

Using Formative Assessment to Improve Student Achievement in Reading: Reflections from the Field

The ability to read by the completion of the fourth grade is essential for a student's future academic and social success. With only thirty-four percent (34%) of fourth grade students reading on grade level, the importance of improving the instruction of reading cannot be overstated. The purpose of this study was to examine teacher's perceptions of the efficacy of formative assessment as a means of improving student's reading performance. The study utilized a qualitative methodology to interview, record, code, and analyze responses to eight open-ended questions relating to the efficacy of formative assessment. Participants included fourteen (14) language arts, English as a second language (ESL) teachers from an urban predominately Hispanic Title I public elementary school, grades kindergarten through sixth, in a large metropolitan city in North Texas. Findings identified nine major themes ranging from the identification of student's levels of performance to using formative assessment to empower higher levels of student achievement. The findings are considered appropriate to guide future practice and research.

Introduction

Many students leave elementary school without knowing how to read. This occurs even though reading is essential in ensuring the student's future academic and social success (Griffin & Murtagh, 2015). Schechter et al. (2015) revealed that approximately only 34% of fourth grade students read on grade level. Students who are unable to read proficiently by fourth grade are less likely to graduate from high school. When students do not possess the basic skills needed to read, their comprehension and communication skills are diminished (Leu & Maykel, 2016).

Many countries have implemented high stakes testing in the form of summative assessments which have little impact on student learning. Summative assessment, known as *assessment of learning*, differs from formative assessment which is referred to as *assessment for learning* (Dixson & Worrell, 2016). Assessment of learning or summative assessment occurs when a test is administered and scored to judge a student's achievement at mastering the learning target. Assessment for learning or formative assessment occurs when student responses modify instruction, encompasses the students' understanding, and are used to establish future learning goals (Black & William, 1998a).

Research has revealed formative assessments, when used correctly, can positively impact student learning (Black & William, 1998a). Teachers employing formative assessment practices throughout a unit of study enable intervention strategies needed for objective mastery to be implemented. Stiggins and Chappius (2005) assert that "assessments have to help teachers accurately diagnose student needs, track and enhance student growth toward

1 standards, motivate students to strive for academic excellence, and verify
2 student mastery of required standards” (p.14). Black and Wiliam (1998b)
3 contended that teachers do not utilize formative assessments consistently
4 because the instructional power and benefit to improve student outcome have
5 not been fully conceptualized. The incomplete utilization of formative
6 assessment propagates ineffective usage of the evaluation tool.

7 The present study examined kindergarten through sixth grade elementary
8 English language arts teachers’ perceptions of formative assessments as a tool
9 to assess reading, the role formative assessment plays in lesson planning and
10 instruction, and teacher’s perceptions as to whether formative assessments lead
11 to improved student learning. The study was conducted in a Title I,
12 predominantly Hispanic elementary (kindergarten through sixth grade) school
13 in a large metropolitan city in North Texas.

14 15 16 **Theoretical Background**

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18 The current study is framed by the constructivist theory of social
19 development and on both Piaget and Vygotsky’s work on social learning
20 theory, zone of proximal development, and the more knowledgeable other.
21 Additionally, assessment types and usage, descriptive feedback, and
22 collaboration support the framework. The following narrative address each of
23 these topics.

24 25 **Constructivist Theory of Social Development**

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27 The constructivist learning theory is founded historically on the work of
28 several pioneers in the field of educational psychology including but not
29 limited to Piaget and Vygotsky (Bada, 2015). The constructivist theory is
30 formed on the premise that learning is an active process which occurs as
31 students construct new learning by building upon previously learned
32 information while providing meaning through their learning experiences (Bada,
33 2015).

34 Vygotsky added to the understanding of social development theory by
35 highlighting three key themes: 1) the learner’s collaboration with others, 2)
36 individual possession of a deeper knowledge of the concept, and 3) the
37 difference between what a learner can do independently versus with assistance
38 (Vygotsky, 1978). Taking into consideration the importance of interaction and
39 collaboration between the teacher and students and between students and peers,
40 the social learning theory as outlined by Vygotsky (Popham, 2013) forms the
41 foundation for this study. Vygotsky (1978) stressed that social learning theory
42 provides the basis for collaborations between teacher, student, and peers.
43 Vygotsky viewed such collaboration as the catalyst for student learning and
44 understanding concepts coming from interaction with one another rather than
45 just by teacher-centered lessons. Likewise, Zhou and Brown (2015)

1 emphasized Vygotsky’s postulation that social interaction precedes learning as
2 they maintained that students learn with the help of others.

