

Predicting Mathematics Teachers' Intention to Implement Assessment for Learning: The Theory of Planned Behaviour Approach

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Citation: Nsowah F. A., Oates G., Yeboah E, Osei R. D., Ofori S. A. (2026). Predicting Mathematics Teachers' Intention to Implement Assessment for Learning: The Theory of Planned Behaviour Approach. American J Sci Edu Re: AJSER-311.

Received Date: 26 February, 2026; **Accepted Date:** 03 March, 2026; **Published Date:** 06 March, 2026

Abstract

This study examined mathematics teachers' intentions to implement Assessment for Learning (AfL) using the Theory of Planned Behaviour (TPB). Although TPB has been widely applied in Ghanaian educational research, limited studies have explored its application to teachers' AfL practices within high-stakes examination contexts. A qualitative, theory-informed phenomenological design was adopted. Semi-structured interviews were conducted for 15 senior high school mathematics teachers in Ghana, and the data was analysed using the deductive thematic analysis guided by TPB.

The findings indicated that teachers' beliefs about the purposes of assessment (improvement versus accountability), examination-driven pressures, large class sizes, and teachers' instructional planning capacities significantly shape their intentions to implement AfL. The study contributed to theory by extending the Theory of Planned Behaviour and providing valuable information for the effective implementation of AfL to support students' learning. The study further recommended professional development for teachers on attitudes toward behaviour in the planning and implementation of AfL practices, taking into account the subjective factors that influence teachers' intentions to support students' learning.

Keywords: Theory of Planned Behaviour, Subjective Norms, Attitude towards Behaviour, Perceived Behaviour Control, Assessment for Learning (AfL), Mathematics Teachers' Beliefs.

Introduction

The Theory of Planned Behaviour (TPB) provides a useful framework for understanding how teachers form intentions to implement particular instructional practices. According to TPB, behavioural intention is predicted by three constructs: attitudes toward the behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991; Ajzen, 2008; Hoehe & Thibaut, 2020). The theory stipulates that an individual's ability to hold a positive attitude toward a particular behavior increases the likelihood of engaging in that behaviour (Mazana et al., 2018). The TPB has been acknowledged as a behavioural theory for predicting a person's intentions toward behaviour (Dunn et al., 2018; Opoku et al., 2020a; 2020b; Yan & Cheng, 2015; Yim & Cho, 2016). The TPB is an extension of the Theory of Reasoned Action by Ajzen (1991), with behavior predicted by intention, which is interconnected with attitude toward behaviour, the subjective norm, and perceived behavioural control (Ajzen, 2008). For example, Karaman and Sahin (2017) examined teachers' conceptions and practices of formative assessment using a scale based on the Theory of Planned Behavior (TPB) within Turkish culture and applied the TPB to examine teachers' intentions and behaviors regarding formative assessment. The study administered questionnaires to 400 primary school teachers, and the data were analyzed using a structural equation model. The findings revealed that teachers' conceptions and practices of formative assessment are predicted and explained by the TPB. This is why teachers' implementation

of AfL practices relies heavily on the beliefs, attitudes, and intentions that teachers have (Brown, Harris, & Harnett, 2012).

In Ghana, the TPB has been applied in previous studies (for instance, Armah & Robson, 2018; Awoniyi, 2025; Opoku et al., 2019, 2020a; 2020b; Tagoe & Abekah, 2014). However, there is a lack of literature reviews and evidence-based studies applying the TPB to predict teachers' intention to practice AfL to support students' learning. In addition, several studies have examined teachers' beliefs, attitudes, and inclusive education using the TPB (Nsowah et al., 2025; Opoku et al., 2021a, 2021b). There is a lack of studies on teachers' intention to practice AfL, their beliefs about assessment purposes, the factors affecting teachers' use of AfL, and their planning of AfL, using any theoretical framework (Karaman & Sahin, 2017; Yan & Cheng, 2015). This area remains underexplored in the literature. This study addresses the research question: "How do attitude towards behaviour, subjective norms, and perceived behavioural control predict teachers' intention to implement AfL to support students' learning in the classroom?"

