Assessment and Motivation: Perspectives from Teacher Candidates

Yongfei Wu
Faculty of Education
Queen's University
Kingston, ON K7M 5R7
Canada
yongfei.wu@queensu.ca

Liying Cheng
Faculty of Education
Queen's University
Kingston, ON K7M 5R7
Canada
liying.cheng@queensu.ca

Esther Bettney
Faculty of Education
Queen's University
Kingston, ON K7M 5R7
Canada
esther.bettney@queensu.ca

Abstract: *The importance of the relationship between assessment and motivation in supporting student learning has been increasingly examined in education. This relationship is however rarely studied from teacher candidates' perspectives. This study collected data from 42 teacher candidates at a Canadian university. These teacher candidates responded to an on-line discussion on the relationship between assessment and motivation and 112 datasets were collected based on their discussion. A standard thematic coding process was adopted to analyze these responses and codes were inductively generated. Four interrelated themes were derived: classroom assessment environment, the nature of assessment tasks, the effectiveness of feedback, and the clarity of learning goals and criteria. Specifically, creating a task-involving classroom environment, assigning authentic and diversified assessment tasks, providing effective feedback, and clarifying learning goals frequently co-occurred with intrinsic motivation. A competitive classroom environment, teaching to the test, and giving students grades co-occurred with extrinsic motivation, including both self-determined extrinsic motivation and non-self-determined extrinsic motivation. The findings support the existing literature on assessment and motivation and bear implications for teachers, teacher educators, and educational administrators.*

Keywords: assessment, motivation, teacher candidates, self-determination theory

The relationship between assessment and motivation has been an important topic in education, and such a relationship has been increasingly examined since the publication of Black and William (1998a). However, such a relationship is rarely studied from the perspectives of teacher candidates. It is essential to understand how these beginning teachers perceive their approach to assessment influences how their students learn, how their students see themselves as learners and as human beings. Research into the perspectives of these beginning teachers can connect with the current teaching practices but also foresee the future of education.

Teachers' day-to-day classroom assessment practices include both formative and summative assessment. Formative assessment involves providing effective feedback whereas summative assessment involves the evaluation of learning with a mark or a score. Previous research shows that formative assessment conducted by teachers in the classroom has a positive impact on students' learning and their motivation and may increase students' achievement, their understanding of how to learn, and control over their own learning (Black & William, 1998a; Brookhart, 2009). The success and achievement that students obtain through assessment "is the essential fuel that powers the learning system for students" (Stiggins, 2005, p. 19). Yet, McMillan, Cohen, Abrams, Cauley, Pannozzo & Hearn (2010) identified a continued need for research into the intricacies of the relationship between formative assessment and student

motivation. Brown, Harris and Harnett (2012) claimed that little research has been done on teachers' conceptions of feedback, an important aspect of assessment. To address this identified need, Brown et al. surveyed 518 New Zealand teachers and found a meaningful relationship between teachers' beliefs about feedback and their practices. While this study focused specifically on feedback, it indicates the need for continued research into how teacher's views of various aspects of assessment impact their practice and therefore, their students.

However, assessment is a two-edged sword (William, 2011). Harlen and Deakin Crick (2003) systematically reviewed the impact of summative assessment and tests on students' motivation for learning and concluded that assessment can improve instruction, but it can also impact learner's willingness, desire, and capacity to learn. They stated, "Testing, particularly in high stakes contexts, has a negative impact on motivation for learning that militates against preparation for lifelong learning" (p.169). In their case study of 96 high school social studies students, Brookhart and Durkin (2003) found that traditional tests were associated with lower student self-efficacy, compared to performance assessments, likely because tests failed to tap into both internal and external types of motivation. As a result, some students are motivated by tests and the gap between higher-achieving students and lower-achieving students is consequently widened.

Stefanou and Parkes (2003) conducted a mixed-method study with students in three Grade 5 science classrooms, comparing students' attitudes toward science, cognitive engagement and goal orientation in three different assessment conditions: laboratory task, paper and pencil tests, and performance assessments. They found that students' view of the different types of assessments differed greatly depending on whether the assessment was associated with grades. When the external motivator of grades was removed, students viewed the intellectual challenge of the performance assessments more positively, and were more willing to take learning risks as they were no longer concerned with the negative impact on their grade. Clearly, the role of external motivators such as grades must be considered when exploring the relationship between assessment and motivation.