3 Vygotsky stressed that another important component of cognitive
4 development is the Zone of Proximal Development (ZPD) which is defined as
5 what a student can do with assistance of someone and not independently (Zhou
6 & Brown, 2015). Teachers can use the formative assessment process to
7 determine a students’ ZPD, establish attainable goals, and move students from
8 working independently to working interdependently which increases learning
9 capacity (Heritage & Chang, 2012; Moss & Brookhart, 2019). Moore, (2011)
10 Vygotsky emphasized that the most explicit instruction should be given in the
11 ZPD (Moore, 2011). The more interaction and guidance children receive when
12 they are learning a new skill or concept, the greater the attainment of the
13 concept being taught (Vygotsky, 1978).

14 15 **Assessment**

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17 Assessment is a necessary part of the education process (Dixson &
18 Worrell, 2016). As a link between teaching and learning, assessment is the way
19 to determine if the applied instructional approaches resulted in students
20 meeting the targeted learning objectives (Wiliam, 2013). The central purpose
21 of all assessment is to provide data to help educators make decisions regarding
22 students’ progress (Moss & Brookhart, 2019). Beginning in the 1950s, a
23 summative style of standardized testing became a regular part of district and
24 statewide assessment practices in education throughout the United States
25 (Stiggins & Chappius, 2005).

26 27 **Formative Assessment**

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29 Formative assessment, for this study, was defined as a process teachers’
30 use throughout the instructional period to guide their teaching and to gauge
31 student progress toward learning targets (Black & Wiliam, 1998a; Popham,
32 2013). Research has emphasized formative assessment as a continuing process
33 that is comprised of the teacher using varying methods of data collection
34 throughout instruction (Black & William, 1998a; Curry, Mwavita, Holter, &
35 Harris, 2016). The social development theory supports the concept that
36 meaningful formative assessment occurs when the teacher fully implements
37 formative assessment strategies. (Black & Wiliam, 2009; Clark, 2012).

38 Benjamin Bloom contributed greatly to the theory of formative assessment
39 when the mastery of learning concepts was linked to the terms, formative and
40 summative evaluation. Bloom et al. (1971) suggested that to improve
41 achievement and close achievement gaps, differentiated instruction is needed.
42 Differentiation can be accomplished by conducting ongoing formative
43 assessments to determine student’s level of understanding, using that
44 knowledge to guide instruction and target learning gaps thus enabling students
45 to more effectively learn. Bloom, et al. (1978) further asserted that explicit

1 feedback, with teachers correcting misconceptions and misunderstandings, is
2 important and occurs as a result of ongoing formative assessment utilization.

3 The landmark research study, *Inside the Black Box*, conducted by Black
4 and Wiliam (1998a) found that the efficient use of formative assessment can
5 have a significant impact on teacher practice, on student learning, and on
6 closing the achievement gap between student populations. Further, the results
7 showed formative assessments have the greatest impact on the achievement of
8 students identified as struggling or low achieving (Black & Wiliam, 1998a).

9 Stiggins and Defour (2002) postulated that formative assessments are
10 utilized by teachers and schools in order to “identify student understanding,
11 clarifying what comes next in the learning, trigger and become part of an
12 effective system of intervention for struggling students” (p. 640). Additionally,
13 formative assessments have the power to “inform and improve the instructional
14 practice of individual teachers or teams, help students track their own progress
15 toward attainment of standards, [and] motivate students by building confidence
16 in themselves as learners” (p. 640). Stiggins and Dufour (2002) also asserted
17 that formative assessments can be catalysts for continuous improvement for
18 students and schools. Perera-Diltz and Moe (2014) stated the reason for
19 applying formative assessment is to actively engage students in the learning
20 process and to foster growth by using various assessment strategies. The
21 implementation of the assessment is only the beginning of formative
22 assessment process (Dixson & Worrell, 2016). The analysis and use of
23 collected assessment data make the process formative.

24 **Formative Assessment and Instruction**

25 Formative assessment is an ongoing planning process that teachers
26 implement during instruction to gather information to improve student
27 performance (Hattie (2012) as cited in Duckor et al., 2018; Popham, 2013).
28 Wiliam (2013) identified three major processes central to the implementation
29 of formative assessment: 1) identification of learners’ current skill, 2)
30 identification of target, and 3) steps the learner needs to reach the targeted skill.
31 The results of formative assessment are utilized when teachers change their
32 instructional strategies, the instructional program, or both to meet student needs
33 (Brink, 2017). It is vital that as teachers plan instruction, multiple formative
34 assessment strategies are utilized to determine the amount of student mastery
35 of concepts and provide guidance for instructional adjustment (Blythe, 2015).
36 Formative assessment used correctly guides instruction but is not used for
37 student grade evaluation (Cizek et al., 2019). Popham (2014) indicated that
38 when teachers use formative assessment to adjust instruction, substantive gains
39 in student achievement can occur. Additionally, teachers can use the
40 information obtained through formative assessment to set new and more
41 challenging learning targets to increase achievement levels, and to extend
42 learning for students that have mastered the learning objectives (Wilson &
43 Mackie, 2018). Brookhart (2011) found that feedback has a greater impact on
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1 achievement when it is focused on the student’s performance or process on a
2 task.

