

By Invitation

The 'Seven S' approach to subject-based banding in schools

New subject-based banding is not old wine in new bottles. It can be transformative.



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For The Straits Times

By 2024, the system of streaming secondary school students into Express, Normal (Academic) or Normal (Technical) based on their PSLE results will be replaced by subject-based banding, or SBB, where students take a combination of subjects from three different bands based on their strengths. SBB is already practised in primary schools. In secondary schools, SBB is now used for the four core subjects – the two languages, mathematics and science. In 2024, SBB will be expanded to cover all subjects in secondary schools. Implementing SBB at secondary schools is a logical step based on pedagogical customisation.

Fundamentally, what is at stake is the future of our children. Many people have welcomed the end of streaming as it has been practised for 40 years, but many also worry that the new SBB system will similarly become stigmatising, as students will still be placed on three tracks of G1, G2 and G3 in secondary school.

However, we should avoid jumping to conclusions because of anxiety, angst or assumptions. In policymaking and implementation, and also public engagement and discussion, we should approach issues objectively and with an open mind. So, we need to understand SBB and its related issues in the context of the science and practice of human motivation and performance, which is the focus of this essay.

First, both streaming and SBB share the same underlying principle that students be given the appropriate level of academic demands that suit their abilities and aptitudes, so that they can learn at a pace that works well for them and enables them to realise their potential. This principle is supported by research showing that when we can set goals that are concrete and specific, and also difficult but realistically achievable, we will be motivated to perform well to pursue those goals.

Streaming did not take into account certain elements that can be found or easier practised in SBB.

I will call these the "Seven S" elements of education – specific abilities, suitability, self-concepts, stigma, student-centric schools,

societal attitudes and subjective well-being. Done right, the new SBB system has the potential to enhance our education system significantly.

1 SPECIFIC ABILITIES
Human beings have varied skills in different areas. Relying only on general academic ability misses out on important information on an individual's profile of strengths and weaknesses on different abilities.

The old streaming system categorises students broadly into two general academic ability levels – high versus low – by taking the composite score of performance across different subjects. A student who has great potential in one subject but not in others could be placed on the lower-ability Normal stream, while another student who does reasonably well in all subjects but excels in none could go to the higher-ability Express stream.

The problem is exacerbated if the Normal stream environment is not conducive to developing the student's specific ability in the subject he does well in and, worse, if it is overall demotivating for the student to perform academically.

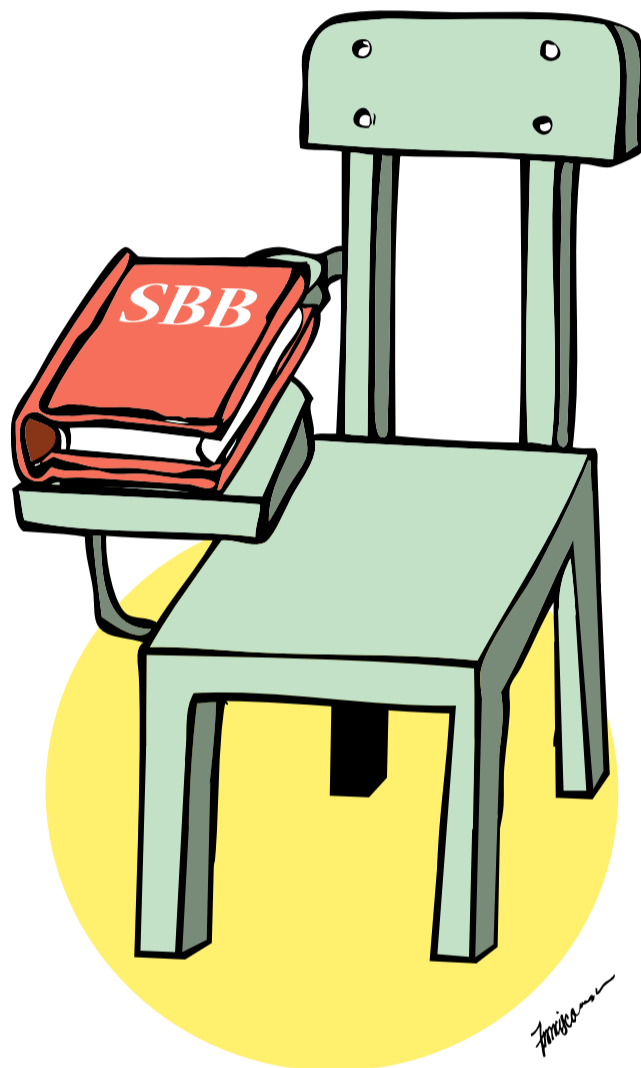
SBB, on the other hand, treats each subject independently. Students can take a combination of subjects at different levels depending on their aptitude. SBB thus provides useful information on the student's profile of abilities and achievements, and the necessary information for the student's academic development.

2 SUITABILITY
An important element in SBB is suitability, which is the student-subject match. Not only does this recognise a student's specific ability in an area, it also helps him develop interest and passion in it.

We are more motivated to learn and do well in a subject area that we have interest in, and passion and deep skills are then likely to be developed. Research has shown that, across all fields and work domains, true experts are knowledgeable and skilful due to dedicated hard work but they enjoy putting in the effort because of their interest and passion in the activities.

