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## NEQMAP Thematic Review

# Gender Equity, Equality and Learning Assessments

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### ABSTRACT

Gender equity and equality, are important aspects of achieving the right to education for all, as outlined in the Incheon Framework for Action's commitment of "supporting gender-sensitive policies, planning and learning environments; mainstreaming gender issues in teacher training and curricula; and eliminating gender-based discrimination and violence in schools" (UNESCO, 2015b). Learning processes, provisions and outcomes are not equitable when examined through a gender responsive or transformative lens. While countries are beginning to address gender equity and equality, there are still significant differences between the learning achievements of boys and girls. Notably these differences are seen in learning outcomes – and learning outcomes are determined through assessments or evaluations that may or may not have biases.

This thematic review provides an overview of the existing inclusive education policies and practices in the region and specifically focuses on how learning assessments interconnect and interact with issues of gender equity and equality. The findings indicate that while much has been undertaken to ensure gender equity and equality is mainstreamed into education policies and teaching practices, little research or examination has been undertaken as to what role learning assessments can or do have in terms of gender equity.

### KEY WORDS

inclusive education, gender equity, gender equality, learning assessments, Asia-Pacific

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## INTRODUCTION

Since 2008, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has made gender equality a top priority. In 2014, UNESCO provided strategic recommendations and action plans to ensure that gender equality is a constituent element of the global education agenda with a focus on “equality of opportunity” as well as “equality of outcomes”, especially in the post-2015 agenda (UNESCO, 2015b). In part, education systems should aim to address persisting gender disparities and to promote gender equality throughout the education system: in participation in education (access), within education (contents, teaching and learning context and practices, delivery modes, and assessments) and through education (learning outcomes, life and work opportunities) (UNESCO, 2017). However, the issue of gender equity and equality in educational success is part of long-standing political, public and scientific debates about education (Hadjar et al., 2014). Girls and boys continue to achieve different learning outcomes in school, in overall performance and by subject. Regional and international learning assessments at primary and secondary level show wide-ranging gender differences. Girls continue to outperform boys in reading and language arts, yet lag behind in mathematics and science. Girls and boys can perform equally well in reading, mathematics or science under the right conditions: There is no inherent difference in their capacities (UNESCO, 2016a).

Teaching, curricula and learning assessments all play a key role to see that commitments to education quality and equity are upheld. By measuring the learning outcomes of children and youth to ensure they receive a quality and relevant education, regardless of their circumstances, learning assessments provide inputs and feedback to strengthen learning systems. Yet, the differences in the educational experiences among girls and boys can result in imbalance of learning outcomes. With respect to this concern, it is therefore very significant for learning assessment systems to be structured equitably so that students are given chances to show what they have understood and learned. The Sustainable Development Goal (SDG) 4 – Education 2030 Agenda promises to leave no one behind and to provide equitable, quality education for everyone (UNESCO, 2015b). In terms of equitable learning outcomes urgent changes are needed to reach these goals

### Purpose

This thematic review examines the role of the different elements of education systems that can support inclusion, including laws and policies, school curricula and materials, teachers as well as looking more closely at the impact learning assessments may play in promoting or inhibiting gender equity and equality. While there is much evidence on the differences and disparity of learning outcomes between boys and girls, there has been limited research that looks at how gender equity in learning assessments is interpreted in the Asia-Pacific region. This review examines the factors that impact gender equity and equality in education, and more specifically learning assessments, including policies, curriculum, teacher training and types of assessment.

This thematic review seeks to answer the following questions:

1. How do education policies interpret gender equity and equality?
2. In what ways are these education policies implemented through curriculum development, teacher training and learning assessments? And,
3. What recommendations can be proposed to ensure gender equity and equality in learning assessments?

## GENDER EQUITY AND EQUALITY ACROSS EDUCATION

Equity and equality are at the heart of the Sustainable Development Goals (SDGs) as well as in the Education 2030 Framework for Action. The Education 2030 Framework for Action acts as a tool aimed at helping the international community to achieve Sustainable Development Goal 4 on education, explicitly realising the right to education by recognising gender equality as a guiding principle. It is bolded that the girls and boys, women and men, should be equally licenced ‘in and through education’ (UNESCO, 2015b). SDG 4 commits to not to leave anyone behind and to provide equitable, quality education for everyone. One of the major tasks includes initiatives to eliminate persistent disparities in education access and achievement, to improve educational quality, and to provide learners with the knowledge, skills, attitudes and behaviours to ensure inclusive and sustainable societies (UNESCO, 2015b).

