財團法人黃昆輝教授教育基金會
2024教育政策國際研討會

特邀演講集

Professor Huang Kun-Huei Education Foundation
2024 International Conference on Educational Policy

Invited Speeches

Dr. Jürgen Budde
Europa-Universität Flensburg, Germany

Dr. Jari Lavonen
University of Helsinki, Finland

Dr. Alexius Chia Ti Yong
Nanyang Technological University, Singapore

Dr. Douglas Fisher
San Diego State University, USA

Compiled by Professor Huang Kun-Huei Education Foundation
財團法人黃昆輝教授教育基金會　編印
2024年10月

財團法人黃昆輝教授教育基金會
2024 教育政策國際研討會
特邀演講集

Professor Huang Kun-Huei Education Foundation
2024 International Conference on Educational Policy

Invited Speeches

Dr. Jürgen Budde
Europa-Universität Flensburg, Germany

Dr. Jari Lavonen
University of Helsinki, Finland

Dr. Alexius Chia Ti Yong
Nanyang Technological University, Singapore

Dr. Douglas Fisher
San Diego State University, USA

Compiled by Professor Huang Kun-Huei Education Foundation
財團法人黃昆輝教授教育基金會 編印
2024 年 10 月

Contents

特邀演講摘要

特邀演講

Brief

Heterogeneity between Difference, Individuality and Universalism: Insights on Heterogeneity from Central Europe

Dr. Jürgen Budde
Europa-Universität Flensburg, Germany

In central Europe, there is a growing demand for school education to align with pupil diversity. While this demand is associated with the hope of reducing educational inequality and providing better individual support, it overlooks the fact that schools are also committed to a universalist perspective, which fosters community and democracy. A one-sided focus on difference or individuality is therefore inadequate, and must be replaced by a more complex view.

Ethnographic studies also indicate that the expectations for successfully addressing difference are not fully met; instead, intersectional inequalities are perpetuated in educational practices and institutions. This is significantly influenced by the educational merit principle, which involves labeling, stereotyping, and individualizing attributions of responsibility.

Design and Implementation of the National Aims for Finnish Teacher Education during the Years 2016–2022

Dr. Jari Lavonen
University of Helsinki, Finland

The chapter outlines the Finnish Teacher Education Forum's plan, analysis, and reflections on national aims for teacher education. The forum, composed of 70 experts from universities, schools, and other stakeholders, discussed research and international policies through web-based brainstorming. In 2016, the forum set three strategic aims for teacher education: a solid knowledge base, innovative competencies, and expertise development for teachers and schools. They also established six guidelines and funded 45 collaborative pilot projects involving multiple universities and education providers. These projects, through national and local meetings, advanced the strategic aims and supported teacher educators' professional learning.

Thriving in a Multimodal World: The Essential Role of Multiliteracies in Empowering Every Child

Dr. Alexius Chia Ti Yong
Nanyang Technological University, Singapore

Within the overarching conference theme of "Empowering Every Child, Each According to Ability: Visions and Strategies for Quality Education," this abstract delves into the pivotal role of multiliteracies in shaping modern educational paradigms. In an era defined by rapid technological advancement and digital interconnectedness, the concept of literacy has transcended traditional boundaries, encompassing not only linguistic proficiency but also fluency in visual, spatial, gestural and audio modes.

Central to this discussion is the recognition that every child possesses unique abilities and learning styles. Multiliterate education seeks to empower students by providing them with the tools and opportunities to leverage their individual strengths in diverse communication modalities. By embracing multiliteracies, educators can create inclusive learning environments that cater to the diverse needs and abilities of every student, thereby fostering a culture of equity and excellence.

This presentation advocates for a paradigm shift in pedagogical

practices, where educators serve as facilitators of learning rather than disseminators of information. By integrating multimodal elements into lesson plans and leveraging digital platforms, educators can engage students in dynamic and interactive learning experiences that promote creativity, critical thinking, and collaboration.