Teachers can exert influence on students' motivation through instruction, assessment, and feedback (Taylor & Nolen, 2008). What motivating strategies teachers choose is not a simple question and some motivating strategies "can have unintended side effects, particularly for low-achieving students" (Taylor & Nolen, 2008, p. 81). It is essential to explore the teacher candidates' perceptions of motivating students through classroom assessment and by involving them in the assessment procedures. The goal of this study was to understand how teacher candidates view the relationship between classroom assessment and motivation in supporting their future students' learning. Specifically, we explored how these teacher candidates understood assessment and motivation, and how they saw the use of assessment in supporting their students' desire to learn.

Assessment, learning, and self-determination continuum

According to Dörnyei (2001), the role of assessment in motivating students to learn has been discussed in many theories of motivation. There are theories focusing on reasons for engagement in assessment tasks (e.g., intrinsic motivation theory, self-determination theory, flow theory, and goals theory); theories that focus on integrating expectancy and value constructs

(e.g., attribution theory, expectancy-value theory, and self-worth theory); and theories that integrate motivation and cognition (e.g., theories of self-regulation and motivation; theories of motivation and volition). Of particular fit to the assessment context is the self-determination theory introduced by Ryan and Deci (2000) and Deci and Ryan (2012), who have further developed notions of intrinsic and extrinsic motivation, and on the relationship of these qualities of motivation to the three basic human needs for autonomy, competence, and relatedness. This theory categorizes types of human motivation along a continuum ranging from self-determined forms of intrinsic motivation to controlled forms of extrinsic motivation and finally to amotivation, depending on degrees of self-determination. Testing and assessment policies are mostly based on the concept that rewards, punishments, and self-esteem-based pressures are effective motivators for learning. Self-determination theory thus fits well in the assessment context.

According to Ryan and Deci (2000) and Deci and Ryan (2012), intrinsic motivation refers to the motivation, which makes one feel that engaging in an activity is inherently interesting or enjoyable. If the assessment practices that teachers employ help students feel learning is an interesting and enjoyable process (and make assessment real to students), then students are more likely to be intrinsically motivated. In contrast, extrinsically motivated behaviours are instrumental in nature. Self-determined extrinsic motivation is presented when individuals participate in an activity on a voluntary basis because the activity is valued and perceived to be of importance. It is extrinsic because the reason of participation is not within the activity itself but as a means to an end. Meanwhile, it is self-determined because the individual has decided and experienced a sense of direction and purpose in participating. If the assessment practices teachers employ makes students feel their learning is an important process for self-improvement, students may possess the self-determined extrinsic motivation to learn. Non-self-determined extrinsic motivation occurs when individuals' behaviours are regulated by external factors, such as rewards, constraints, or punishment. This type of motivation is extrinsic because the reason individuals participate in an activity lies outside the activity itself, i.e., the behaviour is not self-determined. If the assessment practices teachers employ encourage students to feel that their learning is driven by external rewards, such as bonus in grades or praises from teachers, students are non-self-determined extrinsically motivated. Amotivation is the state of lacking an intention to act. Students feel that they have no sense of control over their actions. This occurs when assessment fails to motivate students to learn both intrinsically and extrinsically. Teachers should reflect on their own assessment practices in order to motivate students to learn.

Involving students in assessment to increase motivation

One effective way that teachers can influence student motivation is to involve students in the process of assessment, which can be accomplished through various approaches. For example, teachers can involve students in the determination of learning or achievement goals. According to Stiggins (2005), "If students play even a small role in setting the (learning achievement) target…we can gain considerable motivational and therefore achievement benefits" (p.244). The main responsibility for creating achievement goals rests in the hands of the teacher, usually guided by the curriculum and standards but students can collaborate with the teacher to develop additional self-directed outcomes of learning and goals directed toward their interests. By becoming involved with the desired outcomes of learning, students gain motivation to learn.

Stiggins (2005) explains helping students learn to reflect on and see their own improvement as achievers also engages students in assessment which increases motivation. Keeping learning logs and receiving frequent teacher feedback can raise students' awareness of progress toward learning goals. Further research shows that when students understand and apply self-assessment skills, their achievement increases (Black & Wiliam, 1998b) and that self-assessment plays a significant role in increasing students' motivation to learn. Through self-assessment, students directly observe their own improvement and therefore are more motivated to achieve. By involving students in the assessment process, teachers encourage students to create a sense of internal responsibility for their achievement. Stiggins (2005) remarks that students "must take responsibility for developing their own sense of control over their success" (p. 296), which in turn, leads to greater motivation and academic success.

Method

The study explored the relationship between motivation and assessment. The study was explorative and descriptive in nature and data were analyzed through a process of inductive analysis, as described by Patton (2002) and McMillan and Schumacher (2010).