Literature Review

The TPB has been used successfully in research work to understand various human behaviours in non-educational contexts (Dunn et al., 2018); for example, weight loss behaviour (Ajzen, 1991), smoking cessation (Godin et al., 1992), mobile learning (Cheng et al., 2005), behaviour management (Armitage & Conner, 2001), transport (Barmberg et al., 2007), adoption of

internet banking among Ghanaian consumers (Kyere-Duodu & Yamoah, 2012), intended adaption of cycling as work travel mode among adults (Acheampong, 2017), and factors that encourage household services behaviour (Alhassan et al., 2018). In the field of education, the TPB has been used for various research studies.

The TPB has been applied in research on technology usage. For example, Teo et al. (2017) applied the TPB to explain teachers' intention to use technology for teaching and learning, using data from 592 participants who completed a questionnaire. The study findings indicated that attitudes toward computer use and perceived behavioural control have a positive influence on technology usage intentions. However, the subjective norm had a negative impact on technology intention. Lee et al. (2010) surveyed 137 middle and high school teachers in Korea and found that their decisions about using computers for teaching purposes were influenced strongly by their positive attitudes, moderately by the opinions of significant others, and weakly by their perceived ability to do so. Another study by Lumpe et al. (1998) indicated that those science teachers' attitudes, subjective norms, and perceived behavioral control all significantly predicted their intention to implement technology in the classroom. Similarly, Sugar et al. (2004) found that teachers' individual attitudes toward technology adoption were the only factor influencing their decision to adopt the technology. Further, Downs and Hausenblas (2005) observed that the three constructs (attitude, subjective norms, and perceived behavioral control) were significant predictors of intention.

In the field of formative assessment, the TPB is an effective theory for understanding teachers' attitudes and behaviour toward SBA implementation, as it posits that teachers' intentions to implement assessment practices are influenced by attitude toward behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). This is why Yan and Cheng (2015) explored the relationships among teachers' attitudes, intentions, and practices regarding AfL using the TPB. Their study revealed that the TPB was an appropriate theoretical framework for explaining teachers' intentions to practice formative assessment. Another quantitative study by Lenski et al. (2019) of 1,660 German secondary school teachers using the TPB found that teachers' intentions toward competency-based instruction were predicted by attitude, subjective norms, and perceived behavioral control. Jawad (2020) explored the attitudes and practices of Iraqi EFL teachers regarding formative assessment, using 102 teachers from primary, high school, and university. The study found that teachers believed formative assessment is a useful procedure for measuring students' learning and helpful for improvement. The study further identified subjective norms, including pressure from parents, principals, and educational authorities, to perform formative assessment. The study concluded that teachers' behavioral control and the skills needed to plan and implement formative assessment were important factors.

Similarly, Yim and Cho (2016) used the TPB to predict pre-service teachers' intention to use peer-assessment for low-achieving students. Their study reveals that pre-service teachers' beliefs about knowledge sources significantly influenced their attitudes toward peer assessment. Another study, Kaunder & Koschmieder (2019), of 488 primary school teachers to predict and implement individualized student support using the TPB, indicated that the perceived behavioural control was the only direct predictor of the behaviour. The examination of Iraqi

English as Foreign Language teachers' attitude, intentions and practices regarding formative assessment (FA) using 102 teachers from different levels of primary, high school and university by Jawad (2020) indicated that the majority of Iraqi teachers believed that formative assessment is a useful procedure for measuring students' learning. The study further indicated that affective attitude, instrumental attitude, subjective norm, controllability, and self-efficacy were strong predictors of intentions to use formative assessment. A study by Kyaruzi et al. (2019) investigated the impact of secondary school students' perceptions of mathematics teachers' formative assessment practices and feedback delivery on mathematics performance, using a questionnaire for senior high school students. Their research reveals that students' performance in mathematics is predicted by students' intentions toward teachers' feedback.