The presentation emphasizes the critical role of teacher professional development in navigating the multiliterate landscape. Educators must undergo continuous training and support to seamlessly integrate multimodal texts into their instructional practices. This necessitates fostering a culture of lifelong learning and a proactive approach to adapting to the evolving needs of students in an ever-changing world.

In sum, this presentation advocates for a more holistic approach to education that bridges the gap between students' multimodal worlds and the traditional more school environments. By embracing multiliteracies and equipping educators with the necessary tools and strategies, we can create learning environments that seamlessly integrate diverse communication modalities. This approach fosters the development of 21st-century skills and prepares students for success in an interconnected and complex global society.

Teaching Students to Drive Their Own Learning

Dr. Douglas Fisher
San Diego State University, USA

Many educators have grappled with challenges related to student self-regulation, often wondering how to encourage students to become more proactive in their learning journey. This session offers educators insights and techniques to not just expect self-regulation, but to actively teach and cultivate it. This session focuses on empowering students to take charge of their learning by understanding their current level of knowledge and setting methods to guide students in selective appropriate tools for tracking and monitoring their progress towards their goals, fostering a sense of ownership and accountability in their learning experience.

Invited Speeches

Heterogeneity between Difference, Individuality and Universalism: Insights on Heterogeneity from Central Europe

Dr. Jürgen Budde
Europa-Universität Flensburg, Germany

1. Introduction: Heterogeneity as a theoretical concept

Heterogeneity is a difficult phenomenon to define. Broadly speaking, it can be assumed that almost every human perception – whether of facts, people, artifacts, emotions, or other things – involves making comparisons of various quality and quantity. In the Enlightenment tradition of Central Europe's bourgeois modern societies, this process of comparison is how differences are marked and homologies established; it is what gives the world order and structure. Beginning with Kant (1784), this marking of differences can be understood as an epistemological principle – one that underlies not only the perception of social practice, but also the ability to act in and of itself. Distinctions and categorizations simplify the complexity of social reality, turning ambiguity into order, which is what makes action possible in the first place. Thus, heterogeneity in the sense of 'creating

differences' appears to be a general anthropological phenomenon. Human recognition, action, or perception is always realized on the basis of distinctions.[1]

In recent years, the terms 'heterogeneity' and 'diversity' have increasingly been referenced within educational science and school pedagogy research (Govaris & Kaldi, 2010). The hope is that diversity will be acknowledged, inequality reduced, and learning outcomes improved. On the other hand, heterogeneity stands for the reproduction of inequality in and through education. Concepts of heterogeneity are based on supra-individual differences. These usually refer to socio-cultural categories such as gender, ethnicity, social milieu, or disability, as well as their intersectional overlaps. These socio-cultural categories of difference play an important role in the socialization of individuals and the dynamics of social inequality. However, differences related to individual abilities, which are primarily understood as personal talents, are also discussed. Since the term heterogeneity is as complex as it is theoretically underdetermined, it is also referred to as a fuzzy concept or container term. Therefore, the following pages first seek to define the term in historical context (chapter 2), relate it to school discourses

1. In recent years, this view has been radically questioned from a post-humanist perspective and its character identified as a colonial figure of thought of the global North (Barad 2007; Braidotti 2019). This criticism is followed here in terms of content; accordingly, the text places Central European figures of thought at the center of the presentation without claiming global validity.

(chapter 3), and to further developed in relation to performance regulation (chapter 4). Using exemplary empirical analyses, a diffusion of the performance regulation in the context of heterogeneity will then be elaborated (chapter 5) and a conclusion drawn (chapter 6).