Participants

The participants were 42 teacher candidates in a pre-service teacher education program at a Canadian university. All the participants were in the Intermediate-Secondary stream, with teachables ranging from English to technology education. The teacher candidates were enrolled in an elective course on classroom assessment practices and all members of the course participated in the study. The course examined the role and impact of assessment and evaluation on teaching and learning. Instruction focused on the philosophical foundations and practical applications of assessment and evaluation. Teacher candidates were required to develop expertise in planning and conducting assessments and integrating learner-centered and growth-oriented approaches to assessment.

Instrument and data collection

Data were collected from the participants' online discussions on the relationship between motivation and assessment, as part of a mandatory class assignment in which all class members participated. While the discussions were first used to fulfill course requirements, permission was granted from the participants to use the discussions as data for potential research, upon completion of the class. Teacher candidates posted their responses to the following prompt, as well as responded to their classmates' posts:

> You are to discuss the key concept of motivation and assessment . . . You may: (a) explore the definition of motivation in relation to aspects of assessment and explain what it means to you as a teacher; (b) discuss what the relationship looks like in practice, (c) connect the concept to your own life or teaching experiences.

As a result, 112 postings were collected and organized chronologically by the conversation threads. This type of data falls under the category of computer-mediated discourse, defined as any "communication produced when human beings interact with one another by transmitting messages via networked computers" (Herrig, 2008, p. 612). In our study, we treated the data as written texts with two levels – first teacher candidates' own discussions and then their responses to their peer's discussions.

Data Analysis

Three researchers concurrently and individually analyzed the data. Our analysis was guided by a standard thematic coding process, as outlined by McMillan and Schumacher (2010). We employed inductive analysis, allowing the findings to emerge from the data, as opposed to applying an existing framework (Patton, 2002). One of our researchers compared our process of inductive analysis to "travelling in a new city without a map. Gradually, you will find where you are and enjoy the exploration." After sorting and organizing the data, we read the data on multiple occasions to "get a sense of the whole" (McMillan et al., 2010, p. 371). We each generated initial codes for segments of the data. We applied our initial codes to the remaining data, adding, collapsing, and renaming codes as we refined our coding system. We then looked for similarities and differences amongst our codes, and created categories based on our codes to further our understanding of the relationship between assessment and motivation. Upon the completion of our coding process, we shared our codes with each other to refine the data and to ensure inter-rater reliability. In cases where there was discrepancy in coding, we returned to the original data to discuss each segment and the appropriateness of an assigned code. After our discussions, we were able to reach consensus on our codes, and developed a deeper understanding of the teacher candidates' perspectives on the relationship between motivation and assessment. Finally, a frequency count was conducted based on the agreed upon codes to provide an overall picture of the data, as well as illuminate the most emphasized categories.

Results

Altogether four overarching themes emerged from the data: (a) classroom assessment environment, (b) nature of assessment tasks, (c) effectiveness of feedback, and (d) clarity of learning goals and criteria. Each theme in conjunction with motivation revealed how the teacher candidates perceived the relationships between assessment and motivation (refer to Appendix: Table One).

Classroom Assessment Environment

Classroom assessment environment is the most frequently emerged theme related to motivation (see Table One: 48 counts of frequency). This theme comprises of seven main codes: ego-involved classroom, competitive environment, social comparison, teaching to test, competing with oneself/self-improvement, task-involved classroom, and teacher-student relationship. There seemed to be a general consensus among the participants that ego-involved classroom, competitive environment, social comparison, and teaching to test tend to create a negative classroom assessment environment, which easily gives rise to students' extrinsic motivation and harms their intrinsic motivation. In contrast, encouraging students to compete with themselves, creating task-involved classrooms, and building a positive teacher-student relationship may provide a positive classroom assessment environment, which helps foster and enhance students' intrinsic motivation.

Participants commented that in an ego-involved classroom, students pursue performance goals rather than mastery goals, compete with each other rather than collaborate with their peers, and focus attention on their marks instead of their progress. This kind of assessment environment only benefits the high-achieving students and exerts a strong negative impact on the rest of the class. In addition, the ego-involved classroom is likely to eliminate the possibility of successful team and group work, which are extremely important in a learning environment. One participant

thought it impossible to eliminate competition because “it is human nature to compare yourself to similar individuals but as a teacher I can try to minimize it”. Another participant commented on the negative effect that the ego-involved classroom has on students’ motivation:

Student motivation that results from an extrinsic need for students to demonstrate their intelligence and skills at a particular task in comparison to another student does not provide a valid motivation, since the student’s success in completing performance goals is dependent on their ability to surpass the ability of another student in the class. This academic arms race to be the smartest, most skilled student in the class does not place the focus of learning on improvement or the act of learning itself, but rather on achievement or extrinsic factors.