Such interest-based and passion-driven motivation is intrinsic and does not require extrinsic motivators like punishments or rewards.

3 SELF-CONCEPTS
How students view themselves and their time in school is important to determine how they develop in life. SBB can improve the way students view themselves, as it



encourages them to take subjects at a level they are suited for. Most people cannot be good in almost all areas. The subject-based focus in SBB helps students develop self-efficacy in selected areas. Self-efficacy refers to the belief that one can mobilise resources and work to accomplish task demands and solve problems in a specific domain.

Research has consistently shown that self-efficacy predicts performance and success at work. As self-efficacy develops, a positive cycle results: students feel capable and become motivated to get more involved in activities related to the subject. They may learn to figure out what they are best at, enhancing self-insight.

Over time, self-efficacy and self-insight contribute to self-esteem, which is the student's overall evaluation and feeling of his own worth. This will be a stark contrast to the feeling of inadequacy that students feel as they strive to perform well in all

areas and end up not doing as well as they could have in specific areas.

4 STIGMA
The stigma associated with social labelling resulting from streaming has been corrosive in many people's lives and for society.

The new SBB system can go a long way to reduce stigma in secondary education. In SBB, it is still possible to compare and rank students according to the combinations of the three possible bands (G1, G2 or G3) for each subject. But as most students will be taking a mix of subjects at different levels, any comparison requires detailed analysis of the students' subject profiles.

Moreover, in the SBB system, most students will be crossing banding levels when they move from one subject to another within a week of classroom lessons. This means they will not be confined to an ability category and labelled accordingly, unlike the case in

Normal or Express streaming where students are placed into clear groupings, creating the perception of "us versus them".

Even if students and parents try to compare, rank and categorise students by their overall ability, it will be difficult and unnatural to do so in the SBB system. Of course, SBB is no guarantee against unhealthy groupings and social exclusion. We need naturalistic environments for students of different backgrounds to mix and interact, so that they learn and play together as peers.

Such interaction helps counter stereotypes and reduce stigma. Not only that, it can develop altruism, compassion, ability to empathise and see things from another's perspective, skills to collaborate and work effectively with others, social harmony and social capital.

5 STUDENT-CENTRIC SCHOOLS
As schools develop the curriculum, logistics and culture for SBB, they must be student-centric, giving top priority to the student's learning process and personal development.

Ground feedback must be heeded: principals, teachers and school staff may be committed, but they require support and coaching for things to work as intended.

Educators and policymakers must live up to the belief in diverse abilities, interests and passion associated with different subject areas. We fail if we send the signal that some subject areas are inherently better than others regardless of the student's profile.

Being student-centric also means recognising that students develop at a different pace, even within a subject. Students should be able to move across bands in the same subject at appropriate times. The bands within a subject should be reasonably porous.

6 SOCIETAL ATTITUDES
Across sectors and industries, rapid changes are occurring in the nature of work. General academic ability won't be enough, as employers seek workers with wider skill sets and adaptive traits to function in multi-disciplinary teams.

Students and parents need to take these changes seriously and adapt quickly to them.

One shift needed is from a fixed mindset to a growth mindset in thinking about ability. A fixed mindset assumes ability is fixed and that one must come to terms with a child's weakness.

A growth mindset helps the child explore and develop his interests and abilities. This takes time and requires an adaptive learning environment that is child-centric. To develop a growth mindset, learn to praise and focus on children's effort. Do not just highlight how

smart or talented they are.

Parents and schools also need to become more child-centric. This means discerning what is good or bad for the child, and not constantly comparing how the child performs relative to other children. Many issues concerning comparison, competition and being child-centric apply to teacher and educator attitudes as well.

7 SUBJECTIVE WELL-BEING
SBB has the potential to help students develop positive subjective

well-being. Such feelings come from satisfaction over met needs, expectations and preferences, experiencing positive rather than negative emotions, and having a sense of personal meaning derived from having the autonomy and ability to pursue and live a fulfilling life.

An education system with the traits highlighted above – such as being student-centric, suited to students' abilities and not stigmatising – helps students feel better about themselves.

When their learning encounters are positive, students experience high subjective well-being, which results in higher motivation, better performance and more pro-social behaviours. Encounters and experiences in the formative years at secondary school, together with their competency and character development, contribute to students' "can do" ability and "will do" attitude that help them lead successful and fulfilling lives when they enter the workforce and function independently and interdependently in society.

WHAT IT ALL MEANS

If we attend to the seven elements of education, implementing SBB will benefit all students in terms of learning, assessment and development, regardless of academic ability and performance levels. We can then be hopeful that positive changes will occur – and sooner rather than later. But if we think no systematic effort is needed, trivialise important issues and simply assume that everything will naturally fall in place, then SBB will lead to many unintended negative consequences.

Whoever we are, it is self-defeating if we disregard facts and insist that SBB is just old wine in new bottles.

And it will be a self-fulfilling prophecy if we externalise all problems to the purported power or weakness of others, the situation or the system, and construe students as either helpless victims or hopeless individuals with no possibility of improving.

Of course, many problems are not of our own doing. But as we hope that others, systems and society change for the better, we should revisit our assumptions, arguments, attitudes and actions.

Whether you are a student, parent, educator, employer, worker or policymaker, as an individual, we can initiate action and change, innovate methods and practices, and inculcate positive values and attitudes in ourselves and those around us.

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