2. Heterogeneity in the antinomic field of tension between difference, universality and individuality

Heterogeneity must be viewed as a social construct. What is considered heterogeneous at any given time derives from social negotiation processes. In ethnomethodology, this is known as "doing differences" (Fenstermaker & West, 2001), which emphasizes the socially constructed nature of differences in practice. Since heterogeneity is fundamentally understood as a process and not a natural fact (##; Budde, 2012b), it can only exist in relation to homogeneity. Both concepts arise from processes of perception and comparison, which are based on implicit or explicit standards or references. Heterogeneity and homogeneity operate as complementary and simultaneous effects. While heterogeneity describes the differences between two facts, people, artifacts, emotions, or other things vis-a-vis a specific criterion, homogeneity describes the equality of compared aspects. This comparative process gives rise to sameness and difference, each charged with specific meanings and valuations. Perceptions as to what constitutes heterogeneity or homogeneity in schools vary, depending on the cultural, historical, and/or field-specific context. If these contexts

change, then ideas about and practices of dealing with heterogeneity also change.

It should also be noted that constructions of heterogeneity in the school context are permeated by power relations and reproduce social inequalities. These constructions lead to the social positioning of pupils; thus, heterogeneity itself cannot be described in a value-neutral way as egalitarian difference but must always be analyzed in relation to the field of power. Difference or equality is linked to hierarchizing valuations. If we ignore these references to power relations, we risk simplistically equating heterogeneity with 'diversity' or 'colorfulness' and thus juxtaposing differences in a purely additive way. This is why it is questionable to think that heterogeneity can be adequately addressed solely by using 'a different approach' – for example, through open teaching methods or by changing teachers' attitudes. This risk is particularly strong when the handling of heterogeneity has extremely positive connotations and is normatively underpinned.

To adequately address heterogeneity in schools while acknowledging its socially constructed nature, one could view the concept of heterogeneity as an antinomic field of tension between difference, universality, and individuality. Each pole in this contradictory relationship presents both risks and opportunities (see Fig. 1). First and foremost, schools as institutions are obliged to uphold universalist ideas of equality. The universalist idea of a 'school for all' – as a democratic achievement that does not differentiate on the basis of 'status

and dignity' – is grounded in such ideals of equality. Especially when socio-cultural categories of difference are disregarded, the general education system programmatically aims to treat everyone equally. Without this inclusive claim, the school system could not be legitimized at all. However, universalization can also lead to exclusion through homogenization and can establish exclusionary norms. These norms are stabilized via a dichotomous and largely implicit differentiation between 'norm-conforming' and 'norm-deviating' pupils – a differentiation based on ableist, heteronormative, or middle-class-centered orientations. Accordingly, addressing difference in educational contexts can help facilitate the consideration of socio-cultural categories of difference through group-specific offerings (such as gender-based or anti-racist pedagogy or inclusive education; Sheets, 2009). In this sense, recognizing difference can enable differentiation (Juvonen, Kogachi & Graham, 2018). However, there is also the risk of an exclusionary hierarchical categorization. Differences are always addressed via labels, which themselves work to solidify the very categories that underlie the social exclusion. This issue is described in gender research as the problem of reification or, in inclusion research, as the "dilemma of difference" (Norwich, 2008), since the underlying problem remains unresolved. In addition, recognizing and promoting the individuality of children and young people is a fundamental principle of pedagogical practice. Individualized teaching is viewed as the gold standard didactic approach to heterogeneity and individual appreciation. However, recent

studies have shown that, because it requires strong self-direction skills, individualization can not only exacerbate inequality, but may also lead to isolation or overwhelm. Moreover, the emphasis on individualization implies not only a strengthening of personal responsibility, but can also pressure students to continually improve themselves, which can run counter to efforts to foster a sense of community.