3 4 **Student Engagement**

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6 Black and Wiliam (1998b) found that students should be active
7 participants in the formative assessment process. As previous stated, the
8 constructivist theory states that learning occurs as students are actively engaged
9 in learning activities. It is essential that students are aware of learning
10 expectations and the target established to achieve mastery. When student
11 participate in the formative assessment process, they are more likely to take
12 ownership of their own learning by embracing the strengths and weaknesses
13 discovered through an analysis of data and targeting areas for improvement.
14 Students can use formative assessment results to reflect on their current levels
15 of performance, to set the new learning goals and to monitor their progress.

16 17 **Feedback**

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19 Feedback is an essential component of the formative assessment process
20 (Heritage & Heritage, 2013). “Feedback provides a vehicle for integrating all
21 components of formative instructional practices...” (Chan et al., 2014). When
22 teachers provide feedback, research indicates that student learning significantly
23 increases and learning gaps at all grade levels significantly decrease (Sekulich,
24 2020). When formative feedback is shared, the learner’s thinking is impacted
25 thus improving learning (Shute, 2008). “Not all feedback is equally effective.
26 Feedback is effective only when it produces the desired outcome, that is, when
27 students are able to move their own learning forward” (Chan et al., 2014, p.
28 97). Feedback that is “timely, specific, addressable, ongoing and content-rich”
29 is essential (Duckor, 2014, p. 28). Fisher and Frey (2013) stated that “checking
30 for understanding is part of a formative assessment system in which teachers
31 identify learning goals, provide students feedback, and then plan instruction
32 based on students’ error and misconception” (p. 2).

33 Feedback should be reciprocal. Both Hattie (2012) and Tovani (2012)
34 suggested that the most powerful feedback is from student to teacher. Teachers
35 can better assist students if learning is viewed from the student’s perspective
36 (Tovani, 2012). The value of feedback as part of the formative assessment
37 process is undeniable.

38 39 **Purpose of the Study**

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41 The purpose the current study was to examine teachers’ perceptions of
42 formative assessments as a tool to assess reading, the role formative
43 assessments play in lesson planning and instruction, and whether formative
44 assessments lead to improvement of student learning. Fourteen language arts
45 teachers in a North Texas Title I elementary school were interviewed using
46 structured open-ended questions (Appendix A). The analysis of results led to

1 reflections on the participants perceptions of formative assessment as related to
2 reading instruction.

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Method

7 A qualitative research approach was utilized to examine teachers'
8 perception in using formative assessments in elementary reading classes. A
9 purposeful sampling of only language arts teachers was employed. The
10 researcher used open-ended interview questions which allowed participants to
11 share thoughts, beliefs, practices, and experiences about formative assessment.
12 A case study research design was utilized as it allowed the researcher to study
13 perceptions among a group of elementary language arts reading teachers. Yin
14 (2015 & 2017) proposed the use the case study method when the researcher
15 had little to no effect on the people or conditions being studied. Additionally,
16 Creswell and Plano Clark (2011) indicated that case studies allow the
17 researcher to gain in-dept understanding of a phenomenon with a small sample
18 of participants.

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Participants

22 The study was conducted in a traditional, urban predominantly Hispanic
23 Title I public elementary school, grades kindergarten through sixth grade, in a
24 large metropolitan city in North Texas. Participants included one male and
25 thirteen females, all who taught either English as a second language (ESL) or
26 bilingual language arts classes. Of the participants, eight were Hispanic, three
27 were Anglo, two were African American and one was Asian. The average age
28 of the participants was forty-two and the average teaching experience was
29 eleven and one-half years, with a range from one year to twenty-four years.

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Data Collection

33 Data were collected through individual interviews using eight specific,
34 targeted open-ended questions (Appendix A). Prior to collecting data, the
35 researcher received approval of the Institutional Review Board (IRB) which
36 ensured that implementation of the study as designed protected the rights and
37 welfare of human subjects and that no harm would occur as a result of
38 participating in the study. All potential participants were assured that
39 participation was voluntary and that all identifying information would be
40 removed. Additionally, the information provided would only be used for this
41 specific study and would then be destroyed. All potential study participants
42 were provided an overview of the study designed for implementation and
43 invited to participate should they so desire. Each teacher that accepted the
44 invitation to participate was provided with a research study package via their
45 personal email which included a letter of invitation, a consent to participant
46 form, and the interview protocol that would be utilized. Following receipt of

1 the signed consent, the researcher contacted each respondent and scheduled an
2 interview at the participants convenience. The interviews were held via Zoom
3 videoconferencing and lasted no more than one hour. Prior to beginning the
4 interview, the researcher clarified any questions the participant might have.