Likewise, the participants expressed that social comparison and teaching to the test also have detrimental effects on students’ motivation. Many extant socio-comparative practices, such as offering honor classes, tracking students into high- and low-achieving groups, and teachers and parents expecting students to enter a better postsecondary institution, are all likely to compel students to emphasize their grades and compare themselves with others. In particular, four participants pointed out that grouping students into high-achieving classes and low-achieving classes harms students’ motivation. This practice puts the low-achieving students into a self-perpetuating cycle of underachievement that is very hard to break, stereotypes students based on their intellectual ability, and forces some students to ‘suck’ at the subject, which results in students’ low-esteem. In addition, the ever-present shadow of provincial testing or other standardized tests pressures teachers to forgo proper instruction in favor of “teaching to the test”. These tests are required for students to complete high school but as one participant commented, “They did not seem to have many connections to real life scenarios and definitely did not meet the realistic interests and demands of student lives”. According to some participants, streaming students and “teaching to the test” led to a lack of student motivation.

However, building a good teacher-student relationship, encouraging students’ self-improvement, and creating task-involved classrooms may foster and enhance students’ intrinsic motivation. Four participants thought that the quality of teacher-student relationship was essential to the improvement of students’ motivational levels. Working with students not only during instruction but also in the design of assessments proves that teachers are allies in the students’ education and builds trust with students. Providing students with specific comments rather than vague ones may also help establish a positive professional teacher-student relationship. As one participant explained, “This allows the students to realize that the teacher has noticed their work and how they are doing in the class. The students would not feel like they are just a random person in a class of 30 and would feel the teacher is easily approachable to ask questions.”

In addition, creating task-involved classrooms plays a pivotal role in enhancing students’ intrinsic motivation. One participant advocated restructuring assessment to focus on self-improvement, rather than attaining a high mark. Another participant suggested using criterion-based assessment instead of norm-referenced assessment and regarded this as one of the pillars of a task-involved classroom. In a task-involved environment, students learn for the sake of learning. They are encouraged to compare their current performance with their targeted one and build up confidence by noticing their own progress.

Nature of Assessment Tasks

The participants' responses delineated two key features of effective assessment tasks which they perceived to impact students' motivation: authenticity and diversity. Authentic tasks can help students connect their class work to real world applications and see the meaning of these tasks hence increasing their intrinsic motivation. The teacher candidates reported different strategies to create authentic tasks which are intriguing to students. For instance, a participant taught a Civics course which gave students the opportunity to tie in historical drama to current political issues, conducted mock debates, and had a constitution writing competition. All of these tasks made an otherwise boring course appealing to students. An English teacher candidate devised a Coat of Arms assignment when teaching Macbeth. Each student chose a character and designed a coat of arms with colour symbols and a motto representing the important aspects of the character's personality and motivation. Students forgot about the grades they would attain and let their imaginations "run wild" in completing this assignment. These tasks were deemed authentic to varying degrees and proved effective in enhancing students' intrinsic motivation.

Providing choices with diversified tasks is another way of motivating students perceived by these teacher candidates. On the one hand, providing students with choices encourages students to take ownership of their learning. As one participant pointed out, when students felt that they chose the right project for themselves, they would become more motivated. On the other hand, allowing students to choose tasks with different levels of challenge may keep students of mixed abilities motivated. One participant described the following scenario:

> I was teaching graphing and statistics and some of my students could graph data flawlessly within a few minutes and some students could not properly scale a graph. I wanted to allow students to have the time to complete the task but at the same time I didn't want other students to sit around with nothing to do. By using a variety of activities and giving student more choices I was able to do this. I would create questions of varying difficultly and allow them to have a choice as to which one they would complete and present to the class. This task was successful because students were able to choose the question that challenges them.

Effectiveness of Feedback

Effectiveness of feedback was another important theme frequently emphasized by the participants. They perceived effective feedback to be timely, positive, and specific and different forms of feedback (i.e., comments and grades) differ in their effectiveness. Effective feedback helps clarify learning goals to students, communicates the purpose of learning so that students become more motivated (Feed Up). Such feedback also helps students know their strengths, areas for improvement, and next steps in their work (Feed Back). Further feedback provides teachers with information to modify their teaching (Feed Forward). Effective feedback plays a critical role in building and enhancing students' motivation for learning. The following quotation illustrates some of the participants' perspectives:

Motivation is only maintained when educators provide focused, timely, and consistent feedback that align with the learning goals of the task. Essentially, many students need direction and guidance along the way. Students need to know what they are doing well and what skills need to be improved in order to attain the learning goal. I truly believe that providing students

with effective feedback helps students to focus on their own learning process while becoming more confident in their growing abilities. This ultimately leads students to become more task-involved.