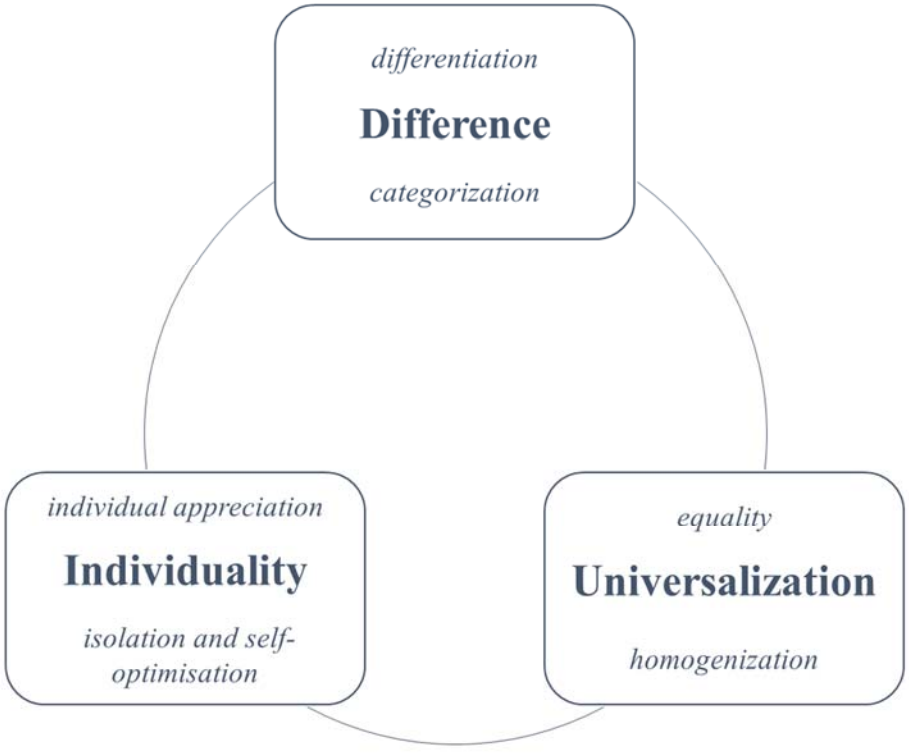


Figure 1: Opportunities and risks in dealing with heterogeneity

3. Heterogeneity in school discourse

Especially in Germany, where ten-year-old pupils are placed into different types of schools early on, based on their academic performance, schools were long seen primarily as institutions that homogenize and reproduce inequality. The prevailing teacher-centered educational approach was also criticized (Tillmann, 2008). However, heterogeneity now appears to be establishing itself as a discursive-normative orientation framework in several Central European countries (Gogolin, 2011). Although today's "discourse of heterogeneity" (Budde, 2012a) in school pedagogy points to a significant surge in the term's usage, pupil heterogeneity has been a central topic of modern schools in Germany since the 19th century. Early German-speaking educators, such as Herbart with his "diversity of minds" (Herbart, 1962 [1810]) or Trapp with his idea of the "middle heads" (Trapp, 1977), already recognized pupil diversity and suggested that teaching be tailored to accommodate pupil variety. This diversity of pupils was seen either as a particular problem or a specific challenge. Reform pedagogy, since the beginning of the 20th century, can also be interpreted as an attempt to counter the homogenizing tendencies of traditional book-based schooling with an individualized teaching variant that better accommodates pupil diversity. Differences should not be misunderstood as mere personal characteristics of individuals and thus attributed solely to them, or culturalized. This is because schools play a role in creating heterogeneity and are by no means neutral in the face of difference.

Here are just a few of the most relevant examples on the basis of which differences are constructed in schools.

- Organizational variations and differences are fundamental characteristics of modern schools. With different types of schools, grade levels, subjects, teaching choreographies, learning groups, and subject-specific teachers, school is a horizontally and vertically differentiated organization that creates differences and thus processes heterogeneity.
- Migration and refugee movements (in the 1960s from southern Europe as so-called 'guest workers', from Vietnam as so-called ‘contract workers’, and since the 2000s from war and crisis regions like Afghanistan, Syria, or currently Ukraine) have also changed the composition of the student body in schools across Central Europe. Migration has been dealt with primarily through special educational measures: what used to be 'foreigner classes' are now 'welcome classes', which in both cases means the same thing: separate education for pupils with a migration background. At the same time, the dominance of German as academic language is maintained.
- Differences can also be created through the pedagogical and didactic organization of school lessons. Open teaching formats in the form of differentiation, individualization, digitalization, and cooperative and self-directed learning are highlighted

