotate	9%	7%	2%	4%
	Peer Review	6%	**30%**	0%	6%
	Reflect	**23%**	**17%**	2%	**17%**
	Reteach	0%	0%	0%	0%

Inductively Generated Codes	Tech issues	2%	0%	**19%**	0%
	Logistical Issues	2%	0%	**33%**	4%
	Increased Workload	0%	0%	7%	0%
	Generally Positive	**23%**	2%	0%	**27%**
	Generally Negative	2%	0%	0%	2%
	Generally Neutral	0%	0%	5%	0%

Table 2: Percentage of Survey Responses for Each Code After Microteaching #1 Cycle.

		What did you think of the microteaching process?	What was helpful in the microteaching process?	What was difficult in the microteaching process?	What value does microteaching have in helping you learn about Core Teaching Practices?
Steps in the Microteaching Learning Cycle	Examine & Observe Component of Practice	12%	11%	6%	9%
	Plan & Enact	**12%**	**20%**	**53%**	**24%**
	Analyze & Annotate	10%	**18%**	0%	4%
	Peer Review	**14%**	**34%**	11%	7%
	Reflect	4%	7%	0%	**15%**

	Reteach	2%	5%	2%	0%
Inductively Generated Codes	Tech Issues	0%	0%	**11%**	0%
	Logistical Issues	6%	0%	**13%**	0%
	Increased Workload	4%	0%	0%	2%
	Generally Positive	**33%**	5%	4%	**39%**
	Generally Negative	4%	0%	0%	0%
	Generally Neutral	0%	0%	0%	0%

Table 3: Examples of Student Responses for Each Code.

Code	**Examples of Student Responses**
Plan & Enact	"It made me think about how to plan for different things in the classroom I would not have thought about before" "I think that planning helped me stay organized and review my thought process".
Analyze & Annotate	"It was a good chance to analyze a focused bit of teaching as opposed to an entire lesson" "It was incredibly valuable because it allowed me to watch myself and closely analyze my effectiveness in implementing these practices. I was able to see where I need to improve and where I've progressed."
Peer Review	"The peer review was very helpful during this process. I love getting insight from others because most likely they see things we do not see ourselves or have had different experience to share and that I can learn from!" "I really liked the peer review comments instead of just turning this in for the teacher to grade. This allowed me to connect with other students and see how they did this assignment. I know my peers and I won't be perfect at everything which also helps us relate to one another even more. This also gives me more feedback to learn from versus only getting feedback from the teacher. I didn't feel as pressured or stressed knowing that we were going to

	peer review each other's videos during class before the teacher looked at them”
Reflect	“I found it helpful to rewatch my teaching and decide on things to improve on” “I truly appreciate how in-depth and reflective the process is”
Technology Issues	“Trimming the video was difficult for me” “The most difficult part of this process was transferring videos from my phone to my laptop, and then uploading them onto go-react. I don't know if it was just me, but that process was quite time consuming”
Logistical Issues	“I often forgot to film the desired lesson because the business of the day caught up with me” “Finding time in my schedule/unit to record a modeling lesson or other lessons”
Increased Workload	“Adding more to my responsibilities” “Adding on another thing and another "lesson plan" onto our workload”
Generally Positive	“I thoroughly loved the microteaching process”

	"I found it super insightful and a good opportunity for growth"
Generally Negative	"no longer relevant as I'm so close to graduation and have a ton of experience teaching already." "I feel like this is textbook, and at this point of our education, we shouldn't devote that much time and energy into modeling"
Generally Neutral	"It was okay"

Question 1: What did you think of the microteaching process?

Between the two surveys, the code with the highest frequency for this question was *Generally Positive*, making up 23% of the responses in Survey 1 and 33% in Survey 2. As explained earlier, this code was used for responses that did not refer to specific aspects of the Microteaching Learning Cycle but were overall positive. In Survey 1, the other codes most frequently found in the data were aspects of the Microteaching Learning Cycle with *Plan & Enact* and *Reflect* each at 23%. Survey 2 results included *Peer Review* with 14%, *Plan & Enact,* and *Examine & Observe Component of Practice* each with 12%, followed by *Analyse & Annotate* with 10%.

Question 2: What was helpful in the microteaching process?

Not surprisingly, the second question resulted in more responses that mentioned specific aspects of the Microteaching Learning Cycle than was found in Question 1. The following three codes had the highest percentage for Survey 1: *Peer Review* (30%), *Plan & Enact (*26%), and *Reflect* (17%). The data from Survey 2 showed similar results for the two most frequently seen codes - *Peer Review* (34%) and *Plan &*

Enact (20%), but *Analyse & Annotate* (18%) came in third in terms of the frequency with *Reflect* dropping to just 7%.

Question 3: What was difficult in the microteaching process?