For this thematic review, it is important to clarify what is meant by gender equity and gender equality. The UNESCO Priority Gender Equality Action Plan (2014–2021) (UNESCO, 2014) outlines key definitions for this paper. Gender is defined as the social meaning or social characteristic used to define a man or woman. Gender, “defines the boundaries of what men and women, girls and boys can and should be and do; shapes and determines the behavior, roles, expectations, and entitlements of women and men; and provides rules, norms, customs, and practices” (UNESCO, 2014).

To promote gender equity and equality, education systems and schools play a central role by providing equal opportunities to access and benefit from education. Teachers, learning contents, materials and equipment, assessment methods and tools, the overall learning environment and the socialisation process in school, are all critical to ensuring gender equality in educational learning outcomes. Teachers’ stereotypical beliefs about sex-based ability will treat boys and girls unequally in the classroom can affect gender equality. Biased learning contents and materials could also impact on performance. Curricula that are gender-balanced and take account of girls’ interests, for example, linking abstract concepts with real-life situations, can help increase girls’ performance and interest in STEM (UNESCO, 2015a; 2017). Gender bias in learning materials such as textbooks remains an almost invisible obstacle to females’ equality in education and beyond (Blumberg, 2015).

### GENDER EQUITY

**Targeted measures [that] are often needed to compensate for historical and social disadvantages that prevent women and men from otherwise being equals. These measures (temporary special measures), such as affirmative action, may necessitate different treatment of women and men in order to ensure an equal outcome. Equity leads to equality (UNESCO, 2014).**

### GENDER EQUALITY

**Women and men enjoy the same status and have equal opportunity to realize their full human rights and potential to contribute to national, political, economic, social and cultural development, and to benefit from the results. It is the equal valuing by society of both the similarities and the differences between women and men and the different roles they play (UNESCO, 2014).**

### LEARNING ASSESSMENTS

**The process of collecting, synthesizing and interpreting information to aid classroom-based decision-making, support student learning (formative assessment) and judge student performance at a specific point in time (summative assessment). It is primarily carried out by teachers and students in their classrooms, and encompasses both the formal grading of students’ work as well as more informal observations (UNESCO, 2018).**

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## Policy frameworks

Policy and legal frameworks play an important role in supporting and ensuring gender responsive and inclusive education systems. However, their impact is limited if they are not supported by national frameworks or if educational stakeholders are not aware of them. Guided by international framework of commitments, such as the UNESCO Convention against Discrimination in Education, many countries in the Asia Pacific region have created national commitments and legislations to uphold gender equity and equality, and the right to education. In 2006, Viet Nam passed a law on gender equality in all fields of social and family life, including education and training (ILO, 2006)... In 2011, Mongolia passed a law on the promotion of gender equality.<sup>1</sup> Specifically, this law guarantees equal rights and opportunities at all levels of the education system, learning environments that are free from gender discrimination and education standards and curricula that must incorporate content on gender.

These laws, in turn, guide national education sector plans (ESPs) which set out the specific goals the government would like to achieve in the education sector and the strategies it will use to do so (GPE, 2017). Key components of ESPs include the implementation modalities (roles and responsibilities of different stakeholders), monitoring and evaluation, along with capacity development (identification of gaps and strategy for building capacity). Few ESPs go beyond the general objectives of ensuring gender equality and strategies for education systems to reduce gender bias, which may affect the academic achievement of girls and women. In a study of the ESPs of 42 countries, (GPE, 2017) found that 38 per cent contained no analysis of barriers to girls' education. The implications of a lack of gender mainstreaming strategies in ESPs manifest themselves in the absence of teacher training, curriculum development and approaches to assessment that contribute to positive learning outcomes for girls and women.

The ESPs which did identify barriers to girls' education, conducted an analysis on both the demand and supply side. On the demand side, sociocultural factors, early marriage, costs of education and opportunity costs were cited as barriers to girls accessing education (GPE, 2017). On the supply side, school environmental factors such as school violence, absence of separate latrines for girls, and inappropriate pedagogical factors were cited as barriers to the provision of non-gender biased education to girls (GPE, 2017). While there are strategies laid out to improve both educational demand and supply such as teacher training and curriculum development, none cite strategies to improve learning assessments. This demonstrates the need for ESPs to go beyond surface level observations and techniques and to delve deeper into innovative practices that will ensure gender equality at all levels of education.