as contemporary didactics that better accommodate pupil diversity. The teacher-centered classroom discussion is no longer the dominant form of teaching. On the one hand, didactic arrangements are used to create differences between pupils. On the other, self-direction is established as a differentiation criterion. This is because the ability to learn independently has been proven to be an important resource that can help educators differentiate between fast and slow learners, for example. In individualized lessons, subject-specific requirements are overlaid by the criterion of processing time.

- With regard to heterogeneity, the reproduction of social inequality has been one of the major challenges faced by modern schools for decades. Thus, the German school system's internationally above-average, inequality-reinforcing effects have been evident since the publication of the first PISA results (OECD, 2021). Critics argue that schools represent a specifically bourgeois institution that disadvantages children from lower socio-economic backgrounds. They also highlight issues such as "institutional discrimination" (Gomolla & Radtke, 2009), the hidden curriculum related to gender stereotypes, and discrimination against students based on socio-cultural categories of difference. These findings are part of a long tradition that points to the central role of school as an important institution that produces and legitimizes a society structured according to social

milieus. Bourdieu's (1983) concept of cultural capital highlights the significant role education plays in social positioning. He distinguishes between the various forms through which education is acquired, such as institutionalized degrees, educational goods, and specific educational attitudes, emphasizing the special importance of differentiation through school degrees.

- However, perceptions of difference are also produced at the level of teachers' attitudes school degrees. However, perceptions of differences are also produced at the level of teachers' attitudes (Budde, 2013). For example, many teachers view ethnicity or a migration background as a sign of lower academic performance. Students with migration background are often constructed in binary terms as outsiders who cannot live up to the school's ideals of rationality and performance, based on these ascribed characteristics. Similarly, evaluations of social behavior also reveal different attitudes. Thus, boys are more likely to be identified as troublemakers, while girls are more often given positive and classroom-compliant attributions (Budde, Scholand & Faulstich-Wieland, 2008; Han, 2021). In inclusive education, on the other hand, the professionals involved (re)construct differences between pupils with and without special educational needs (Blasse et al. 2019). How teachers address the topic of LGBTIQ is also shaped by traditional and stereotypical attitudes (Kleiner, 2015; Shen, 2016).

However, categories of difference do not exist in isolation; they are intertwined. The concept of intersectionality helps to capture theoretically the interplay of various categories of difference. Since the 1980s, intersectionality has been used to describe the overlap of social difference categories and the resultant positioning. Introduced by Crenshaw (1989) into the American feminist movement, intersectionality describes overlapping and interlocking discriminations (particularly racism, classism, and sexism). For example, Black women and working-class women experience different social, gender, and legal exclusions than do middle-class white women. Intersectionality is not only understood as a theoretical concept, but also a "way to design and conduct studies" (Agosto & Roland, 2018, p. 279). It can be translated as an intersection. The term combines the clarity of the intersection metaphor with the abstraction of an open concept. This complexity challenges educational practice to address the culmination of different lines of difference without, however, reifying them.

However, the normative basis of schools is also transforming in relation to heterogeneity. After all, modern schools have a normative duty to enable social inclusion and reduce inequalities (Liu & Huang, 2022; Wu-Tien, 2007). These goals are enshrined in school laws and addressed through support programs. With the widespread global ratification of the United Nations Convention on the Rights of Persons with Disabilities, the demand for an “inclusive education system at all levels” (United Nations, 2006, Article 24) has once again become

the focus of educational institutions, as there is a legally binding obligation to address differences in an inclusive manner. In this context, heterogeneity is no longer (or at least no longer exclusively) viewed as a problem, but is increasingly seen as an opportunity. Differences are viewed positively and, increasingly, as a productive resource. This overall view, broadly referred to as "heterogeneity orientation" (Budde, 2015) can be described as the current paradigm of modern schooling in democratic societies. With regard to such things as equal opportunity, cultures of recognition, or educational reform, this opens up new possibilities. However, it also presents challenges that can undermine the basis of school as a universalist institution.