Two of the biggest difficulties student teachers had with the microteaching process weren't with the Microteaching Cycle itself, but with factors related to its implementation. The top three codes for Question 3 from Survey 1 were: *Logistical Issues,* and *Technology Issues* both receiving 33%, with *Plan & Enact* at 19%. For Survey 2, the three most popular categories were the same, however, the percentages shifted with *Plan & Enact* (53%,), *Timing Issues* (13%), and *Technology Issues* (11%).

Question 4: What value does microteaching have in helping you learn about Core Teaching Practices?

The purpose of the final question was to connect the Microteaching Learning Cycle directly to the Core Teaching Practices. For Survey 1, the top three responses were *Plan & Enact* (29%), *Generally Valuable* (27%), and *Reflect* (17%). The top three responses for Survey 2 were again the same but the percentages changed: *Generally Valuable* (39%), *Plan & Enact* (24%), and *Reflect* (15%).

Discussion

The purpose of this study was to better understand our student teachers' experiences using the Microteaching Learning Cycle to implement Core Teaching Practices. We sought to understand which elements of the cycle were particularly useful, what aspects of microteaching were difficult, and generally if they thought microteaching was helpful in their study of the Core Teaching Practices. This was also an examination of our own teaching, did students find the microteaching assignments we created useful? How could we create a better experience for our students using the

Microteaching Learning Cycle? After examining the data, we have a better understanding of each of these questions.

The Microteaching Learning Cycle

Overall, student responses were overwhelmingly positive for the Microteaching Learning Cycle in helping them implement the Core Teaching Practices, in fact, there were only four responses that we interpreted as being negative or partially negative. Three aspects of the cycle were referenced most often between the two surveys - *Plan & Enact*, *Peer Review*, and *Reflect*.

Plan & Enact

Of all the parts of the Microteaching Learning Cycle, the *Plan & Enact* stage was mentioned most frequently in both surveys. This stage includes all aspects of planning, preparing, and actually teaching the lesson that will highlight the Core Teaching Practice and be recorded for their microteaching video. Interestingly, students discussed the *Plan* part of this step more than the actual teaching (*Enact*). Before they teach and record their lesson, we require students to complete a detailed planning document that includes a description of how they will meet each element of the Core Teaching Practice in their lesson. Students mentioned planning as being both difficult and helpful. According to student responses, the difficult aspects of *Plan & Enact* include:

- Selecting an appropriate topic that will highlight the Core Teaching Practice
- Including all required components of the Microteaching Planning Document before teaching
- Creating strong open-ended questions for use in Microteaching #1 Leading a Group Discussion

- Planning for meaningful group discussions
- Framing and concluding the lesson

As is evident from these themes, most of the difficulty was with planning and using the planning document. It is worth noting that the list of difficulties with *Plan & Enact* are likely the same difficulties all new teachers struggle with when thoroughly planning a lesson. These difficulties appear to be about learning the importance and process of intentional planning to ensure the practice is enacted effectively. There were also many student comments that mentioned the *Plan & Enact* stage as being helpful in learning about Core Teaching Practices. In general, students saw the planning work as meaningful because it forced them to be more prepared than they would ordinarily be, and to have a plan to refer back to while teaching.

Peer Review

The second most frequently coded element of the Microteaching Learning Cycle was *Peer Review*. Students reported enjoying the peer review step for several reasons; it was a chance to talk with classmates about their own teaching; it provided a window into others' classrooms and teaching; a way to hear classmates' ideas and suggestions for improving practice. The following are themes that arose from the data in relation to the positive aspects of *Peer Review*:

- Support, encouragement, and reassurance from peers
- Specific advice from peers for improving practice
- Seeing others implement the practice
- Less stressful to receive feedback from peers than from the professor

Students viewed and discussed each other's microteaching videos as small groups in breakout rooms during our online seminars. This allowed students to view the practice

in progress and comment directly on the video for later reflection. All aspects of peer review were reported as valuable.

Reflect

Dewey (1933) wrote, “we do not learn from experience, we learn from reflecting on that experience (p. 78). We have taken this to heart in our Microteaching Learning Cycle and have embedded it with layers of reflection. Students first begin to reflect on their teaching when they annotate their microteaching video, again when they watch and discuss it with peers, and lastly when they write responses to the final microteaching reflection questions. After peer review, students were given focused reflection questions to answer. They were encouraged to rewatch their microteaching video and read through the feedback left by their peers. Our students reported appreciating the reflective element of the microteaching process and it was the third most frequently mentioned component of the Microteaching Learning Cycle. The following themes emerged within the student comments coded as *Reflect*:

- It was helpful to rewatch their microteaching video and reflect on their teaching
- Students appreciated reflecting on what they actually did in their teaching, rather than on what they remembered
- Students noticed aspects of their teaching they did well and areas that need improvement
- Focusing their reflection on specific aspects of practice was a strength
- Reflection encouraged them to evaluate their progress and make goals for future teaching

The clear majority of student responses were positive with regards to reflection. There was only one response that mentioned reflection for Question 3: *What was*

difficult about the microteaching process; the response was: “Accepting the fact that you aren’t doing as well as you hoped”. While this certainly can be a difficult realization, we see this reflection as one necessary for the growth of a novice teacher and one that may not have transpired without the microteaching experience. Overall, the student teachers’ responses showed their understanding of the importance of reflection in improving their teaching skills.