Previous studies (Gebriel & Brown, 2014; Dunn et al., 2018; Kyaruzi et al., 2019; Opoku, 2021) have applied the TPB in research on teachers' beliefs about assessment purposes, teacher professional development, inclusive education, and mobile learning. For example, Dunn et al. (2018) examined factors influencing teachers' intentions to engage in professional learning related to the Common Core State Standards (CCSS) in mathematics and identified specific factors teachers encountered when implementing new instructional practices in the classroom. Their findings revealed that the TPB was a useful predictor of teachers' intentions toward professional learning. In Egypt, Gebriel and Brown (2014) used the TPB to explore teachers' beliefs about the purposes of assessment and, using a questionnaire for teachers, identified three conceptions of assessment purposes as being for improvement, school accountability, and teachers making little use of assessment results. In Ghana, Bawa Kuyini and Desai (2007) examined educators' attitudes toward students with disabilities in regular classrooms and educators' knowledge of inclusive education among selected primary school teachers and principals, using the theory of planned behavior. The study found that principals' and teachers' attitude toward knowledge of inclusive education, as well as principals' expectations of teachers in implementing inclusion, were predictors of effective teaching practices in their classrooms. A similar study by Tagoe and Abekah (2014) investigated University of Ghana Distance Education students' perceptions toward mobile learning using the Theory of Planned Behaviour (TPB) and found that students' beliefs influenced their intention to adopt mobile learning.

Opoku et al. (2020b) applied the TPB to examine associations between teacher demographic variables and intentions (attitudes, subjective norms, and self-efficacy) toward practicing inclusive education in secondary schools in Ghana, using data from 457 teachers across five districts in the Ashanti region. The study found no significant differences based on school resourcing but reported more positive attitudes and higher self-efficacy regarding children with disabilities in their classrooms. The study also indicated that beliefs are subject to change depending on the individual's cultural context. Another study by Opoku et al. (2020a) adopted the TPB to explore associations between teacher demographic variables and teachers' intentions to practice inclusive education in secondary schools in Ghana. Their study used a questionnaire to investigate the opinions of 465 senior high school teachers. Their study demonstrates that the TPB has been used in various studies to predict teachers' intentions for behaviours in peer-assessment, purposes of assessment, and practices regarding AfL in previous research.

This makes the TPB a suitable framework for achieving the aims of the present thesis study. For instance, Armah and Robson (2018) identified barriers and motivating factors perceived by primary school teachers in teaching problem-solving in mathematics using the theory of planned behavior. The findings indicated that the availability of time and lack of resources are factors affecting the teaching of problem-solving in mathematics. Further study by Opoku (2021) applied the TPB to examine teachers' intentions to practice inclusive education in Ghanaian secondary schools, using interviews with 8 teachers. The study indicated that there is an interaction among attitudes, perceived school support, and self-efficacy that influences teachers' intentions to practice inclusive education. In addition, the study indicated that private school teachers practice inclusive education more than public school teachers. A similar study by Opoku (2024) examined school leaders' intentions to implement inclusive education in secondary schools, using the theory of planned behavior and interviews with 17 school leaders to understand their intentions regarding the education of students with disabilities. The study findings indicated that school leaders' attitudes (such as leaders' views of practicing inclusive education), subjective norms (the pressure or support leaders provide to their teachers to practice inclusive education), and self-efficacy (the leaders' confidence in the ability to practice inclusive education) predicted teachers' intentions to implement inclusive education in the secondary schools in Ghana.

Awoniyi (2025) investigated the impact of attitude on mathematics performance among senior high schools in Ghana. The study examined the relationship between four attitude constructs (confidence, enjoyment, perseverance, and learned helplessness) and mathematical performance, using the theory

of planned behavior. The study applied a test and a questionnaire for 3342 senior high school students. The finding showed that confidence, learned helplessness, and enjoyment are significant predictors of achievement score in students, and perseverance does not predict student achievement.