## Gender responsive and transformative curricula

The implementation of gender responsive policies to practices in the classroom is critical in the pursuit of gender equality in schools. Gender-responsive curricula are an important component of this process as it empowers learners to think critically about dominant power structures and gender stereotypes (UNESCO, 2017). However, gender bias is still present in textbooks in many countries, which reinforces negative stereotypes in both learners and educators (UNESCO, 2015a; 2016a; 2017). Curriculum designers can create content and resources suited to the learning styles and preferences of girls as well as boys, and remove gender bias from textbooks and other learning materials (UNESCO, 2017).

In an effort to reduce gender stereotyping in schools, several countries in the region have implemented processes to review and revise teaching materials to eliminate gender bias. Lao PDR conducted a review of teaching materials and trained curriculum writers to develop supplementary learning materials, gender-sensitive primary education curricula and textbooks that promoted gender equality (World Bank, 2012).

A similar curricular review was conducted in Pakistan, to understand the implications of gender-biased curriculums. The Pakistan Gender Analysis Study revealed deeply rooted traditional beliefs of the roles

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1 Legislation Online (2013). *Law on Promotion of Gender Equality (2011)*. Vienna: OSCE Accessed 9 April 2019 <https://www.legislationline.org/documents/id/18050>

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of women and men in society were shown in both text and illustrations. While women were shown in reproductive roles, men were shown in productive and decision-making roles. From this, researchers concluded that textbooks perpetuated negative gender stereotypes and biases (Atthill & Jha, 2009).

As data and empirical evidence on the impacts of gender-responsive and gender-transformative curriculum reforms is quite limited in the region, the continued efforts like these are of critical importance to inform policies and best practices for gender equity and equality mainstreaming in education.

### **Pedagogy, teachers and teacher-training**

Clearly, any changes in the national curriculum, content of the textbooks, teaching and learning methodologies must be linked up with classroom teachers through orientation and with parallel changes in teacher training institutions, as it is not only curriculum content but the process that will have a positive impact on boys and girls. Many teachers have not had the opportunity of receiving gender sensitive training in order to effectively deliver the engendered curriculum. Many teacher trainers are still insensitive to gender issues in the pre-service training of teachers.

Teachers and educators are at the forefront of delivering curriculum and carrying out assessments that promote gender equality. As such, teachers in training need to have the skills and abilities to be aware of the types of curricula and practices that influence school culture (UNESCO, 2015a). Gender equality awareness training builds the capacity of teachers to promote gender equality through instruction, to understand how materials work to break or reinforce gender stereotypes, and to ensure both girls and boys have equal opportunities for participation in the classroom (IBE, 2017).

Positive examples of efforts to promote gender equality through teacher training are occurring in the Asia Pacific region. In 2015, the UNESCO-HNA Partnership for Girls' and Women's Education, launched a five-year project to develop national capacity in the formulation of gender-responsive teacher policy and to build the capacities of teacher trainers and trainees, school leaders and teachers to promote gender-responsive teaching and learning environments, in Cambodia, Myanmar, Nepal, Sri Lanka and Uzbekistan (UNESCO, 2016b). A gender assessment of teacher training was carried out in the first stage of the project to gauge content and perception in the five participating countries. The capacity of the country teams was enhanced by undertaking data collection, collation and analysis as part of a gender assessment of teacher education policies, curricula and teacher training materials (UNESCO, 2016b). The outcomes of this first component of the project are data that will raise awareness of policy-makers and planners on existing gender issues within teacher education and inform the drafting of frameworks for each country to develop gender responsive teacher education policies and plans.

Gender responsive classroom management, lesson plans and activities are integral. Irrespective of their sex, students have higher levels of self-efficacy and self-motivation in supportive learning environments (UNESCO, 2017). While many teachers aim to treat boys and girls equally, classroom observations from a 2015 UNESCO study have identified some interesting cases. For instance in Indonesia, female students were shown to be more engaged and to participate more actively in asking questions than their male peers. In Cambodia however, while female students tended to give more correct answers, they demonstrated higher levels of reluctance, shakiness and anxiety in answering questions, with some female students even waiting until the class was over to ask specific questions to their teachers. In Viet Nam, while male students seemed less confident in presenting in front of the classroom, the number of interactions between teachers and male students were far higher than with female students. This indicates that gender responsive classroom management techniques could help address the different needs and behaviours of boys and girls (UNESCO, 2015a).

