

Investigating The Supports and Obstacles of Teachers' Formative Assessment Practices

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Abstract: This article shares information from a research study with six high school mathematics teachers focused on the elements that helped and/or hindered their ability to implement formative assessment practices, including learning targets, questioning, feedback, self-assessment, peer assessment, and instructional decisions in their classrooms. Although this study was focused on mathematics teachers, the lessons learned are relevant to teachers of other content areas and grade levels. Most of the supports and obstacles named by the teachers were perceived as external to them. This implies that school leaders can support teachers as they incorporate these instructional practices.

Keywords: Classroom Assessment, Formative Assessment, Growth Mindset, Mathematics Education, Classroom Culture, Belonging

Introduction

Incorporating formative assessment practices supports students' learning (Black & Wiliam, 1998). Therefore, teachers would likely want to implement these types of practices into their classes to help their students succeed. Some teachers may already be doing this, while others are struggling with determining meaningful ways to implement these types of practices. This leads to the question of what helps or hinders teachers' abilities to implement formative assessment practices in their classrooms. We need to better understand what types of supports help teachers implementing meaningful formative assessment opportunities in their classrooms, so those can be shared with other teachers. In addition, we need to understand what is hindering teachers' ability to implement formative assessment practices, so we can create or provide opportunities to support teachers' learning and growth. Teacher educators and administrators can help facilitate these opportunities.

Review of Literature

Research has identified multiple factors that support teachers' implementation of formative assessment practices. First, teachers' content knowledge plays a role in their ability because they need to be well-versed in their content to understand their students'

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thinking and make decisions about how to effectively assess their students (Hill et al., 2005). Second, teachers need a community of other teachers to share ideas (Mazieres et al., 2024; Suurtamm & Koch, 2014). These communities of practices or professional learning communities are critical for teachers' development because they allow them time to brainstorm practices, try practices out in their classrooms, and then debrief with their colleagues. This could also provide teachers with colleagues to observe to gain ideas about successful implementation. Third, it is not surprising that professional development and the curricula that teachers have access to also play a role in their ability to implement formative assessment practices (Suurtamm et al., 2010). When curricular materials provide suggestions for assessing students in various ways, teachers are better prepared to implement these types of practices in their classrooms. In addition, when teachers attend professional development sessions that provide suggestions and practical ideas for implementing formative assessment practices, they are better prepared to try these ideas in their classrooms.

Multiple factors make implementing formative assessment practices in their classrooms more challenging for teachers. The lack of reliable resources with examples made it difficult for teachers to determine how best to support their students (Mazieres et al., 2024). Teachers would have to use their own time to find resources to support them and their students. This leads to another concern from teachers which is having enough time plan and collaborate with their colleagues (Mazieres et al., 2024). High-stakes testing often guides teachers' decisions about their classroom assessment practices (Box et al., 2015). Teachers felt the pressure of high-stakes testing and aligned their classroom practices with the expectations of high-stakes testing (i.e., often lower-level, memorization-type questions) even when they knew there were better and more meaningful ways to assess their students. Unfortunately, the pressure of high-stakes testing derailed teachers' knowledge of what assessment should look like in their classrooms. Second, aligned with the pressure of high-stakes testing is the issue of covering the content necessary for students to be successful on these tests (Box et al., 2015; Volante, 2010). Teachers felt like they needed to cover everything that would be on the test, which led to them moving quicker through the content than they would want, which did not leave much room for formative assessment practices. Third, similar to how teachers' knowledge is a support for implementing formative assessment practices, teachers' lack of content knowledge can hinder their ability because they are not able to respond accurately to students' thinking or determine appropriate ways to assess them (Suurtamm & Koch, 2014). Fourth, the expectations of parents and students can also challenge teachers' implementation of formative assessment practices (Volante, 2010). Oftentimes, formative assessment practices are not graded; however, parents and students are used to seeing grades on every assignment or assessment. When grades are not assigned for a formative assessment activity, it can be challenging for parents and students to understand the purpose of this activity. This pushback from parents and students is exactly why teachers need to be clear on how formative assessment practices support student learning. Not everything needs to be graded for learning to happen, which is a shift in thinking teachers must help parents and students make.