Timeliness was considered the first important aspect of effective feedback. The participants thought it crucial to catch students' interest and attention while their minds were still on the topic. Handing back tests or assignments on time with feedback helped "nip problems in the bud". The participants also thought that feedback should be provided during the formative stage of the teaching-learning cycle so that students had the opportunity to use it to improve their work prior to the summative assessment task. Giving immediate or timely feedback enables students to apply the feedback to their work and hopefully use it to learn the material better. While emphasizing the value of giving timely feedback, the participants also discussed the challenges. One major barrier mentioned repeatedly was large class size. Faced with this challenge, the participants discussed becoming creative when determining assessment methods that would allow for shorter turnaround times.

Positive feedback was further emphasized in the participants' discussions. One participant commented, "To maintain a focused and enthusiastic class, it is vital to offer positive and encouraging responses to all appropriate contributions. It is amazing how easy it is to kill a healthy classroom atmosphere with a negative attitude or comment." Another participant asserted that positive feedback might have the most powerful influence for motivating students and building up their confidence. Encouraging feedback was considered necessary even after all the final grades had been recorded so that students were motivated to see learning as a continuous process.

Specificity was considered as the third important feature of effective feedback. Specific feedback, rather than vague, broad sweeping statements, may provide information with respect to students' strengths, weaknesses, and most important next steps. It assists students in focusing on their own learning and improves their confidence as learners. The participants also thought that compared with high-achieving students, weaker students had trouble understanding feedback and required more specific steps to develop a growth mindset and see a path toward understanding.

Regarding various forms of feedback, the teacher candidates thought that feedback could be provided through comments (written or oral) and grades, yet feedback in different forms differs in effectiveness. The participants disliked the "rubber stamp comments" and preferred the "sandwich" approach. The former include comments like "very good" or "excellent work", which was considered ineffective to motivate students and enhance their learning. By comparison, the latter approach begins with a positive comment, then areas to focus on or improve and then another positive or encouraging comment to end. In the process of providing conferencing and individual help, the participants believed that how a teacher answers a student's questions made a difference to their motivation. For example, when students asked if they were on the right track during open door sessions, one participant never told the answers directly but provided feedback with a series of questions like "Why did you do that?", "Are you missing a step?", "What did you do to prepare for the test?" and "Can you think of another way to solve this problem?" This type of feedback proved useful by helping students to better

understand the gaps in their knowledge and developed an "I need to know more about this" mindset.

The participants' voices diverged regarding the roles that grades play in motivating students. A vast majority of participants believed that grades might be a motivator to the higher achievers who enjoyed the status of being perceived as better than their peers, but a detriment to the lower achievers' confidence if they received poor grades repeatedly. It was deemed likely that students motivated by grades rather than real interests would encounter troubles in the long run. They might not know what they wanted to pursue as their career after graduating from high school and ended up making the wrong choices in their post-secondary education. Additionally, the participants emphasized that grades might bring fear rather than joy of learning to students. As one participant commented, "To receive a grade is like a final judgment to students. Students learn to fear of getting bad marks, and that fear drives them to pay attention in class." However, two participants expressed opposite views. One participant thought that the students' reactions to grades differed greatly and students who typically did poor on assignments and assessments seemed to be very positively affected in their confidence by a higher grade on their exit cards. Another participant believed that without a grade or something similar, students would have no idea about where they stand in terms of passing or failing the course.

However, if both comments and grades were given to students at the same time, the participants frequently mentioned that grades posed a threat to the effectiveness of comments. The participants complained that their time and efforts in writing comments were not duly valued and thus felt frustrated because students paid attention to grades only. For example, one participant commented, "As teachers, we often spend countless hours grading papers and writing comments in margins, only to have our students look at the grade and then toss the paper in the wastebasket." Faced with this dilemma, one participant suggested giving smaller assignments where teachers do not give back a grade, but just comments for specific improvement.