6 **Analysis**

8 Multiple steps were taken in the analysis of data. The first step was to
9 record all interviews for transcription purposes. Additionally, copious
10 observational notes were taken during the interview that were used for
11 comparison with the transcriptions for accuracy. Following the interview, the
12 researcher listened to the recording and transcribed each word-for-word. They
13 transcription was then compared to the notes taken during the interview to
14 establish accuracy. The interviews were then thoroughly analyzed and trends in
15 responses were identified. Identified themes were coded and organized
16 according to patterns that emerged in the study. The researcher then organized
17 the coded data into common themes.

20 **Results**

22 The results from the data collection showed that the respondents believe
23 that, when fully utilized, formative assessment had a positive effect on student
24 reading development. Additionally, the participants indicated that the use of
25 formative assessment data was essential in both future lesson planning and
26 modification of existing lesson plans. All participants credit formative
27 assessments as leading to improved student learning and academic mastery of
28 concepts.

30 **Using Formative Assessments as a Tool for Assessment of Reading**

32 Analysis of responses revealed that participating teachers believed
33 formative assessments provided data necessary to identify students' current
34 levels of understanding compared to the mastery learning expectations.
35 Respondents communicated that using reading formative assessments provided
36 the opportunity to verify students' correct application of reading strategies and
37 skills taught during the instructional period. All respondents reported using
38 some method of formative feedback to support student learning in reading and
39 desired professional development to teach additional skills in using formative
40 assessment strategies to improve student engagement, participation and
41 learning outcomes.

43 **Identifying Student's Level of Performance**

45 The findings revealed that all the participants across all grade levels
46 expressed feeling confident in using formative assessment. Participants

1 expressed the assumption that multiple formative assessment tools should be
2 used, throughout the lesson, to gather information about student learning and
3 level of understanding. Respondents further emphasized that formative
4 assessments provided insight as to the effectiveness of material presentation.

5 These assertions are confirmed by the literature. The value of formative
6 assessment lies in the quality of feedback teachers give to students about their
7 learning and to teachers about their teaching (Andrade, Lui, Palma, &
8 Hefferen, 2015). Teachers become better teachers when they continuously use
9 feedback through the formative assessment process to target and eliminate gaps
10 in the learning (Kincal & Ozan, 2018).

11 **Identification of Students' Strengths and Weaknesses**

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14 In relation to the study, participants reported the usefulness of formative
15 assessments in identifying students' areas of strengths and weakness. Chappuis
16 (2012) noted that using formative assessment to obtain feedback on student
17 learning "directs attention to the intended learning, pointing out strengths and
18 offering specific information to guide improvement" (p.4).

19 Participants also observed that formative assessment assists in the
20 identification of students' weaknesses. Teachers reported that the use of
21 formative assessment to identify student level of attainment of specific reading
22 concepts like main idea or cause and effect, decoding, and using vocabulary
23 allowed them to provide more targeted intervention for small groups of
24 students or individual students. Chappuis (2009) indicated that information
25 gained from formative assessment data guides teachers in providing targeted
26 interventions for those students struggling to master concepts (Chappuis,
27 2009). Likewise, Gustafson et al. (2019) observed that "[t]aken together, the
28 two aspects regarding the content and form of instruction, respectively, provide
29 a general framework for how to develop a successful and individualized
30 educational system for reading instruction" (p. 18). Using the data collected
31 from formative assessments including student work samples, teachers were
32 able to set more targeted goals for all students throughout the educational tiers:
33 Tier 1 - entire class instruction, Tier 2 - small group instruction and Tier 3 –
34 one-on-one instruction an intervention (Gustafson et al., 2014).

35 **Formal Summative Assessment Usefulness**

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38 Participants also found formal assessments, such as summative
39 assessments and benchmarks were useful in providing information about
40 student learning. Study participants reported using other types of assessments
41 such as end of unit tests, weekly tests, standardized tests, and benchmarks to
42 obtain information about students' mastery of concepts. While teachers
43 administered many of these tests because they are required by the school
44 district or the Texas Education Agency, they believed formal assessments were
45 also purposeful. Dixson and Worrell (2016) identified the primary difference
46 between summative and formative assessment is how teachers use the collected

1 information. Respondents expressed the belief that summative assessments had
2 a place in the learning process because they show how much students know.
3 The participant teacher's perception of summative evaluation reflects the
4 thoughts of Candal (2016) who reported that summative assessments provide a
5 comprehensive view of student learning. Gupta (2016) also found that
6 summative assessments or end of unit assessments allows the teacher to
7 "gather data about student performance with regards to learning outcomes" (p.
8 44).