4. School performance regulation as a central point of reference for modern schools under conditions of social difference

It has become evident that heterogeneity is constructed in the classroom. The merit principle plays a central role in shaping heterogeneity within schools. This paper looks at the underlying social order of difference through which educators and the educational system seek to regulate the academic performance (and the behavior) of pupils and bring it into a particular normative order – henceforth referred to as 'performance regulation'. The meritocratic promise of equal pay for equal performance independently of the person is a fundamental pillar upon which the modern school system is legitimized. This meritocratic principle promises (supposedly) 'fair' inclusion in the meritocracy and

legitimizes differences based on different performance levels.

Differences in pupil performance create distinctions. In this respect, performance differentiation represents an explicit function of schools, since they serve the so-called allocation mandate. In other words, schools are tasked with positioning students for professional careers and measure their performance differently to achieve this. After all, schools not only serve to educate individuals or facilitate social integration; they also lay the groundwork for pupils' social and professional positions. In theory, this is done exclusively based on the individual (and therefore fundamentally different) abilities of each pupil. Consequently, schools must produce differences in performance in and through their organizational forms, as otherwise they would no fail to fulfil their mission of preparing graduates with different levels of success for a functionally differentiated society. An expression of this meritocratic orientation is the current global tendency to apply uniform benchmarks to competencies through the formulation of standards, central examinations, school rankings, comparative work, and similar measures.[2] The functionality of school performance assessments is also central to the organization and maintenance of teaching. Thus, school performance regulations have a key function in the understanding of

[2.] Standardization and a focus on heterogeneity are contradictory, as standardization promotes normalization. However, measures that promote comparison only become necessary because a supposed homogeneity can no longer be taken for granted and expected.

school regulation processes.

Like heterogeneity, performance should be understood as a construct. According to Bernstein (1990), the concept of performance can be theorized by analytically distinguishing between instructional and regulatory discourse. The production of performance is fed by both subject-specific learning and pedagogical action, so that school performance can be described as a conglomerate of behavioral and knowledge regulations (Kolbe, Reh, Fritzsche & Rabenstein, 2008). This can be analytically refined by differentiating between a) activities of subject-specific knowledge, b) knowledge-related behavior, and c) preparatory, performance-related routines (Budde, Rißler, Blasse & Geßner, 2022). 'Subject-specific knowledge' emerges via the negotiation between school-based and non-school-based knowledge (a). This means that in terms of content, school-relevant knowledge is marked and differentiated from school-irrelevant knowledge. Likewise, which knowledge-related behaviors are considered appropriate or inappropriate for school is negotiated situationally (b). These negotiated behaviors become visible in educational practices such as discipline or praise. Distinct from this are 'performance-related routine activities,' which represent a kind of preparatory activity that must be done to ensure one's readiness to perform (c). This refers, for example, to a specific physical posture that signals attentiveness towards the lesson, or the preparation of school materials. All three aspects are embedded in the production of performance, resulting in combined regulations of knowledge and

behavior that, jointly, comprise classroom performance regulations.

The increasing differentiation and individualization of teaching promote an individualized understanding of performance. This leads to a "shift in performance" (Rabenstein, Idel & Ricken, 2015 : 242; Ball, 2010) and thus in what is "expected, shown and assessed" (ibid.: 254). Instead of focusing on subject-specific knowledge, the emphasis shifts to presentation: what can be recognized as a performance, and by whom, thus becomes decentralized and pluralized. In this way, the meritocratic principle of a performance-oriented society and the demand that diversity be recognized stand in paradoxical relation to one another.