Reported Benefits of Microteaching for Teacher Candidates

The overall value of the Microteaching Learning Cycle was evident in student comments throughout both surveys. Below is a sample of positive comments:

- “I really enjoyed the microteaching process. I learned so much about the core teaching values. Researching, discussing, and practicing these values has allowed for me to grow into an educator that I am really proud of.”
- “It shows us how the small steps in teaching can have a great impact when it comes down to the overall goal of being a great teacher.”
- “I liked that it was practical for our classrooms. We didn't need to come up with some big elaborate idea, just use what we had.”
- “These assignments helped me to break down and focus on how I wanted to approach lessons and what teaching strategies work best for certain content. Having a purpose behind the practice helped me understand why those teaching practices are important to be able to use.”
- “I got to work firsthand with the Core Teaching Practices, which was very helpful.”

- "A lot of value. Rather than submitting and teaching a full and well-manicured lesson formulated specifically for observation or the camera, we are getting a nitty-gritty snippet that we can focus on."
- "I love the microteaching process. I think the beauty of this assignment is that we use these processes with all age groups."
- "What I most like about microteaching is that it forces me to slow down before I teach a lesson, and to be intentional about what exactly I am trying to get my students to take away from a lesson."
- "I really enjoyed the microteaching process. Throughout the program, we spent a lot of time learning the content of what we will be teaching, however, we spent very little time on HOW to teach the information we were learning. These microteachings were very beneficial because they allowed us to learn and focus on a specific strategy of our teaching practice."

These responses show a recognition of the importance of implementing Core Teaching Practices in the classroom and support our use of microteaching as a tool to study the practices. The hope is that these student teachers will take their understandings of the Core Teaching Practices into their own classrooms and continue this critical work of teaching.

Future Considerations for Practice

While most student responses were positive regarding the Microteaching Learning Cycle and our implementation of it, the data showed a few areas that we can improve. First, only two students expressed frustration in studying the Core Teaching Practices at the student teaching level, seeing them as too basic to be worth studying at the end of their teacher education program. In regards to the practice of *Explaining*

and Modeling Content Practices, and Strategies was “no longer relevant as I’m so close to graduation and have a ton of experience teaching already”, and “it’s a little late in my development to circle back on modeling”. In regards to the practice of *Leading a Group Discussion* a student wrote, “Leading a discussion and learning to let students lead discussion is Teaching 101”, and “maybe could have helped a few semesters ago”. These comments show a lack of appreciation for the depth of practice required for effective teaching. We take these comments to heart and will work harder to explain the value of studying and practicing the Core Teaching Practices at all levels of teaching. We hope that a better explanation on our part and more practice on the student’s part will help them see that using microteaching for work with the Core Teaching Practices is not simply about completing an assignment, but an opportunity to focus on elements of teaching that can positively impact student learning.

Another area students reported struggling with is the logistics of microteaching. Some student responses pointed to difficulty in deciding on a topic or lesson to effectively highlight the Core Teaching Practice, how much time to allocate to each component of the practice, when to teach that lesson and what part to record. A few students reported that they simply struggled to find the time to complete the assignment in an already busy schedule. In the future, we will allow for more time in class to discuss and plan for these logistical issues through whole and small group discussions. We also need to better help our student teachers understand that the Core Teaching Practices are simply part of regular, daily teaching, not something to be added on only to complete an assignment.

Conclusion

The Microteaching Learning Cycle is an effective tool for teacher candidates, supporting their ability to study, enact, and reflect on Core Teaching Practices. Future refinements will focus on addressing logistical challenges and enhancing the learning experience. This study underscores the importance of microteaching in preparing reflective, skilled educators.

This study was approved by the Institutional Review Board at Central Michigan University, Mount Pleasant, Michigan, United States of America.

References

Altuk,Y.G, Kaya,V.H., & Bahceci, D. (2012). A study on developing a 'microteaching scale' for student teachers. *Procedia – Social and Behavioral Sciences,46*, 2964-2969.

Arsal, Z. (2014) Microteaching and pre-service teachers' sense of self-efficacy in teaching, European Journal of Teacher Education, 37:4, 453-464.