Method

A research study was conducted with six high school mathematics teachers, who all self-identified as regularly implementing formative assessment practices in their classrooms, from four schools in Michigan. This research study focused on six specific formative assessment practices: learning targets, questioning, feedback, self-assessment, peer assessment, and instructional decisions. The research question was What helps and hinders teachers' ability to implement formative assessment practices in their classrooms. The teachers were interviewed and asked what they think helped and hindered their ability to implement these six formative assessment practices in their classrooms. Table 1 provides data about each of these schools and the teachers. Please note that all school and teacher names are pseudonyms.

Table 1. School and Teacher Information.

School	School Information	Class Period Length	Teacher	Years of Teaching Experience
Alexander H.S.	Rural, 900 students, 70% free/reduced lunch	53 minutes	Lindsay	16
			Scott	8
Newson H.S.	Rural, 1000 students, 74% free/reduced lunch	70 minutes	Lucas	15
Sanderson H.S.	Urban, 500 students, 88% free/reduced lunch	Modified Block: Monday – 45 minutes, Two days – 90 minutes	Evan	6
			Gwen	2
Thompson H.S.	Suburban, 1800 students, 52% free/reduced lunch	60 minutes	Charlie	10

The teachers participating in this study were from diverse school settings and had a range of teaching experiences. Two teachers (Lindsay and Gwen) had also chosen teaching as their second career. Even though these teachers came from varied backgrounds and experiences, many of their responses for supports and obstacles in implementing formative assessment practices were similar.

Results

The results focused on six formative assessment practices (learning targets, questioning, feedback, self-assessment, peer assessment, and instructional decisions) and what supports and obstacles teachers faced with implementing them. This section separates

supports and obstacles into two discussions. Then, within those two categories, the data was identified as an internal or external factor. This provides more information about what has helped or hindered teachers' abilities to implement formative assessment practices because it identifies more detailed information about how these factors are seen by teachers (i.e., factors they can control or ones that they see as out of their control).

Supports for Implementing Formative Assessment Practices

Supports were identified as internal or external factors. The internal factors related to teachers' beliefs about teaching, learning, and themselves. The external factors related to ideas outside of the teacher. Table 2 shows the number of supports identified by teachers for each of the formative assessment practices.

Table 2. Internal and External Supporting Factors.

FA Practices	Internal	External	Total
Learning Targets	2	8	10
Questioning	2	10	12
Feedback	0	15	15
Self-Assessment	0	6	6
Peer Assessment	0	9	9
Instructional Decisions	3	8	11
Total	7	56	63

As shown in Table 2, significantly more external factors supported teachers' implementation of formative assessment practices than internal factors. Due to the significant number of external factors, these were broken down into themes to provide a clearer picture of what exactly was helping teachers' implementation. Table 3 shows these themes. *Class norms* are factors related to teachers' regular classroom practices. Content related to the course content (in this case, mathematics). *Logistics* related to factors involving making decisions about activities, assessment, or pacing. *Resources for Teachers* could be people or materials that were available to the teacher. *Resources for Students* could be people or materials that were available to the student. *School* related to the structure of the school. *Students* related to students' interactions, experiences, and beliefs within the classroom. *Time* related to issues of time. As shown in Table 3, *Resources for Teachers* was the factor that most supported teachers' implementation of formative assessment practices.

Table 3. External Factors Supporting Formative Assessment (FA) Practices.