The proportion of female teachers is an important indicator of progress towards gender equality, especially in lower income countries. In countries with more rigid gender norms, female teachers can attract girls to school and improve their learning outcomes (UNESCO, 2015a; 2016a). In some contexts, the presence of female teachers is crucial to attract girls to school and improve their learning outcomes. In Punjab

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province, Pakistan, girls' standardized test scores were higher if they had a female teacher (Aslam and Kingdon, 2011). Increasing the proportion of female teachers in a district has been found to improve girls' access to and achievement in education, especially in rural areas (UNESCO, 2013)

The interaction between students and teachers—through curriculum, coursework, and instruction—is at the heart of education. Students' exposure to a rich and broad curriculum, learning materials, challenging coursework, and inspired teaching is therefore vital for their learning and development. There is no widespread agreement on which specific elements of curriculum, coursework, and teaching matter for student outcomes, but there is evidence that these core elements are not distributed in an equitable way between different groups of students.

## LEARNING OUTCOMES, ASSESSMENTS AND EQUITY

Girls and boys achieve different outcomes in school, in overall performance and by subject. Regional and international learning assessments at primary and secondary level show wide-ranging gender differences (UNESCO 2016a). The cross-national studies of learning achievement, for example TIMSS, PIRLS and PISA (measuring knowledge acquisition or knowledge application), present a complex picture. On average, boys' outperform girls in mathematics achievement, with boys' score differentials as compared to those of girls often increasing between early and late primary education. Yet, girls outperform boys in reading and language arts. Both PISA and PIRLS results showed girls achieving significantly higher scores in reading than boys in all locations.

Girls and boys can perform equally well in reading, mathematics or science under the right conditions: There is no inherent difference in their capacities. To close the gap in reading, parents, teachers and policy-makers need to entice boys to read more. To close the gap in mathematics, progress in gender equality outside the classroom, notably in employment opportunities, could play a major role in reducing disparity (UNESCO, 2016a).

Differences also exist between assessments that measure learning against the curriculum-based compared to those that measure students' ability to apply knowledge and skills to different situations. It was evident that in the middle- to high-income countries for which trend data are available, data gaps to girls' disadvantage are closing, particularly in science. In addition, in countries where girls do better than boys on curriculum-based assessments, their score difference can be up to three times higher than when boys do better. There are significant regional differences, however. For example, girls outperform boys in many countries in Asia while the score difference between boys and girls in science achievement is particularly strong in the Arab States, with girls significantly outperforming boys (UNESCO, 2017).

### Internal vs external factors in equitable learning outcomes

Performance in assessment is not only influenced by the cognitive skills of students, but also other factors, including assessment procedures and tools, teacher and student perceptions about ability and psychological factors (motivation and anxiety about testing) (UNESCO, 2017). Research studies have shown that girls and boys perform differently on certain types of assessments; boys tend to do well on multiple choice questions while girls do better on essay questions (UNESCO, 2015a). Test-taking strategies also seem to be a factor. In standardized, high-stakes exams, which are predominantly multiple-choice, girls are less likely to be risk takers and will often leave more questions unanswered. Boys tend to be more competitive and to develop more test-taking strategies, while girls rely on their competences. In terms of demonstration of knowledge, girls perform better on assessments that measure knowledge acquisition than those that measure knowledge application (UNESCO, 2017).

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The ways in which learning assessments are administered also affect the performance of students. Girls have been found to have better mathematics scores in classroom settings—attributed to the social setting—while boys tend to perform well in mathematics assessments that are computer-based—attributed to spatial reasoning skills gained through the use of digital products, like video games (UNESCO, 2017).

Psychological reactions to competition or testing, such as test anxiety, which is more common among female learners, and teachers' own biases, may further compromise girls' performance. Gender differences are present in the ways teachers mark boys compared to girls. A study of Israeli primary students found girls outscored boys when graded anonymously, but the reverse occurred when girls were graded by teachers who knew their names. The study concluded that teachers underestimated the abilities of girls when it came to math while they overestimated the abilities of boys (UNESCO, 2017). This resulted in lower enrolment for girls in advanced math classes, upper secondary courses and higher education. As a result, many countries have implemented policies where the name and sex of the student is hidden when exams are marked (UNESCO, 2017).