Theoretical Framework

This study applies the Theory of Planned Behaviour as an analytical framework. The TPB is an extension of the Theory of Reasoned Action (TRA). The TRA states that intention to behaviour is the product of two types of beliefs, namely, behavioural beliefs and normative beliefs (Fishbein & Ajzen, 1975). Ajzen (1991) developed and extended the TRA by adding a third component, known as control beliefs. Thus, the TPB is built on three components: behavioural beliefs, normative beliefs, and control beliefs (Ajzen, 1991; 2011). Behavioural beliefs are beliefs about the positive and negative outcomes of performing a behaviour, which explain the attitude toward the behaviour (Ajzen, 1991, 2020; Fishbein & Ajzen, 2010). Normative beliefs are beliefs about societal norms or social pressures that influence the ability to perform a behaviour, which predict the subjective norms (Ajzen, 1991, 2012; Fishbein & Ajzen, 2010). Control beliefs are factors that may facilitate or hinder the performance of the behaviour, which predict perceived behavioural control (Ajzen, 1991, 2011). The TPB is built on the assumption that attitude toward behaviour-teachers' beliefs about the purposes of assessment, subjective norm-examination pressures and institutional expectations, and perceived behavioural control-teachers' perceived ability to plan and implement AfL practices effectively, predict the intention to the behaviour (Opoku et al., 2020b; Yim & Cho, 2016). These three beliefs are interconnected, as presented in Figure 1 (Ajzen, 1991).

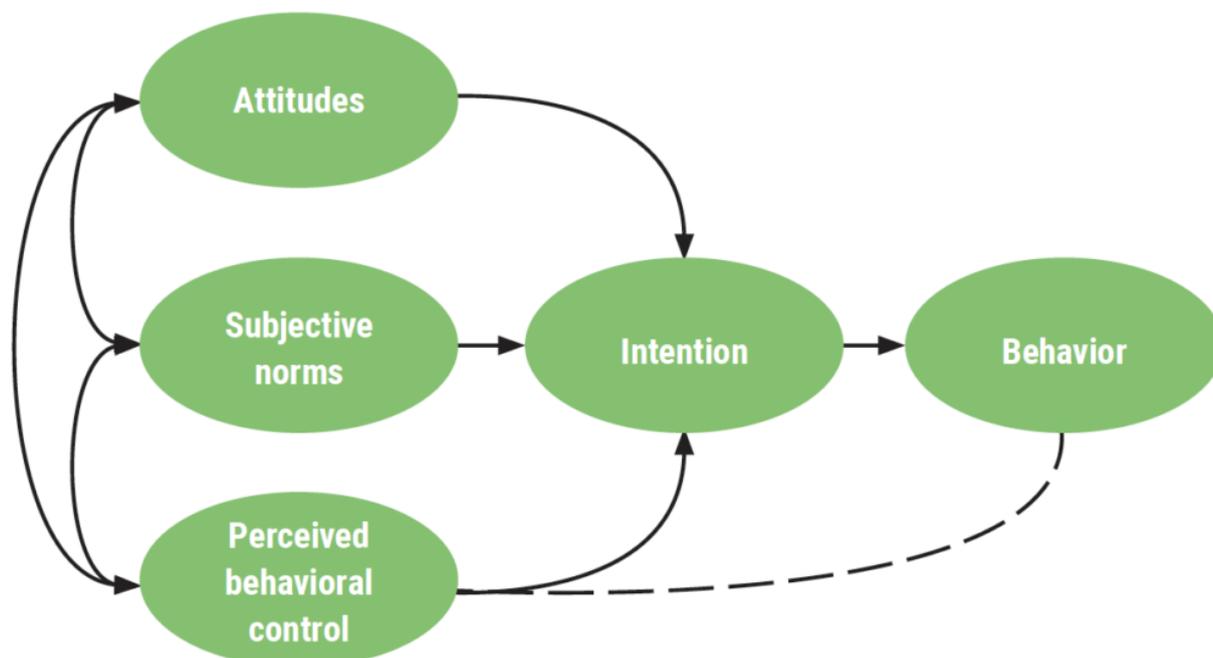


Figure 1: The theory of planned behaviour by Ajzen (1991).