Clarity of Learning Goals and Criteria

The participants attached utmost significance to clarifying learning goals and criteria for students. They thought that the main responsibility for creating learning or achievement targets rested in the hands of the teacher, usually guided by school and district standards. Clearly communicating these goals was one practical way of motivating students and enhancing their achievement. With a clear goal set based on success criteria and exemplars, both students and the teacher knew what was expected and the direction to proceed. To close the achievement gap, teachers may provide students with information about their progress toward the goal and suggest actions to move toward the standards. One participant stated,

When explicit performance standards, expectations and guidelines are laid out, a positive environment for learning is created. Therefore, when students understand and fully comprehend what is being asked of them, their success path is more easily navigated. When the guidelines and standards are illuminated, this also allows for teachers to more easily evaluate and assess the quality and comprehension of the student.

In addition, the participants also perceived collaboration with students can support some additional desired outcomes of learning. For instance, developing rubrics or checklists for a unit

project with students, deconstructing a text with students to generate criteria for essay writing, and asking students to evaluate exemplars using the rubric before completing the task allowed for a discussion regarding any discrepancies between the teacher's and the students' understanding of the criteria. Students thus could be more motivated to learn by becoming involved with the desired outcomes of learning.

Discussion and Conclusion

This study explored teacher candidates' perceptions on the relationships between classroom assessment and motivation. Four major assessment-related themes: *classroom assessment environment, nature of assessment tasks, effectiveness of feedback, and clarity of learning goals and criteria*, were found to co-occur with motivation. This implies that classroom assessment and motivation are closely interconnected as seen by the teacher candidates (Brookhart, 2006; Taylor & Nolen, 2008). A closer look at the results found a pattern that creating a task-involving classroom environment, assigning authentic and diversified assessment tasks, providing effective feedback, and clarifying learning goals frequently co-occurred with intrinsic motivation, the most self-determined motivation. However, a competitive classroom assessment environment, teaching to the test, and giving students grades co-occurred with extrinsic motivation, including both self-determined extrinsic motivation and non-self-determined extrinsic motivation (refer to Appendix: Figure One).

Overall, the co-occurrence of assessment and motivation provides evidence that these teacher candidates perceive classroom assessment impacts students' motivation. Existing literature has shown that the information that the students internalize from classroom assessment fuels their learning system (Stiggins, 2005) and formative assessment, in particular, is "one of the most powerful ways to enhance student motivation and achievement" (Cauley & McMillan, 2010, p. 1). The participants' discussions in this study have thus confirmed with previous research evidence on the interconnectedness of assessment and motivation. Different aspects of classroom assessment environment exert different influences on students' motivation.

On the one hand, some aspects of classroom assessment are perceived to be closely associated with intrinsic motivation. Classroom assessment tends to nurture students' intrinsic motivation when it gives students a sense of competence, relatedness, and autonomy. In a task-involving classroom environment, students' attention focuses on their own improvement rather than the disheartening gap between the higher and lower-achieving students. Establishing a positive teacher-student relationship may also enable students to trust the teacher and have a sense of relatedness to the class. Providing effective feedback was seen to help students to feel that teacher is caring and supportive of their learning. As feedback is a powerful way to affect student achievement, it is consistently ranked as among the strongest interventions at a teacher's disposal (Fisher & Frey, 2009). Teachers need to know how to provide feedback, and also to teach students how to make use of their feedback. As a result, students will be more focused if they know their purposes for learning. In addition, teacher candidates saw assigning students authentic and diversified assessment tasks as helping students see value in increasing their effort to autonomously complete their work. Likewise, when students clearly understand their leaning goals and the criteria, they may plan their own study, monitor their own progress and assess their own work, which also brings students a sense of autonomy.

On the other hand, some aspects of assessment are only seen to be associated with extrinsic motivation (see Figure One). Competitive classroom environment, teaching to the test, and giving students grades tend to detach students from their mastery goals. These assessment elements were not seen to bring students a sense of competence, relatedness, and autonomy. In a competitive classroom, students compare their performance with other students' performance. Some students, especially the lower-ranking students, may feel discouraged and gradually lose confidence when they see a widening gap between the higher-achieving students even though they have expended efforts to their study. They also may not have a strong sense of relatedness as a result of the competition in the class. Additionally, the external high-stakes testing was seen to force teachers to have the practice of teaching to the test and leaves students little or no control in determining what they learn. This is consistent with the conclusion made by Harlen and Deakin Crick (2003) that the external high-stakes testing often negatively impacts students' motivation for learning and militates their preparation for lifelong learning.