9 10 **Using Formative Assessments to Guide Lesson Planning**

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12 Results of data analysis additionally revealed that the study participants
13 were of the opinion that formative assessments should be an integral part of
14 lesson planning and instruction. While teachers may administer other types of
15 assessments, respondents felt that formative assessment provided real time data
16 that could be utilized to alter current lesson plans and/or develop subsequent
17 lessons based on student performance on the formative assessment used during
18 instruction. Participants further expressed their belief that formative assessment
19 strategies can be used to increase engagement and build student confidence.

20 21 **Targeting Reading Skills based on Running Records**

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23 The findings revealed that respondents felt running reading records were
24 indeed formative assessments because types of information collected were
25 specific measures of reading abilities like oral reading skills and how learners
26 used strategies presented in class. Lipp and Helfrich (2016) explained that
27 teachers should document observable student behaviors using running records
28 which then allows analysis to determine text comprehend (Lipp & Helfrich,
29 2016). Gillett and Ellingson (2017) purported "Running records provide
30 concrete evidence of students' skills, reading levels, strategies, and progress as
31 readers" (p. 136). Teachers reported using running reading records to
32 determine student reading level. Respondents reported that a deep analysis of
33 running records provided data on what students have the ability to perform
34 independently or with assistance known as the Zone of Proximal Development
35 (ZPD).

36 37 **Modifying Lesson Plans and Subsequent Instruction**

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39 Research findings revealed that respondents incorporated formative
40 assessment when designing instructional lesson plans and subsequent instruction.
41 Formative assessments were both planned prior to instruction and often
42 occurred spontaneously, as needed, to guide instruction. Previous researchers
43 have found that true formative assessment occurs when teachers change their
44 instruction to meet the learners' needs based on the data collected from the
45 process and not to make judgements about student learning (Black & Wiliam,
46 1998a; Davidson & Frohbieter, 2011). Conderman and Hedin (2012) noted that

1 formative assessment has a greater impact on teacher lesson planning and
2 instruction because teachers have more opportunities to make instructional
3 adjustments throughout instruction rather than having to wait to discover
4 students' understanding at the end of the unit.

5 Participants reported designing questions to gauge student understanding
6 thus using student responses to determine the concepts following lessons would
7 contain. Participants reported modifying their lesson plans based on results
8 from formative assessment. Teachers described scaffolding lessons, dedicating
9 more time and attention to a certain concept, or moving on to more advanced
10 concepts. Teachers were more likely to modify their lessons to meet the needs
11 of the whole class or struggling students by re-teaching the lesson or providing
12 individual interventions.

13 14 **Using Different Types of Formative Assessment Strategies during Instruction**

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16 Teachers shared their beliefs that formative assessment is different from
17 other assessments in that it could be completed quickly and provided data that
18 was immediately usable. Buelin et al. (2019) stated “[f]ormative assessment
19 takes place frequently, can be quite informal, and is used to monitor and adjust
20 instruction while that instruction is in progress” (p. 21). Teachers reported
21 being able to help reluctant students by implementing formative assessment in
22 nonthreatening ways like using whiteboards, exit tickets, and thumbs up or
23 thumbs down. Buelin et al. (2019) reported that “[f]ormative assessments take
24 many familiar forms: web or concept maps, hand signals like thumbs up/down,
25 exit tickets that students complete before leaving class, choral responses, one-
26 word or one-sentence summaries of lesson content, think/pair/share activities,
27 journal responses, and low- or no-stakes quizzes” (p. 21). Teachers believed
28 utilizing these methods made students feel more confident and did not publicly
29 single out those students struggling with the concepts. Participants reported
30 that student participation and engagement increased, both of which had a
31 positive impact on student learning.

32 33 **Formative Assessment and Improvement in student Learning**

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35 Further analysis of data revealed that all study participants believed that
36 using formative assessment ultimately led to improved students' reading ability
37 and skills. Respondents also expressed the belief that formative assessment
38 assisted teachers in the identification of needed student interventions placing
39 focus on reading levels and skills and enabled improved text selection, targeted
40 vocabulary, and language acquisition strategies. Additionally, teachers felt
41 differentiation and scaffolding of lessons and activities for struggling students
42 was enhanced through the use of data obtained from formative assessments.

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1 **Higher Level of Student Achievement**

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3 Analysis of participant responses revealed the belief that when
4 implemented effectively as part of lesson planning and instruction, formative
5 assessment leads to higher levels of student achievement. These findings are
6 consistent with Wiliam (2013) who identified three major processes as central
7 to the implementation of formative assessment: (a) identification of what the
8 learner currently knows about the skill or concept, (b) identification of where
9 the learner needs to be and, (c) identification of the steps the learner needs to
10 master the skill or concept.