FA Practices	Class Norms	Content	Logistics	Resources for Teachers	Resources for Students	School	Students	Time	Total
Learning Targets	0	0	0	7	0	0	0	1	8
Questioning	0	0	0	9	0	0	1	0	10
Feedback	1	0	2	5	0	0	6	1	15

Self-Assessment	1	0	0	0	3	0	2	0	6
Peer Assessment	2	0	0	0	3	1	3	0	9
Instructional Decisions	1	1	0	3	1	2	0	0	8
Total	5	1	2	24	7	3	12	2	56

Learning Targets

Teachers identified two internal and eight external factors that supported their ability to use learning targets in their classrooms. For internal supports, Charlie mentioned that having a clear idea of where the lesson was going helped him create learning targets. Lukas stated that his prior teaching experience helped him write effective learning targets.

Of the eight external factors, seven were related to *resources for teachers*, and one was related to *time*. Charlie, Evan, Gwen, and Lindsay all mentioned that having other teachers to work with was helpful to their ability to write learning targets. Gwen, Lindsay, and Scott all stated that their textbook was a resource for them when writing learning targets. Evan mentioned that having 90 minutes for his planning time was helpful for writing quality learning targets.

Questioning

Teachers identified two internal factors and ten external factors that supported their ability to create questions. Evan mentioned that his previous teaching experience helped him determine what questions to ask students. Lindsay's reflection on her own practice has helped her decide how to ask effective questions.

Of the ten external factors, nine related to *resources for teachers*, and one related to *students*. Charlie, Evan, and Lukas all mentioned that attending professional development sessions was helpful to their ability to write high-quality questions. Scott and Charlie mentioned that seeing how their colleagues ask questions has helped them improve the questions they ask. Evan and Lindsay mentioned that their textbook often provided good questions they could use in their classrooms. Gwen and Lindsay stated that they used additional resources outside of their textbook. Lukas was the teacher who stated that his students supported his ability to ask questions. He said that asking questions in small groups instead of the whole class was helpful to him because he thought he asked better questions to smaller groups of students.

Feedback

Teachers did not identify any internal supports for implementing feedback; however, they did mention fourteen external supports. The teachers split their discussion of feedback into verbal (10 factors) and written (5 factors) components. For verbal feedback, the themes were *class norms*, *logistics*, *resources for teachers*, *students*, and *time*. Evan stated that since his class was 90 minutes long most days, it provided him with more opportunities to provide verbal feedback to his students. Evan regularly allowed students to work during class, where

he would walk around and check in with students. This also gave him multiple opportunities to implement verbal feedback with his students. Scott stated that his textbook provided suggestions for feedback, so he used those. He also gathered ideas from his colleagues on how to give verbal feedback to students. Lukas mentioned that since verbal feedback happens in the moment, he is more likely to implement it because it can happen quickly.

Charlie, Gwen, Lindsay, and Lukas all mentioned factors related to students as helping them implement verbal feedback. Charlie and Gwen both discussed how talking with students, oftentimes 1-1, was helpful to their ability to provide meaningful verbal feedback on students' progress. Gwen and Lindsay stated that their students were receptive to receiving verbal feedback, making it easier for them to implement. Lukas talked about how he has a good understanding of his students, including their body language to know if they were making sense of the content, so that they could respond meaningfully with verbal feedback.

For written feedback, the themes were: *logistics, resources for teachers, and students*. Evan thought that limiting the length of his quizzes allowed him to provide better written feedback to his students. If the assessment length was too long, then he could not provide as good of feedback to his students. Gwen mentioned that seeing students' work helped her provide feedback because she could be more intentional about what she told them. Similar to verbal feedback, Scott relied on his textbook and colleagues for ideas on providing written feedback to his students. Charlie mentioned that his professional learning community provided him with ideas on providing meaningful written feedback.