Perry (2002) suggested that teachers build a community of learners, involve students in complex and meaningful tasks, give students choices and opportunities to control challenge, involve students in evaluating their work and reflect upon their actions. Wiliam (2011) emphasized five formative assessment strategies, i.e., sharing learning goals and criteria with students, eliciting student's current performance, providing feedback, peer assessment, and self-assessment. In this study, the teacher candidates' discussions highlighted the importance of the assessment environment, meaningful and diversified assessment tasks, good feedback practice, and sharing learning goals and success criteria with students. However, the other important aspects of assessment like self-assessment and peer assessment were underrepresented in the discussions. Future teacher education programs may call the teacher candidates' attention to and improve their skills of involving students in the assessment processes through these two strategies.

This study, though exploratory in nature through self-reported data, has important implications to teaching. The discussions of these teacher candidates were mostly based on their understanding of the research literature and what they had practiced in their teaching practice and wish to pursue in their future teaching. Despite this, we can see clearly the emergent themes from these teacher candidates' perspectives on the relationship between assessment and motivation. Hopefully this study offers an opportunity for us to listen to the voices of these beginning teachers who will shape our students' future classrooms and in doing so, address one aspect of the research gap in this area.

Acknowledgement: The authors wish to acknowledge the contribution of Youyi Sun to the beginning portion of the project.

References

Black, P., & Wiliam, D. (1998a). Assessment and classroom learning. *Assessment in Education: Principles, Policy and Practice, 5*(1), 7–74.

Black, P., & Wiliam, D. (1998b). Inside the black box: raising standards through classroom assessment. *Phi Delta Kappan, 80*(2), 139–48.

Brookhart, S.M. (2009). *Exploring formative assessment*. Alexandria, Virginia: ASCD.

Brookhart, S. M., & Durkin, D. T. (2003). Classroom assessment, student motivation, and achievement in high school social studies classes. *Applied Measurement in Education*, *16*(1), 27-54.

Brown, G. T., Harris, L. R., & Harnett, J. (2012). Teacher beliefs about feedback within an assessment for learning environment: Endorsement of improved learning over student well-being. *Teaching and Teacher Education*, *28*(7), 968-978.

Cauley, K. M., & McMillan, J. H. (2010). Formative assessment techniques to support student motivation and achievement. *The* Clearing House, 83(1), 1-6.

Dörnyei, Z. (2001). *Teaching and researching motivation*. Harlow: Longman.

Fisher, D., & Frey, N. (2009). Feed up, back, forward. *Educational Leadership*, *67*(3), 20-25.

Harlen, W., & Deakin Crick, R. (2003). A systematic review of the impact of summative assessment and tests on students' motivation for learning. *Assessment in Education*, *10*(2), 169-207.

Herring, S. C. (2008). Computer-mediated discourse. In D. Schiffrin, D. Tannen, & H. E. Hamilton (Eds.) *The handbook of discourse analysis* (pp. 612-634). Hoboken, NJ: John Wiley & Sons.

McMillan, J. H., Cohen, J., Abrams, L., Cauley, K., Pannozzo, G., & Hearn, J. (2010). *Understanding secondary teachers' formative assessment practices and their relationship to student motivation*. Retrieved from http://files.eric.ed.gov/fulltext/ED507712.pdf.

McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence-based inquiry*. Boston: Pearson

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Beverly Hills, CA: SAGE.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68-78.

Deci, E. L., & Ryan, R. M. (2012). Motivation, personality, and development with embedded social contexts: An overview of self-determination theory. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation*, (pp.85-107). New York: Oxford University Press.

Stefanou, C., & Parkes, J. (2003). Effects of classroom assessment on student motivation in fifth-grade science. *The Journal of Educational Research*, *96*(3), 152-162.

Stiggins, R. J. (2005). *Student-involved assessment for learning* (5th Ed.). Upper Saddle River, N.J: Merrill/Prentice Hall.

Taylor, C. S. & Nolen, S. B. (2nd Ed.) (2008). *Classroom assessment: Supporting teaching and learning in real classrooms.* New Jersey: Pearson Education, Inc.

Wiliam, D. (2011). What is assessment for learning? *Studies in Educational Evaluation, 37*, 3-14.