Methodology

Recruitment and Participants

The study and its protocols were approved by the Social Sciences Human Research and Ethics Committee at the University of Tasmania. In addition to the University of Tasmania approval, permission was sought from the selected

District and Municipal Directors of Education in Ghana before data collection. This study forms part of a larger study exploring mathematics teachers' AfL practices in senior high schools in the Ashanti region of Ghana. In accordance with these approvals and permissions, the author approached school principals to invite their teachers to participate in this study. As this study

represents the second phase of a broader research project, participants were conveniently recruited from a sample of mathematics teachers who took part in the first phase. A convenience sampling strategy (Ary et al., 2020) was used, drawing on an existing population to recruit participants for this phase. Participants from the larger sample (N = 320) were asked to take part in a follow-up interview; 20 participants agreed and consented to participate in the second phase. The first author made phone calls to these participants to discuss the next stage of the study. Five participants decided not to take part in the study due to their busy schedules and unavailability at the time of the interview, leaving fifteen to be interviewed. The participants who took part in this study were diverse. The fifteen mathematics teachers included four females and eleven males, and were from different public schools across different districts. Participants were recruited across rural and urban areas with varying years of teaching experience to enable triangulation of data (Creswell & Miller, 2000), as participants with diverse teaching experiences and locations were involved in the study (see Table 1 below for details).

Instrument

This phase of the larger study was guided by a theory-informed phenomenological design. The phenomenological design intends to develop a deeper understanding of a given phenomenon (Patton, 2002). In this first phase of the larger study, some patterns were identified to enable the second phase to be carefully planned for deeper insight into the constructs of the TPB.

Based on the results of the first phase of the larger project, the semi-structured interview guide used for data collection was developed around the following three key themes: (1) teachers’ attitude towards behavior (that is, the beliefs about assessment purposes), (2) the subjective norms (the factors that influence teachers’ intention to practice AfL (3) The perceived behavior (that is, the difficulty in planning of AfL practices). The tool was piloted for experience mathematics teachers who are aware of the context review before its implementation based on Delphi approach (Mengual-Andrés et al., 2016). This is to ensure that appropriate data were collected from the participants. All interviews were conducted in English over the telephone and

were audio-recorded with the participants’ permission. The author conducted the interviews in September 2021 to November 2021. The participants were assigned a code based on their teaching experience and the position at the senior high school. Each participant was interviewed once, and the interviews were conducted at a time convenient to the participants, and the duration of the interviews ranged from 20 to 45 minutes. All the participants were informed that they would not be rewarded for taking part in this study. They were also informed that their identity would not be disclosed to anyone outside the research team.

Data Analysis

The data were transcribed verbatim and analysed deductively using TPB constructs as guiding themes. The data were sent to the participants to check that views were captured and transcribed correctly. All the participants agreed to the transcripts and represented their views. This was necessary in order to ensure that the data reported were credible (Creswell and Miller, 2000). The data were then subjected to deductive thematic analysis where the themes used to develop the interview guide were used as a priori themes. The steps followed the thematic analysis of Braun and Clarke (2006) as follows: reading, coding, mapping and sorting, and writing the draft. First, the author read the interview guide several times and informed an expert in qualitative research about emerging issues discussed by the participants. The first author and the expert discussed likely codes that could be used for the data analysis. The first and the third authors continued to code all the interviews. The first and the third authors developed the coding framework, which was given to the second author to review for suggestions. The three authors discussed and reached consensus on the final draft of transcriptions. The codes were further developed into categories, which were placed under the a priori themes. The similarities and differences between responses were noted. The authors extracted the quotes aligned to categories into a new file and wrote the first draft of results. The first draft was shared with the other two authors, whose suggestions were incorporated into the document. The subsequent final write-up was reviewed and accepted by all the experts who reviewed the initial draft.