Following Bernstein (1990) and Bourdieu and Passeron (1971) a central thesis of this text is that performance regulations represent a central 'control switch' for the construction of heterogeneity in schools and the transmission of inequality. They are differentiated by social milieu and manifest themselves as a 'problem of fit.' Successful alignment between student performance and the school performance system can be explained by the students' academic abilities. More important, however, are the implicit behavioral expectations and rules. Pupil alignment has to do with the family's educational leanings and the learning and behavioral concepts acquired there. Children from educationally privileged middle-class backgrounds are considered more adept at recognizing performance norms than those from so-called educationally disadvantaged homes. Thus, school as a bourgeois institution is more accessible to children from the former milieus than

to those from socially disadvantaged backgrounds. The crucial point is that the school is directly involved in this construction of difference through its specific performance regulations. After all, such regulations are by no means neutral or universally valid; rather, they favor students with a higher degree of alignment. Thus, performance-based constructions of difference are not independent of social inequality, even though precisely this relationship is often seen as a legitimate basis for socio-cultural differentiation due to assumed individual or natural (performance) differences. This is why associating performance with socio-cultural categories of difference usually remains implicit. In this context, intersectionality-informed socio-cultural differences like gender, disability, and class, as well as performance-oriented differences like willingness to try, diligence, and interest (which are considered individual personality traits) play a significant role.

5 Empirical perspectives: Performance-related differentiation through a star system

Thus, the antinomic tension field between difference, universality and individuality holds special significance when it comes to analyzing how schools handle heterogeneity. The pages below illustrate this via empirical-ethnographic methods, paying special attention to performance norms in so-called inclusive education. To understand how heterogeneity is produced and processed in the relationality of difference, individuality, and universality in schools, it looks at

empirical data on performance practices from ethnographic classroom observations, collected during ongoing teaching studies in the context of social heterogeneity. The analyzed performance regulations focus on subject-specific knowledge. Knowledge-related behavior plays a minimal role in the protocol excerpts, and performance-related routines play no role at all.

The analyzed material comes from a focused lesson observation in an 8th grade German class at a comprehensive school (Gemeinschaftsschule) in northern Germany. There were 24 students in total, five of whom had special educational needs. The topic of the lesson was 'summarizing short stories.' The material was analyzed using the coding method from grounded theory methodology (Strauss & Corbin, 1996), and is particularly interesting because it shows how differentiations of performance norms are represented. How the differentiated performance requirements are organized merits special note. Here, the common horizon of expectations that might be expected under the meritocratic principle of schools is suspended in favor of plural performance norms, in which heterogeneity emerges through different individual and universalistic performance activities.

5.1 Difference-related performance activities

The performance regulations in the empirical material can be immediately identified. These regulations resemble the performance differentiation commonly found in German state reform schools since

the 1980s, and reflect the organizational structure of a multi-tiered secondary school system.

An excerpt from a German lesson illustrates how difference is created. The pupils work on an assignment (writing a summary of a short story) tailored to different performance levels as a form of internal differentiation. The various performance groups are marked with a star symbol (*), referred to verbally in the school as 'starrie':

> *After the content of the short story has been explained, the teacher now gives the assignment. The students are to write a summary, the rest is homework. Ms. Meier writes the assignments on the board:*
>
> ** = Form paragraphs & think about headings; write down key points*
>
> *** = The same as * and additionally write an introduction*
>
> *Förderschüler = sort and stick on text sections*
>
> *[...] At the end of the lesson, Ms. Meier announces the homework again and wishes the students a nice weekend. All the students pack up their things, while the door is opened and other students come into the classroom. These are the students who are doing the *** tasks.*