Self-Assessment

The teachers did not mention any internal factors for implementing self-assessment. However, they did mention six external factors, including *class norms, students, and resources for students*. Evan stated that since he provided his students with learning targets and a document that included these it allowed his students to self-assess because they had a structure in place. Charlie and Lindsay thought that students were important to the process of implementing self-assessment in their classrooms. Charlie provided opportunities for self-assessment and believed that with more practice, students would get better, allowing him to implement this more often. Lindsay's students were willing to participate in self-assessment, which allowed her to implement this practice in her classroom. Charlie, Gwen, and Lindsay all mentioned that students needed resources to be able to successfully self-assess, whether this was with rubrics (Charlie), online resources (Gwen), or examples of model work (Lindsay).

Peer Assessment

The teachers did not mention any internal factors for implementing peer assessment. However, they did mention eight external factors, including *school, resources for students, class norms, and students*. Gwen thought that having small class sizes made implementing peer assessment more manageable for her classroom. As with self-assessment, Charlie often used rubrics to help his students understand the peer assessment process. Charlie and Lindsay also used model work to help their students peer assess. Scott thought his classroom structure, students sitting in groups and having group roles, enabled him to implement peer

assessment more easily. Charlie, Lindsay, Gwen, and Lukas all thought students played a critical role in their ability to implement peer assessment in their classrooms. Charlie and Lindsay thought that providing students with opportunities to peer assess would help them improve with this formative assessment practice. Gwen believed that the community she had created in her classroom, where students had a good rapport with each other, provided more opportunities to implement peer assessment. Lukas stated that sometimes students were better at explaining a concept to their peers in a way their peers would understand, so implementing peer assessment was meaningful for his students.

Instructional Decisions

Teachers identified three internal and eight external factors for this formative assessment practice. Charlie and Evan stated the internal factors. Charlie thought his beliefs about teaching helped him make instructional decisions in the moment. He and Evan thought their prior teaching experiences better equipped them to make important instructional decisions.

The eight external factors included *class norms, content, resources for students, school, and resources for teachers*. Scott thought the norms he established in his classroom of students working in groups allowed him to make instructional decisions because he could have groups working on different activities based on their needs. Evan stated that when his school went one-to-one the following year, it would provide him more opportunities to make instructional decisions because he could have students working on different online activities. Lukas said his understanding of the math content helped him make instructional decisions because he knew how the content aligned and what concepts would be necessary for students to know going further. Charlie and Scott mentioned that seeing their colleagues teach lessons or having conversations with them provided them with ideas about how to make instructional decisions in their own classrooms. Evan used resources outside of his textbook to help him make instructional decisions. Charlie stated that the structure of their math department and the fact that they had a teacher-created curriculum made it more likely that he would make instructional decisions independently. Gwen stated that support from her administration helped her make instructional decisions because she could focus on what her students needed and not coverage of the textbook.

Obstacles to Implementing Formative Assessment Practices

Obstacles were identified as internal or external factors. The internal factors related to teachers' beliefs about teaching, learning, and themselves. The external factors related to ideas outside of the teacher. Table 4 shows the number of obstacles identified by teachers for each of the formative assessment practices. Unlike with supports, there were instances where teachers stated that there were no obstacles in their ability to implement particular formative assessment practices. Therefore, the category of none was included here.

Table 4. Internal and External Hindering Factors.

FA Practices	Internal	External	None	Total
Learning Targets	3	4	1	8

Questioning	3	4	1	8
Feedback	4	10	0	14
Self-Assessment	2	11	0	13
Peer Assessment	2	12	0	14
Instructional Decisions	3	7	0	10
Total	17	48	2	67

As with supports, the number of external factors greatly outweighed the internal factors. The external factors were broken down using the same categories as the supports. Table 5 shows the categories of external factors for each of the formative assessment practices. It is worth noting that *students* were the biggest hindrance to teachers' implementation of formative assessment practices. About half of the factors named by teachers are related to students. Every formative assessment practice, except learning targets, had at least one way students hindered the process.

Table 5. External Factors Hindering Formative Assessment (FA) Practices.