Table 1: Profile of the Study Participants.

Interviewee	Position	Qualification	Gender	Years of Teaching	Subject taught
1	Deputy Head of Mathematics Department	Degree	Female	9	Core Mathematics and Elective Mathematics
2	Head of the Mathematics Department	Master	Male	8	Core Mathematics and Elective Mathematics
3	Head of the Mathematics Department	Degree	Male	8	Core Mathematics and Elective Mathematics
4	Head of the Mathematics Department	Degree	Male	9	Core Mathematics

5	Head of the Mathematics Department	Master	Male	15	Core Mathematics and Elective Mathematics
6	Mathematics Teacher	Degree	Female	4	Core Mathematics and Elective Mathematics
7	Deputy Head of Mathematics Department	Master	Male	9	Core Mathematics and Elective Mathematics
8	Mathematics Teacher	Master	Male	4	Core Mathematics and Elective Mathematics
9	Mathematics Teacher	Master	Male	8	Core Mathematics and Elective Mathematics
10	Mathematics teacher	Degree	Female	9	Core Mathematics and Elective Mathematics
11	Mathematics Teacher	Degree	Male	8	Core Mathematics and Elective Mathematics
12	Mathematics Teacher	Degree	Male	4	Core Mathematics
13	Mathematics Teacher	Master	Female	4	Core Mathematics
14	Mathematics Teacher	Degree	Male	10	Core Mathematics
15	Mathematics Teacher	Master	Male	17	Core Mathematics

Results

The TPB has five main constructs, which are interconnected and these are attitudes, subjective norms, perceived behaviour control, intentions, and behaviour (Cheng et al., 2005; Dunn et al., 2018). Three of the five constructs, attitudes, subjective norms, and perceived behaviour control, influence a person's intention toward a behavior (Ajzen, 1991; Dunn et al., 2018). Attitudes toward behaviour are beliefs about the positive and negative outcomes of performing a behaviour, which explain teachers' beliefs about the purposes of assessment, including the improvement of learning, student accountability, and school accountability. These beliefs about the purposes of assessment influence teachers' intentions to practice AfL to support students' learning. For instance, a teacher who believes in student accountability uses assessment practices focused on grading. A teacher who also believes in school accountability will gear his practices toward that purpose (e.g., grading students, measuring school quality, being bad and ignored) (Brown et al., 2008; Barnes et al., 2017). A teacher who believes in the purpose of improvement will apply assessment practices to support students' learning. This is why previous studies (Barnes et al., 2017; Brown, 2008; Yan & Cheng, 2015) posited that teachers' beliefs about the purposes of assessment influence their assessment practices in the classroom.

An interview with a participant stated that, if the purpose of assessment is grading, promotion, and placement into higher institutions in Ghana (TI-5). Thus, teachers' intention to use their practices towards achieving higher grade in the external examination conducted by the West African Examination Council. This was supported by another participant who expressed the view as follows: *as a nation, teachers are judge by the performance of the students at the end of the program where assessment is used for grading, placement and promotion purposes (TI-9).*

In addition, the purposes of improvement will influence teachers' intentions to use their practices to support students' learning progress. This helps establish what students have learned, identify student weaknesses in learning, and determine what students have mastered (Participant 4). Another participant described the process as follows: assessment is integrated with teaching and learning, and teachers modify their strategies to provide feedback to students on learning (Participant 2). Thus, the improvement purpose of assessment is for teachers to use their assessment practices to support students' learning during lessons in the classroom (Participant 10). In conclusion, the beliefs teachers hold influence their intentions about how assessment practices are used in the classroom.