### **Gender equity and equality in learning assessments**

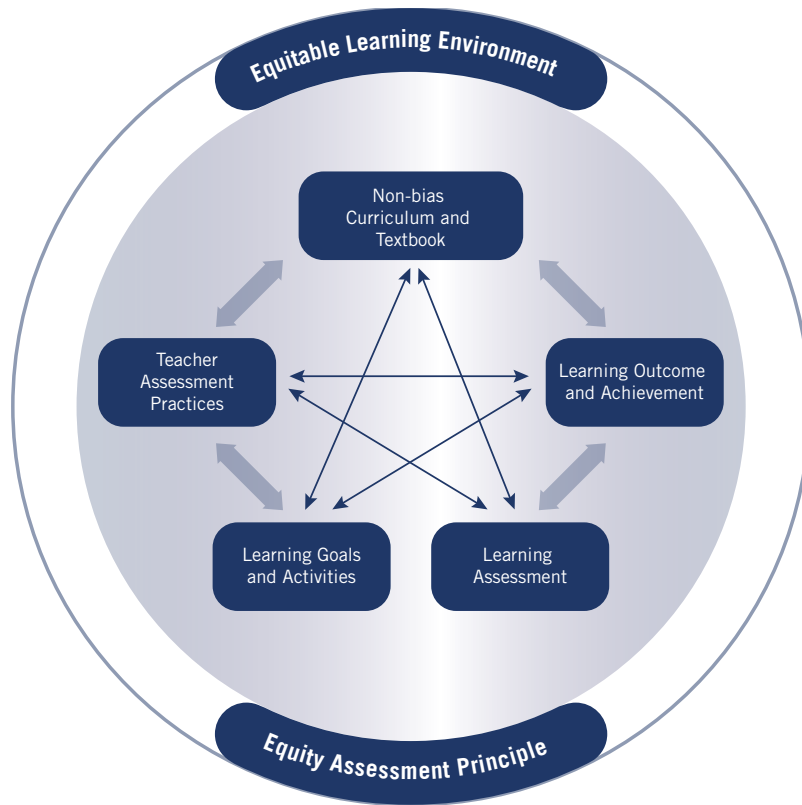
Like all aspects of education, the way learning is assessed needs to be free from gender bias. Safe and supportive learning environments can increase girls' engagement with school and education. As a response to some of the negative aspects of examinations, many education systems have attempted to introduce more student-centred learning and holistic evaluations. Learner-centred and classroom-based initiatives can have a significant impact on the learning outcomes of students: reducing stress and anxiety related to examinations, promoting collaboration and teamwork, and promoting a healthy, happy environment in the classroom (UNESCO, 2016c). Classroom and formative assessments can be introduced to mitigate inequalities of learning outcomes. Involving girls in hands-on activities that are writing intensive and inquiry-based, with adequate time to complete, revise and discuss, can help to limit stress and anxiety and provide an alternative to high-stakes tests and exams (UNESCO, 2017).

Consistent and effective methods of assessing the knowledge of learners are crucial to enhance student engagement and to improve learning outcomes. Good assessment practices allow teachers to better understand individual strengths and weaknesses, how to set goals and targets for learners, where to direct attention, resources and expertise, and how to adapt teaching practices to achieve greater student success. In a study conducted by Siegel and Wissehr (2011), educators preferred different types of assessments so that they would be able to better assess individual learning outcomes across gender.

Equitable assessment should provide and support students' opportunity to learn, to practise and to achieve. To meet equitable principles, assessments must be shaped accordingly and give a sense of accomplishment for learners. The relationship between equitable learning environments and equitable assessments is presented in Figure 1 (following page).



Figure 1: The System of Equitable Assessment



Source: Adapted from: Catherine McLoughlin (2001) Inclusivity and alignment: Principles of pedagogy, task and assessment design for effective cross-cultural online learning, *Distance Education*, 22:1,7–29)

Although all students are to be assessed on what they have learnt and comprehended, in accordance with the topic taught, assessments must be significantly flexible to allow all genders to show what they have studied and how they can apply their knowledge. Rather than changing the curriculum to fit an assessment, assessments must be tailored accordingly to the curriculum, pedagogy, as well as the learners. Designing assessment for equity requires conscientious rethinking to predict how an individual, group or society would be affected. Students should have multiple opportunities to meet the goals and should be able to meet the goal in different ways regardless of gender.