FA Practices	Class Norms	Content	Logistics	Resources for Teachers	Resources for Students	School	Students	Time	Total
Learning Targets	0	1	0	1	0	1	0	1	4
Questioning	0	0	0	1	0	0	1	2	4
Feedback	0	0	2	0	0	0	5	3	10
Self-Assessment	1	0	0	0	3	0	7	1	12
Peer Assessment	1	0	1	0	1	1	7	1	12
Instructional Decisions	0	1	1	1	0	0	2	2	7
Total	2	1	4	3	4	2	22	10	48

Learning Targets

Gwen was the one teacher who stated that nothing hinders her ability to write learning targets. The rest of the responses included three internal and four external factors. Evan and Lukas commented that they had not seen much value in writing learning targets in the past, so it had not been a focus for them. Evan also stated that he did not spend much time writing targets.

The four external factors included *resources for teachers, time, content, and school*. Lindsay mentioned that she could write targets on her own but struggled when she had to work with her colleagues to write targets together. She found that people often came to the table with different ideas of what the target for the lesson should be. Lukas identified the rest of the external factors. Lukas claimed he did not have time to write targets for all of the different classes that he was teaching. He also mentioned that there was a lack of structured support from his administrators, which was an obstacle because they were

expected to write targets during their department meetings, but other school-related issues often came up and distracted them from writing their targets. Lukas also found writing targets challenging for a new course because he was not as familiar with the content as he was with other courses he was teaching.

Questioning

As with the learning targets, Gwen was the only teacher who mentioned that nothing hinders her ability to determine questions. The rest of the responses included three internal and four external factors. Lindsay and Scott identified all of the internal factors. Lindsay stated that sometimes, she would rush through a lesson and knowingly ask lower-level questions. Lukas identified questioning as a practice that he struggles with in general. He thinks he does a better job of asking good questions in small groups but struggles to ask the right questions during whole group discussions. Lukas also mentioned that he struggled to follow through with what he had learned in professional development sessions related to questioning.

Evan, Gwen, and Lindsay stated the four external factors, including *resources for teachers, students, and time*. In the initial discussion, Gwen had mentioned that nothing hindered her; however, after further discussion, she noted that students' lack of prior knowledge made it challenging for her to ask questions. Lukas and Evan both mentioned time as their obstacle. Evan was teaching four different classes, so finding time to plan effective questions for all the different classes was challenging. Lukas wanted more time to find resources related to questioning and more opportunities to talk with his colleagues about questioning and possible resources.

Feedback

Like with supports, teachers talked about feedback as two separate components, verbal and written. For verbal feedback, the teachers did not mention any internal obstacles; however, they did mention three external factors that all related to *students*. Gwen had a hard time providing verbal feedback to students who were quiet or unavailable to meet outside of class. Evan found an imbalance in the needs of his students, so he tended to provide more verbal feedback to some students than to others. Lindsay found it challenging when students did not answer questions, so she could not offer them feedback.

For written feedback, the teachers identified four internal and five external factors. Charlie, Evan, and Lukas all stated internal factors. Charlie and Lukas both identified their handwriting as a hindrance because students could not read their writing. Written feedback was not a priority for Evan, so he rarely did it. Lukas also mentioned a struggle to find a balance in how much written feedback he provided to students. He wanted it to be meaningful but also manageable for himself.

The seven external factors included *time, logistics, and students*. Evan, Lukas, and Scott all mentioned how time-consuming it is to provide written feedback. For Gwen, the structure of their required unit tests was challenging because the format was all multiple choice, which did not allow her to provide meaningful written feedback because students did not always show their work. Providing written feedback was a logistical issue for Scott because it was delayed and not immediate, like verbal feedback. Lindsay and Scott struggled

with written feedback because students did not read it or know how to respond to what their teacher wrote.

Self-Assessment

Teachers named two internal and ten external obstacles for this formative assessment practice. Evan and Lukas identified the internal factors. Evan shared that his own lack of knowledge hindered his ability to have students self-assess because he did not know how to have them do this meaningfully. Implementing self-assessment had not been a priority for Lukas. Therefore, he did not make it.