11 Several teachers believed formative assessments improved the student's
12 ability to learn because the teacher is not waiting until the end of the lesson to
13 determine the level of student understanding. Participants described
14 incorporating formative assessment during instruction to address student
15 reading skills or concepts in the moment allowing quick identification and
16 corrective actions to be taken so student misconceptions do not persist. Hoover
17 & Abram (2013) found that there is a direct correlation between an increase in
18 student achievement and formative assessment use.

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22 **Discussion**

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31 **Conclusions**

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This qualitative case study examined fourteen kindergarten through sixth grade elementary ESL and bilingual language arts teachers' perspectives of formative assessments as a tool to assess reading skills, the role formative assessment plays in lesson planning and instruction, and teacher's perceptions as to whether formative assessments led to improved student learning. The results of the study reveal that teachers felt that the use of formative assessment has a positive impact on student reading achievement and improve student learning outcomes. Furthermore, participants communicated their positive perspective regarding the usefulness of integrating formative assessment in lesson planning and instruction to assess student learning as well as using data from the assessments to guide lesson planning. Respondents shared their utilization of various formative assessment strategies to promote student participation, foster collaboration, and increase student confidence. The participants also expressed the need for more professional development on strategies that are exclusive to reading and that allow students to self-assess

1 during the learning process. All participants shared the belief that formative
2 assessment is a necessary part of the teaching and learning.

5 **Recommendations for Future Research**

7 In the spirit of continuing to increase awareness on the effectiveness of
8 formative assessment, future studies, using mixed method approach could be
9 performed. Furthermore, future researchers should identify how formative
10 assessment is implemented and what formative assessment strategies are most
11 often used by instructional personnel. Identified formative assessment
12 practices could be researched and correlated with student reading scores
13 obtained on standardized summative assessments.

14 This study only included teachers. Future research could include
15 interviews to determine student perceptions how of the usefulness of formative
16 assessments. Additionally, research could be conducted to determine the
17 impact formative assessment have in increasing motivation, participation and
18 engagement.

19 Future studies could also be expanded to include other content areas in
20 addition to language arts. Additionally, a cross-curricular approach should be
21 studied to determine if there is a correlation between how often students are
22 exposed to the formative assessment process and student achievement.

25 **References**

- 27 Andrade, H., Lui, A., Palma, M., & Hefferen, J. (2015). Formative assessment in dance
28 education. *Journal of Dance Education* 15(2), 47-59.
- 29 Bada, S. O. (2015). Constructivism learning theory: A paradigm for teaching and learning.
30 *IOSR Journal of Research & Method in Education*, 5(5). 66-70.
- 31 Black, P. & Wiliam, D. (1998a). Assessment and classroom learning. *Assessment in*
32 *Education*, 5(1), 7-74.
- 33 Black, P., & Wiliam, D. (1998b). Inside the black box: Raising standards through
34 classroom assessment. *Phi Delta Kappan*, 80, 139-148.
- 35 Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment.
36 *Educational Assessment, Evaluation and Accountability*, 21(1), 5–31.
- 37 Bloom, B. S., Madaus, G. F., & Hastings, J. T. (1971). *Handbook on formative and*
38 *summative evaluation of student learning*. McGraw-Hill.
- 39 Blythe, D. (2015). Your state, your standards, your learning progression. *Renaissance*
40 [https://www.renaissance.com/2015/06/11/your-state-your-standards-your-learning-](https://www.renaissance.com/2015/06/11/your-state-your-standards-your-learning-progression/)
41 [progression/](https://www.renaissance.com/2015/06/11/your-state-your-standards-your-learning-progression/)
- 42 Brink, M. (2017). Effective use of formative assessment by high school teachers. *Practical*
43 *Assessment, Research & Evaluation*, 22(8/9), 1-10.
- 44 Brookhart, S. M. (2011). *Formative assessment strategies for every classroom* (2nd ed.).
45 ASCD.
- 46 Buelin, J., Ernst, J., Clark, A., Kelly, D., & DeLuca, W. (2019). Formative evaluation
47 techniques. *Technology and Engineering Teacher*, 78(5), 21-23.