Equity also requires attention to how assessment results are used. Often assessments have been used inappropriately to filter students out of educational opportunity. However, assessments could be used instead to empower students: to provide students the flexibility needed to do their best work, to provide concrete examples of good work so that students will know what to aim for in learning, and to elevate the students' and others' expectations of what can be achieved. Assessments can monitor outcomes for different genders and inform initiatives that aim to address educational inequity (Tobin, Lietz, Nugruho, Vivekanandan and Nyamkhuu (2015).

## RECOMMENDATIONS

An education policy, system, or approach should be **gender-responsive and transformative**. It is informed by an awareness of the effects of gender norms, roles, and relations as they impact education, and that it takes measures to actively reduce those effects that pose barriers to gender equality (GPE, UNGEI



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& UNICEF, 2017). It also should take into account girls' and boys' specific needs and interests, and work towards equitable and quality educational outcomes for girls and boys. As such this paper propose several recommendation towards achieving the equity and equality in learning and assessment

#### RECOMMENDATION 1

**Focus on gender equality mainstreaming by formulating national gender equality, education and assessment policies, along with supporting frameworks and guidelines in the pursuit of gender equality.** Education systems across the Asia-Pacific region should develop supportive policy environments for gender equity and equality and follow up on policy implementation. This includes gender responsive and transformative language at all levels of the education system. Governments should take steps to audit the gap between policy and practice, as well as a lack of clarity and policy structure around learning and assessment practices that support gender equity and equality.

#### RECOMMENDATION 2

**Develop gender responsive and transformative curricula and pedagogy, free of gender bias and negative stereotype.** Education systems should incorporate the range of experience, knowledge, skills and aspirations of women and girls as well as that of men and boys in the curriculum. Governments should ensure that the principles and understandings of gender equity are integral to curriculum development, assessment design and implementation in all key learning areas. Further, education systems should audit textbooks or any learning materials for gender biased illustrations or language used that can perpetuate gender stereotypes.

#### RECOMMENDATION 3

**Design pre- and in-service teacher training to build capacities and abilities to break down gender bias and create inclusive classrooms.** Governments should incorporate gender responsive curriculum in teacher training or teacher professional development in order to develop teachers' capacities and awareness on gender sensitivity and gender responsive instruction and classroom management. More specifically, teachers need the skills for making teaching and learning processes responsive in to the specific needs of girls and boys. Gender responsive pedagogy calls for teachers to take an all-encompassing gender approach in the processes of lesson planning. As a start, governments should evaluate the gender responsiveness of teacher education institutions, teacher education curriculum and textbook development policies, teaching practices as well as teaching and learning materials used for teacher education and in schools.

#### RECOMMENDATION 4

**Offer different approaches to, strategies for and types of assessments to effectively and fairly evaluate the learning outcomes of both boys and girls.** Teachers need to have the knowledge and skills to develop and use different approaches, strategies and types of assessments according to the diversity of their students. This should include developing benchmarks for assessing key competencies which benefit both girls and boys. Education systems need to develop teachers/educators capacity in developing, implementing and using assessments so that fair inferences can be drawn about learning outcomes of all genders.

#### RECOMMENDATION 5

**Utilize assessment data as a key component to inform every stage of the policy cycle to strengthen gender equality.** Assessments can be used to ensure equity of the education system by examining education outcomes for specified subgroups. It is critical to develop methods for reporting and tracking education equity indicators, including 1) indicators that measure disparities in students' academic achievement and attainment outcomes; and (2) indicators that measure equitable access to resources and opportunities.

## CONCLUSION

As the Asia-Pacific region comprises a wide geographic area that is differentiated in terms of wealth, ethnicity, language and culture, there are limitations for a clear picture on gender equity and assessment in learning. A 'one size fits all' solution to ensure education policies and practices (including curricula, pedagogy and learning assessment) meet gender equity and equality goals is not realistic. There are different needs for different countries. Effective gender equality policies and practices have to consider many factors in order to fit the local context. But education systems need to respond to and transform gender inequality by ensuring their education practices, such as teaching and assessments, are based on gender equitable principles.

This thematic review discussed the issue related to gender equity and learning assessment which has limited sources of information. The insufficient amount of research and data calls for more research into this area, and to examine more deeply the interrelation between gender and learning assessments. Further examination and research into underlying and contextual factors that may provide insight into the differences in learning outcomes can provide useful recommendations for improving teaching and learning, not to mention education policy.

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