Then, eleven external factors included *class norms, time, resources for students, and students*. Scott stated that he needed to set a norm for students to self-assess, which he was trying to create. Lukas claimed he did not have time to implement this practice in the way he wanted. Charlie said he needed to find a structure for students to help them self-assess meaningfully. Gwen stated that students' lack of home internet hindered her ability to implement peer assessment because she often posted the homework answers, but students would not be able to check them from home.

The other seven external factors are all related to students' role in the classroom. Charlie found that students struggled with understanding the importance of self-assessment, and they often scored themselves higher than he viewed their level of understanding. Charlie and Lindsay noticed that students lacked the effort to put meaning into the self-assessment process. Scott did not think some of his students were comfortable with the self-assessment process. He also believed he would need to train them because some students did not know how to self-assess. Gwen also stated that students' lack of homework completion hindered her ability because students did not have work to self-assess.

Peer Assessment

Teachers identified two internal and twelve external factors for this formative assessment practice. Lukas and Evan named the two internal factors. Lukas stated that he needed to find a meaningful way to implement this practice into his lessons. Evan noted that peer assessment was not his priority; therefore, he did not put effort into implementing this practice.

The twelve external factors included *logistics, class norms, time, resources for students, school, and students*. Lukas thought implementing peer assessment was a logistical issue due to protecting students' privacy. Scott was working to create class norms related to peer assessment, just like he was doing with self-assessment. Evan stated that time did not allow him to incorporate this practice. Charlie struggled with finding an appropriate structure for implementing this with students, which is the same issue he had with self-assessment. Gwen stated that her large class sizes hindered her ability to implement this practice in her classroom.

The other seven external factors are all related to students' role in the classroom. Gwen stated that students' lack of engagement with the peer assessment process hindered her ability to implement this practice. Charlie noted the same obstacles for peer assessment as self-assessment, such as students' lack of understanding of the process and their lack of effort. He also mentioned status issues between students as a hindrance to his ability to

implement peer assessment. He found that students judged their peers' performance based on their perceptions of their peers' level of smartness, not the actual work they were reviewing. Lindsay also noted that her students' lack of maturity made peer assessment challenging because she had to consistently remind students what appropriate feedback should look and sound like. Evan and Lindsay also stated that students' level of understanding, or lack thereof, made implementing peer assessment challenging. If students did not understand the content, they could not provide their peers with meaningful feedback.

Instructional Decisions

Teachers identified three internal and seven external factors for this formative assessment practice. Lindsay and Scott stated the internal factors. Scott identified this practice as an area of growth for himself. He related this to differentiated instruction, which is something he struggles with. Lindsay stated that sometimes she lacks confidence in the decisions she is making because she does not always know where the path will lead. Lindsay also wanted to change how she implemented components of her classroom to be more responsive to students' needs. She was working on figuring out how to do that.

The seven external factors included *logistics, content, resources for teachers, time, and students*. Scott mentioned a logistical issue of not always being able to make the instructional decisions he wanted because he needed to stay on pace with the other teachers on his team because they had common unit assessments. Gwen felt hindered by her decisions because she had to make sure she taught the content thoroughly enough to ensure her students were prepared for the next math course. Lukas mentioned that the lack of resources outside of his textbook hindered his ability to make instructional decisions. He had resources for some of the classes he taught, but not all of them. Lindsay and Lukas both mentioned time as an obstacle. Lindsay wanted more time to support her students, and Lukas wanted more time to find resources. Evan's obstacles were both related to students' role in the classroom. First, he had many students who needed accommodations, which hindered his ability to make decisions. Second, his students had a diverse range of ability levels, making it challenging for him to make decisions for the class as a whole.