Secondly, subjective norms are the social pressures that influence the ability to perform a behaviour (Ajzen, 1991, 2012; Fishbein & Ajzen, 2010). Thus, perceived pressure determines an individual's expectation of performing a specific behaviour (Ajzen, 2006, 2012; Fishbein & Ajzen, 2010), and observed social rules, customs, and beliefs influence people's intentions to perform actions (Ajzen, 1991; Opoku et al., 2020b). Subjective norms are based on perceived social pressures from people in society that influence individuals to act in ways that conform to normative practices (Opoku et al., 2020a; Yim & Cho, 2016). Fourteen of the fifteen participants believed that subjective norms, such as the nature of external examination questions, the high stakes attached to external examinations, teachers' knowledge of assessment, and policies around large class sizes, affected teachers' intentions to use their assessment practices to support their students' learning.

Further, the Perceived Behavioural Control (PBC) refers to the individual's perception of the ease or difficulty of performing the behaviour (Ajzen, 2012). In addition, support from others empowers teachers to implement a particular practice. The

perceived behaviour control is the teachers' planning and implementation of AfL practices.

All participants reported that they planned their assessment practices before entering the classroom. For example, planning is done during the lesson and after lessons to change the strategies. A participant recounted planning strategies used as follows:

After every lesson, the strategies are planned to adjust to the difficulties students encountered during lessons. The strategies are changed at any point in time in the classroom when I observed that the students are not responding to the learning strategies been used. As students learn from known to unknown, strategies are changed when students' find it difficult to adjust to a specific topic (Participant10).

Also, planning is also done based on the individual student levels. For example, a participant narrated that the planning of the assessment practices is based on individual differences based on students' ability level (Participant 5). Furthermore, the participants expressed their views on the types of questions, the types of feedback, and how students respond to questions, which are also planned. A participant narrated as follows:

I do ask student questions and students also do ask me questions. The questions asked by the students help the teacher to give further explanation to students and clarify areas that needs attention. Also, teachers ask student questions to find out if students have understood the topic being discussed (Participant 12).

Another participant explained that students' attention is drawn to teachers' feedback when necessary, and that corrections are made after marking, thereby enabling the teacher to clarify students' understanding of a specific topic. This is helpful to both the teacher and the student, as a participant narrated, "Feedback supports learning because it prevents errors and other mistakes that are likely to recur. In addition, it helps students interact with the teacher individually for further explanation" (Participant 1).

Discussion

The study adopted the Theory of Planned Behavior (TPB) to explain that teachers' use of AfL practices in the classroom is influenced by their intention to use AfL practices, which is interconnected with attitude toward behaviour, subjective norms, and perceived behavioural control. The study revealed that teachers' intention to use AfL practices to support students' learning is influenced by beliefs about the purposes of assessment, factors affecting teachers' use of AfL practices, and the planning of AfL practices. The study further aligned the constructs of TPB (that is, attitude toward behaviour, subjective norms, and perceived behavioural control) with teachers' beliefs about assessment purposes, factors affecting teachers' use of AfL practices, and teachers' planning of AfL practices, as discussed below.

According to the TPB, behavioural beliefs are beliefs about the positive and negative outcomes of performing a behaviour, which explain attitudes toward that behaviour (Ajzen, 1991, 2020; Fishbein & Ajzen, 2010). In the TPB, teachers' attitudes toward behaviour include beliefs about the purposes of assessment, such as improving learning, student accountability, and school accountability. This study's findings support the conclusion that teachers' beliefs about the purposes of assessment influenced their assessment practices in the

classroom. This finding is consistent with previous studies by Brown et al. (2008) and Barnes et al. (2017).