Appendix

Table One: Frequencies of Themes and Codes

Themes and Codes	Frequency
Theme 1: Classroom Assessment Environment	**48**
Code 1: Ego-involved classroom	8
Code 2: Competitive environment	6
Code 3: Social comparison	6
Code 4: Teaching to test	2
Code 5: Competing with oneself	4
Code 6: Task-involving classroom	18
Code 7: Teacher-student relationship	4
Theme 2: Nature of Assessment Tasks	**18**
Code 1: Task authenticity	11
Code 2: Providing choices with diversified tasks	7
Theme 3: Effectiveness of Feedback	**33**
Code 1: Timely feedback	5
Code 2: Specific feedback	8
Code 3: Positive feedback	2
Code 4: Comments	12
Code 5: Grades	6
Theme 4: Clarity of Learning Goals and Criteria	**13**
Code 1: Clarifying learning goals	6
Code 2: Developing rubrics with students	6
Code 3: Having students evaluate exemplars and rubrics	1
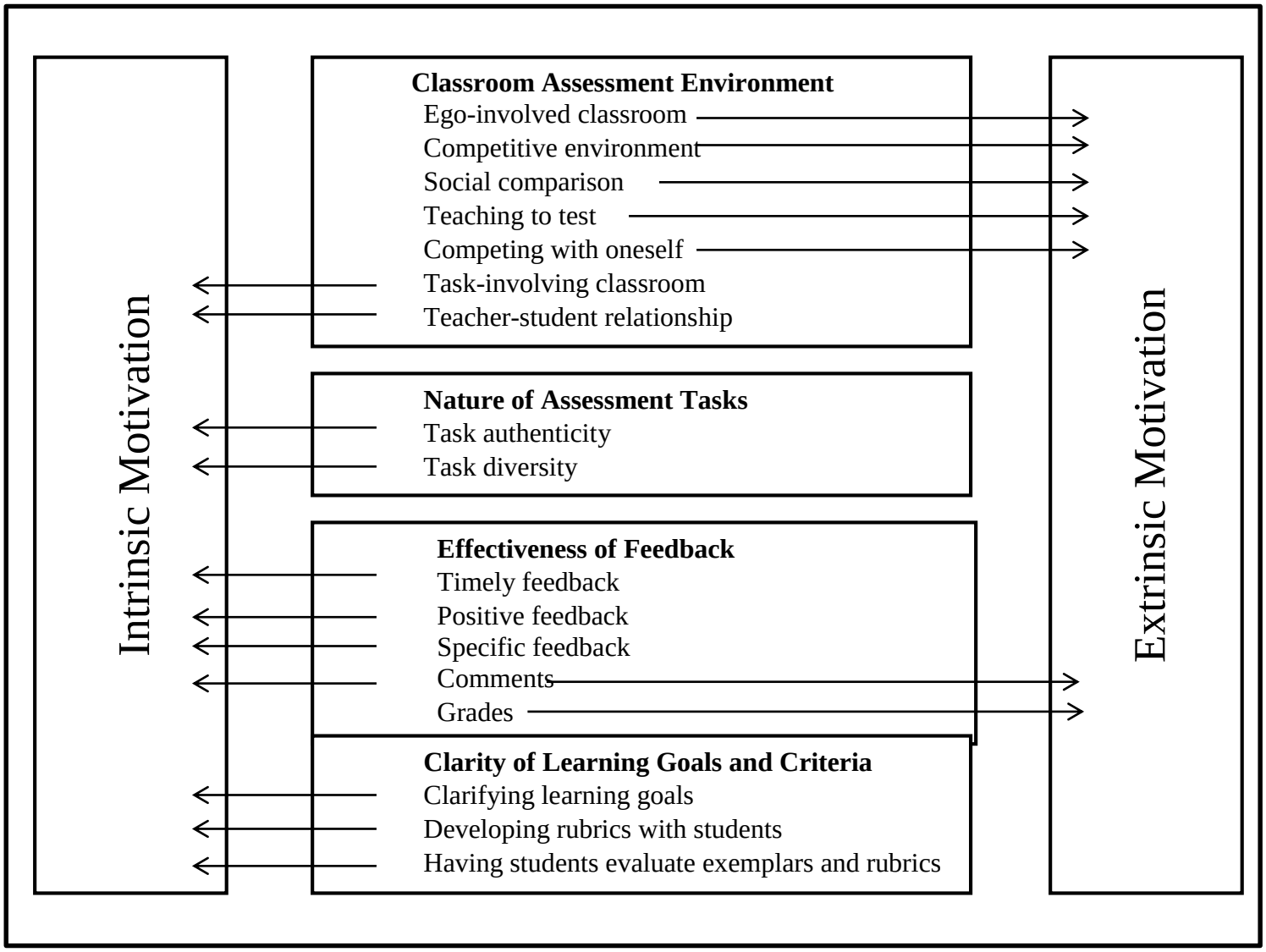
Figure One: Conceptual Map of Teacher Candidates' Perception of Relationship Between Assessment and Motivation