Conclusion

Although the six mathematics teachers were from four different high schools, their supports and obstacles with implementing formative assessment practices were very similar. In both instances, teachers identified many more external factors than internal factors. This implies that teachers need support outside of themselves to be successful. This also means that teachers' perceptions are that there are many factors they do not have control over that hinder their ability to implement these high-quality formative assessment practices. Many of the internal supports or obstacles that teachers discussed aligned with what was found in previous research. The teachers in this study recognized that their own knowledge base was a factor in their success (i.e., when they understood the content, they were better able to assess their students' thinking), but could also hinder them when their content knowledge was lacking. In addition, teachers need a community of practice to support them in shifting their practice or brainstorming formative assessment practices, which also aligns with previous research. When teachers have others to talk with or observe,

they gain valuable insight into what strong formative assessment practices should look like in a classroom. Lastly, when teachers are provided with high-quality curricular materials or professional development opportunities, they are better equipped to implement different formative assessment practices in their classroom, which aligns with previous research. This means that teachers need to have a strong understanding of their curricular materials and how to use them. They also need professional development opportunities that include follow-ups to guide them in implementing formative assessment practices in their own classrooms.

It is interesting to note that the research focused on the pressure of high-stakes testing and how it can hinder teachers' ability to implement formative assessment practices in their classrooms; however, this topic was not mentioned by any of the teachers in this research study. The concern about coverage leading to the lack of formative assessment practices was also not an issue for these teachers. Many of them commented that their administrators supported them in focusing on students' needs and not coverage of the content. Two concerns mentioned by teachers in this study and identified in the research is the concern about time and the role of students. It is not surprising that teachers do not think they have enough time in their day to accomplish everything they want. Teachers are consistently asked to do other jobs that take time away from planning. It is important to note that these teachers in this study did not mention parents. Students were the second most common support and the most common hindrance in teachers' implementation of formative assessment practices. This means teachers need to work harder to help students shift their mindset about what formative assessment is and what it should look like in the classroom. Students are essential to the success of teachers' implementation of formative assessment practices because they need to be active participants in the process. Therefore, they need to see how valuable using these practices are to their success.

Implications for Schools

Most factors that helped or hindered teachers' abilities to implement formative assessment practices were perceived by teachers as external to their control. However, these factors are likely in the control of school leaders. Teachers will always want more time; however, if we are intentional with how we ask teachers to use their non-instructional time, we can help them be more productive and provide them with valuable learning experiences that benefit them and their students. Teachers need time in their day to focus on discussions around implementing formative assessment practices. These discussions must be protected so that other topics do not sidetrack these conversations. Teachers also need time to observe their colleagues, especially those who are having success with implementing different formative assessment practices. Teachers need high-quality instructional materials that include suggestions for implementing formative assessment practices in meaningful ways. This can especially be helpful for new teachers who do not have as much prior experience to lean on for ideas. However, this one resource (i.e., textbook) cannot be expected to provide teachers with all the ideas or help they need. Teachers need access to additional high-quality resources outside of their textbooks. Teachers also need meaningful professional development opportunities with follow-up opportunities so they can try out these new assessment practices and then reflect on their implementation. We cannot expect teachers to attend a one-time workshop, learn everything they need, and then reflect on their own.

This connects back to the importance of communities of practices or professional learning communities. Teachers need other teachers to be successful.

Students were one of the most essential factors in helping or hindering teachers' implementation of formative assessment practice. This means there needs to be a culture shift within a teacher's specific classroom and the school. When all teachers and school leaders are on the same page about the importance of implementing formative assessment practices, students will see how valuable these types of practices are. There will also be consistency in the classes students attend, which will help them grow in their ability to participate in the formative assessment process.

While this study focused on high school mathematics teachers, the supports and obstacles they named are likely not unique to this grade level or content area. It is expected that all teachers face these same issues in their own classrooms, so investigating how these ideas could be changed in our schools would benefit all teachers, not just mathematics teachers. If we want our students to succeed, we must provide our teachers with opportunities to grow and develop their own practice. By providing opportunities within our schools for this to happen, we ensure that we are supporting our teachers in their success and not making things more complicated for them.

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