The subjective norms are the perceived pressures that determine an individual's expectation of performing a specific behaviour (Ajzen, 2006, 2012; Fishbein & Ajzen, 2010). This includes factors such as large class sizes, the nature of external examination questions, the high stakes attached to the external examination, and teachers' knowledge of assessment, which affected teachers' ability and willingness to use various assessment practices to support students' learning. The study finding is in coherence with scholars in assessment where teacher knowledge in assessment (Kippers et al., 2018), large class size (Anane, 2015; Liu and Xu, 2019), the nature of the examination questions and high stakes attached to external examination (Gebril & Brown, 2014; Kyaruzi et al., 2019) affected teachers' use of AfL practices.

Further, the perceived control behaviour is the person's ease or difficulty in performing a task when all the resources and opportunities are available (Ajzen, 1991, 2012; Fishbein & Ajzen, 2010). A teacher's confidence and willingness to plan and implement different assessment practices to support students' learning depend on the perceived behavior control. The study found that the planning and implementation of AfL influence teachers' willingness to use assessment to support students' learning (Ajzen, 2012; Dunn et al., 2018). The intention is the willingness of teachers to apply their practices to support students' learning (Ajzen, 2012; Dunn et al., 2018) is predicted by teachers' beliefs about assessment purposes, factors affecting teachers' use of assessment practices and the planning of AfL practices.

The study concluded that attitude toward behaviour, subjective norms, and perceived behavioral control predicted teachers' intention to practice AfL to support students' learning. This finding is similar to Dunn et al. (2018), who examined the TPB to engage in professional learning on the mathematics Common Core State Standards (CCSS) that attitude toward behaviour, subjective norms, and perceived behavioural control were significant predictors of teachers' intention to engage in professional learning on the mathematics Common Core State Standards (CCSS). A similar study by Dierenlock et al. (2024), which applied the TPB to examine factors influencing competence-based practices, differentiated instruction, and formative assessment in the classroom, indicated that teachers' intention to engage in competency-based instruction was predicted by attitude, subjective norms, and perceived behavioral control. Lenski et al. (2019) conducted a quantitative study of 1,660 German secondary school teachers about the determinants of competency-based instruction using the TPB, revealing that teachers' intention to use competency-based instruction was predicted by attitude, subjective norms, and perceived behavioral control. This was supported by Yan and Cheng's (2015) exploration of the relationship among attitude, intention, and practices regarding formative assessment using the TPB. The findings from the study confirmed that TPB provides a useful framework for understanding teachers' AfL intentions within high-stakes contexts. While attitude and perceived behavioural control were strong predictors, subjective norms operated as structural examination pressures that mediated formative implementation. These findings align with previous research by Lin and Williams (2016), who identified attitude as the primary determinant of participation in virtual communities. Similarly, Cui et al. (2022) found that attitude and

control were significant predictors of intention, whereas subjective norm was not, findings that align with those of Do et al. (2021).

Conclusion and Recommendation

The outcome of a person's intention is the product of attitudes toward behaviour, subjective norms, and perceived behavioural control, which, together, explain behaviour. Thus, the present study's findings predicted that the three constructs of the TPB were related to teachers' intention to behave, with different variables for attitude toward behaviour, including teachers' beliefs about the purposes of assessment; subjective norms, including large class size, high stakes attached to external examinations, teacher knowledge in assessment, and the nature of external examination questions; and perceived behavioural control, including teachers' planning and implementation of their practices, which predicted teachers' intention to use AfL practices to support students' learning. Mathematics teachers' intentions to implement AfL are shaped by their beliefs about assessment purposes, examination-related pressures, and perceived planning capacity.

The study offers both practical and theoretical implications. From a practical perspective, this study provides classroom teachers with information on how teachers' beliefs influence their classroom assessment practices and suggests professional development for teachers, provided by stakeholders and policymakers in education, on how teachers' beliefs can improve their classroom practice. From a theoretical perspective, this study provides a useful model of teachers' assessment practices, beliefs about the purposes of assessment, factors affecting teachers' use of assessment, and the planning of assessment practices to support students' learning in the classroom.

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