Bliss, T. & Reynolds, A. (2004). Quality visions and focused imagination. In J. Brophy (Ed.), *Using video in teacher education. Advances in research on teaching, 10*, 29-51. Oxford: Elsevier Ltd.

Borko, H., Jacobs, J., Eiteljorg, E., & Pittman, M.E. (2008). Video as a tool for fostering productive discussions in mathematics professional development. *Teaching and Teacher Education*, *24*, 417-436.

Brophy, J. (2004). *Using video in teacher education*. Amsterdam: Elsevier.

Cavanaugh, S. (2022). Microteaching: Theoretical origins and practice. *Educational Practice and Theory*, *44(1)*, 23-40.

d'Alessio, M.A. (2018) The Effect of Microteaching on Science Teaching Self-Efficacy Beliefs in Preservice Elementary Teachers, *Journal of Science Teacher Education, 29*(6), 441-467.

Dewey, J. (1933). *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process*. D.C. Heath & Co Publishers.

Godek, Y. (2016). Science teacher trainees' microteaching experiences: A focus group study. *Educational Research and Reviews, 11*(16), 1473-1493.

Handayani, R.D. & Triyanto. (2022), Online microteaching lesson study: a recipe to enhance prospective physics teachers' pedagogical knowledge. *International Journal for Lesson and Learning Studies*, 11(3), 221-234.

Hattie, J. (2009, 2016). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* Routledge.

Johnson, H.J., & Cotterman, M.E. (2015). Developing preservice teachers' knowledge of science teaching through video clubs. *Journal of Science Teacher Education, 26*, 393-417.

Kourieos, S. (2016). Video-mediated microteaching – A stimulus for reflection and teacher growth. *Australian Journal of Teacher Education, 41*(1), 65-80.

Lampert, M., Franke, M. L., Kazemi, E., Ghousseini, H., Turrou, A. C., Beasley, H., Cunard, A., & Crowe, K. (2013). Keeping it complex: Using rehearsals to support novice teacher learning of ambitious teaching. *Journal of Teacher Education*, *64*(3), 226-243.

Ledger, S., & Fischetti, J. (2020). Micro-teaching 2.0: Technology as the classroom. *Australasian Journal of Educational Technology*, *36*(1), 37–54.

Matsumoto-Royo, K.; Ramírez-Montoya, M.S. (2021) Core practices in practice-based teacher education: A systematic literature review of its teaching and assessment process. *Studies in Educational Evaluation, 70*, 10104.

McDonald, M., Kazemi, E., & Kavanagh, S. S. (2013). Core practices and pedagogies of teacher education: A call for a common language and collective activity. *Journal of Teacher Education*, *64*(5), 378-386.

Michigan Department of Education. (n.d.). *Core teaching practices*. https://www.michigan.gov/-/media/Project/Websites/mde/educator_services/prep/core_teaching_practices.pdf?rev=13216382a9a949c293262f9c5e0fad99

Ostrosky, M.M, Mouzourou, C., Danner, N., & Zaghlawan, H.Y. (2013). Improving teacher practices using microteaching: Planful video recording and constructive feedback. *Young Exceptional Children, 16*(1), 16-29.

Rich, P., & Hannafin, M. J. (2009). Video annotation tools: Technologies to scaffold, structure, and transform teacher reflection. *Journal of Teacher Education, 60*(1), 52–67.

Sherin, M.G. & Han, S.Y. (2004). Teacher learning in the context of a video club. *Teaching and Teacher Education*, *20,* 163-183.

Starr, J.R., & Strickland, S.K. (2007). Learning to observe: Using video to improve preservice mathematics teachers' ability to notice. *Journal of Mathematics Teacher Education,11*, 107-125.

Sydnor, J. (2016). Using video to enhance reflective practice: Student teachers' dialogic examination of their own teaching. *The New Educator*, *12*(1), 67-84.

TeachingWorks. (2022). *Our perspective: Teacher education*. The learning cycle. https://library.teachingworks.org/our-perspective/on-teacher-education/

Tuluce, H.S., & Cecen, S. (2017). The use of video in microteaching: Affordances and constraints. *ELT Journal, 72*(1), 73-82.

Van Es, E. A., & Sherin, M. G. (2008). Mathematics teachers'"learning to notice" in the context of a video club. *Teaching and teacher education*, *24*(2), 244-276.

Zhang, M., Lundeberg, M., Koehler, M. J., & Eberhardt, J. (2011). Understanding affordances and challenges of three types of video for teacher professional development. *Teaching and teacher education*, *27*(2), 454-462.

Zhou, G., & Xu, J. (2017). Microteaching lesson study: An approach to prepare teacher candidates to teach science through inquiry. *International Journal of Education in Mathematics*, *Science and Technology*, *5*(1), 235-247.