- 1 Candal, C. S. (2016). Massachusetts charter public schools: Best practices using data to
2 improve student achievement in Holyoke [White Paper No. 143]. Retrieved from
3 *Pioneer Institute for Public Policy Research* website: <http://www.pioneerinstitute.org>.
4
- 5 Chan, P. E., Konrad, M., Gonzalez, V., Peters, M.T., and Ressa, V. A. (2014). The critical
6 role of feedback in formative instructional practices. *Intervention in School and
7 Clinic* 50(2), 96-104.
- 8 Chappuis, J. (2012). "How Am I Doing?" *Educational Leadership*, 70(1), 36–40.
- 9 Chappuis, J. (2009). Seven strategies of assessment for learning. Pearson Education.
- 10 Cizek, G. J., Andrade, H. L., & Bennett, R. E. (2019). *Handbook of formative assessment
11 in the disciplines*. Routledge.
- 12 Clark, I. (2012). Formative assessment: A systematic and artistic process of instruction for
13 supporting school and lifelong learning. *Canadian Journal of Education*, 35(2), 24-
14 40.
- 15 Conderman, G., & Hedin, L. (2012). Classroom assessments that inform instruction.
16 *Kappa Delta Phi Record*, 48, 162-168.
- 17 Creswell, J. W., & Plano Clark, V. L (2011). *Designing and conducting mixed methods
18 research* (2nd ed.). Sage Publications.
- 19 Curry, K. A., Mwavita, M., Holter, A., & Harris, E. (2016). Getting assessment right at the
20 classroom level: Using formative assessment for decision making. *Educational
21 Assessment, Evaluation and Accountability*, 28(1), 89-104.
- 22 Davidson, K. L., & Frohbieter, G. (2011). District adoption and implementation of interim
23 and benchmark assessments. *CRESST Report 806* [http://files.eric.ed.gov/fulltext/
24 ED525098.pdf](http://files.eric.ed.gov/fulltext/ED525098.pdf)
- 25 Dixson, D. D., & Worrell, F. C. (2016). Formative and summative assessment in the
26 classroom. *Theory into practice*, 55(2), 153-159.
- 27 Duckor, B. (2014). Formative assessment in seven good moves. *Educational Leadership*,
28 71, 28-32.
- 29 Duckor, B., Holmberg, C., & Rossi Becker, B. (2018). Focusing on moves-based
30 formative assessment to increase equity of voice and academic language use in
31 middle school mathematics: A case for video-based professional development. In S.
32 B. Martens & M. M. Caskey (Eds.), *The handbook of research in middle level
33 education: Preparing middle level educators for 21st century schools: Enduring
34 beliefs, changing times, evolving practices* (pp. 335–363). Information Age
35 Publishing.
- 36 Filsecker, M., & Kerress, M. (2012). Repositioning formative assessment from an
37 educational assessment perspective: A response to Dunn and Mulvenon (2009).
38 *Practical Assessment Research and Evaluation*, 17, 1-9.
- 39 Fisher, D., & Frey, N. (2012). Show and tell: A video column/don't just gather data—use
40 it. *Educational Leadership*, 73(3), 80-81. [http://www.ascd.org/publications/educatio
41 nalleadership/nov15/vol73/num03/Don't-Just-Gather-Data%E2%80%94Use-It.aspx
42 ?crlt.pid=camp.fHiZ5xJ6ZUS2](http://www.ascd.org/publications/educationalleadership/nov15/vol73/num03/Don't-Just-Gather-Data%E2%80%94Use-It.aspx?crlt.pid=camp.fHiZ5xJ6ZUS2)
- 43 Gillett, E., & Ellingson, S. P. (2017). How will I know what my students need? Preparing
44 preservice teachers to use running records to make instructional decisions. *Reading
45 Teacher*, 71(2), 135–143.
- 46 Griffin, C. P., & Murtagh, L. (2015). Increasing the sight vocabulary and reading fluency
47 of children requiring reading support: The use of a precision teaching approach.
48 *Educational Psychology in Practice*, 31(2), 186-209.

- 1 Gupta, K. (2016). Assessment as learning. *Science Teacher*, 83(1), 43-47. <https://www.uestia.com/library/journal/1G1-439271500/assessment-aslearningstudents-learn-self-correct>
- 2
3
4 Gustafson, S., Nordström, T., Andersson, U. B., Fälth, I., & Ingvar, M. (2019). Effects of a formative assessment system on early reading development. *Education*, 140(1), 17–27.
- 5
6
7 Gustafson, S.; Svensson, I.; Fälth, L. (2014). Response to intervention and dynamic assessment: Implementing systematic, dynamic and individualized interventions in Primary School. *International Journal of Disability, Development and Education*, 61(1), 27–43.
- 8
9
10
11 Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Routledge.
- 12
13 Heritage, M., & Chang, S. (2012). Formative assessment: What do teachers need to know and do? *Phi Delta Kappan*, 89(2), 140–145.
- 14
15 Heritage, M., & Heritage, J. (2013). Teacher questioning: The epicenter of instruction and assessment. *Applied Measurement in Education*, 26(3), 176–190.
- 16
17 Hoover, N. & Abrams, L. (2013). Teachers' instructional use of summative student assessment data. *Applied Measurement in Education*, 26.
- 18
19 Kincal, R.Y., & Ozan, C. (2018). Effects of formative assessment on prospective teachers' achievement, attitude and self-regulation skills. *International Journal of Progressive Education*, 14(2), 77-92.
- 20
21
22 Leu, D. J., & Maykel, C. (2016). Thinking in new ways and in new times about reading. *Literacy Research and Instruction*, 55(2), 122-127.
- 23
24 Lipp, J. R., & Helfrich, S. R. (2016). Key reading recovery strategies to support classroom guided reading instruction. *Reading Teacher*, 69(6), 639–646.
- 25
26 Moore M. (2011) Vygotsky's Cognitive Development Theory. In: Goldstein S., Naglieri J.A. (eds) *Encyclopedia of Child Behavior and Development*. Springer https://doi.org/10.1007/978-0-387-79061-9_3054
- 27
28
29 Moss, C., & Brookhart, M. (2019). *Research on classroom summative assessment*. Sage Publication.
- 30
31 Parsons, S., Dodman, S., & Burrowbridge, S. (2013). Broadening the view of differentiated instruction. *Kappan*, 38-42.
- 32
33 Perera-Diltz, D., & Moe, J. (2014). Formative and summative assessment in online education. *Journal of Research in Innovative Teaching*, 7(1), 130-142.
- 34
35 Popham, W. (2013). Voices from the middle. *Urbana*, 21(2), 10-14.
- 36
37 Popham, W. (2014). *Classroom assessment: What teachers need to know*. Pearson.
- 38
39 Robinson, C. (2016). Four essential strategies for differentiating science lessons. *Science Scope*, 40(3), 60.
- 40
41 Schechter, R., Macaruso, P., Kazakoff, E. R., & Brooke, E. (2015). Exploration of a blended learning approach to reading instruction for low SES students in early elementary grades. *Computers in the Schools*, 32(3), 183-200. <https://www.tandfonline.com/doi/full/10.1080/07380569.2015.1100652>
- 42
43 Sekulich, K. M. (2020). Learning through formative feedback: A review of the literature. *Delta Kappa Gamma Bulletin*, 86(3), 51–59.
- 44
45 Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research*, 78(1), 153–189.
- 46
47 Stiggins, R. J. & Chappuis, J. (2005). Using student-involved classroom assessment to close achievement gaps. *Theory into Practice*, 44(1), 11–18.
- 48
49 Stiggins, R. & DuFour, R. (2009). Maximizing the power of formative assessments. *Phi Delta Kappan* 90(9), 640-644. <https://doi.org.10.1177/00317270909000907>
- 50

- 1 Tovani, C. (2012). Feedback is a two-way Street. *Educational leadership*, 70(1), 48-51.
2 Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological*
3 *processes*. M. Cole, V. John-Steiner, S. Scribner & E. Souberman (Eds.). Harvard
4 University Press.
5 Wiliam, D. (2013). Assessment: The bridge between teaching and learning. *Voices from*
6 *the Middle*, 21(2), 15–20.
7 Wilson, M., & Mackie, K. (2018). *Design. learning by doing: Postsecondary experiential*
8 *education*. Open Library Pressbooks [https://ecampusontario.pressbooks.pub/adulte](https://ecampusontario.pressbooks.pub/adulte-dpseee/chapter/developing-ee-design-phase/)
9 *dpseee/chapter/developing-ee-design-phase/*
10 Wylie, E. C., & Lyon, C. J. (2015). The fidelity of formative assessment implementation:
11 Issues of breadth and quality. *Assessment in Education: Principles, Policy &*
12 *Practice*, 22(1), 140-160.
13 Yin, R. K. (2015). *Qualitative research from start to finish*. Guilford Publications.
14 Yin, R. K. (2017). *Case study research and applications: Design and methods*. Sage
15 Publications.
16 Zhou, M. & Brown, D. (2015). *Educational learning theories* (2nd ed.). Education Open
17 Textbooks. 1. <https://oer.galileo.usg.edu/education-textbooks/1>
18
19
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Appendix A

- 21
22
23 1. How do you feel about using formative assessment?
24 2. How do you feel about using formative assessment in reading?
25 3. What other types of assessment have you used and why?
26 4. Can you explain how Running Reading Record may be considered as
27 formative assessment?
28 5. How do you integrate the process of formative assessments within your
29 lesson plans?
30 6. How do you integrate the process of formative assessment in your
31 instruction methods?
32 7. If you believe that incorporating the process of formative assessment in
33 your teaching has improved your student’s ability to learn, please
34 explain how.
35 8. 8. What future training would you like on the topic of formative
36 assessment?
37