The class receives a homework assignment that initially targets three distinct groups, for which differentiated performance expectations

are marked with a symbol. The trivializing term “staries” suggests a masking of the seriousness and relevance of the performance-based differentiation. The one-star and two-star students are given the same work assignment on the same story, but the two-star group must also write an introduction. Although the expected skills are also similar – both groups must write – there is a difference in the scope and complexity of the writing process. Thus, the “*Förderschüler*” (“pupils with special educational needs”), a term specific to the field used here to denote the third group, are required to sequence and paste together sections of text in a material-practical order. No writing skills are necessary for this task, but understanding and organizing the content are still important. While the one- and two-star students are symbolically marked by the star symbol in a quantifying ranking, and differentiated in accordance to each pupil’s performance level, the “special educational needs students” are labeled via a different terminology. They are distinguished by the absence of stars and the assignment of a special status. Conceivably, one could also subdivide them into one, two and three stars without any status-based linguistic differentiation. However, the differentiation is made through a separate status designation, whereby the need for special support serves as the label, marking and solidifying the difference vis-a-vis those who have no need for a special educational support status. At the same time, this status and the difference are linked to academic performance and substantive achievement.

The differentiation takes on a special twist at the end of the lesson

when a fourth group, the actual three-star students, enters the room. This particularly high-performing group is taught concurrently to the others, but with different content and in a different location. Here, the internal differentiation is accompanied by external differentiation. Unlike typical observations in 'inclusive' classrooms, where 'special educational needs pupils' are excluded spatially or didactically – as frequently happens in the 'inclusive schooling of children with and without special educational needs,' here the (Budde, Blasse & Johannsen, 2016) – it is the highest-performing pupils level who are separated, while the remaining pupils are grouped together in a spatially stable group. Further observations in the classroom show that this three-star group is taught separately not only in German, but also in mathematics and English, each by a dedicated teacher. In these three subjects, the star-group assignments remain stable for one whole semester. The teacher discusses their placement with the pupils, who then "place themselves" individually, as the school puts it. Pupils with special educational needs, however, are excluded from this 'free choice' and flexibility because their status is determined via a bureaucratic assessment process. At the level of the individual school class, this results in stable groups that reproduce the traditional four-tier school system.

In a protocol from the subsequent German lesson focused on reviewing homework, this differentiated order of student performance becomes visible at the level of content. Here, the use of the correct technical language becomes the decisive criterion for the assignment to

one- or two-star students:

> *Nele reads her summary aloud. After reading, there is feedback from other pupils with tips and suggestions for improvement. Marie thinks it was good that she wrote in the "now form." Ms. Meier asks the whole class what the "now form" is called. Lukas calls out to the class and says "present tense." Ms. Meier says that it is perfectly okay for the "one-star" to say 'now form,' but that present tense is the keyword for it.*

Marie's feedback on Nele's summary is openly used by the teacher to discuss differentiated language expectations with the class. While Marie talks about “now form,” Lukas interjects with the correct technical term when prompted.[3] Thus, the academic language requirements vary by group. While the two-star students are geared towards academic language, the one-star students are relieved of these expectations. This creates the opportunity for participation, even if the precise academic terms are not available. At the same time, however, it encourages a ‘downward’ regulation of performance expectations. Strikingly, no attention is paid to pupils with special educational needs throughout the homework check. They are neither asked to present their homework, nor are they shown which language is appropriate for ‘their

[3] This same heckling can be analyzed as a difference in knowledge-related behavior in comparison with the heckling of other students in other situations and the disciplinary practices of teachers.

group.'

In addition to their differentiation via academic language, the four performance groups are also differentiated in terms of their expected levels of independence, as shown in the 'summarizing short stories' assignment:

> *After the assignments have been distributed, the one-star assignment is first discussed in plenary. For the one-star assignment, Ms. Meier goes through the class work very carefully. She describes the task in great detail. This takes almost 10 minutes.*
>
> *The two-star assignment is then discussed. However, Ms. Meier only discusses one task. She says that all the tasks are self-explanatory.*
>
> *She then moves on to the special educational needs students. Their work is also about short stories, but their story is different from that of the one and two stars.*

Before the students start writing, the tasks for the one-star group are discussed in great detail. By contrast, the tasks for the two-star group are labeled as "self-explanatory," revealing different expectations with regard to linguistic competence and knowledge-related behavioral expectations. The assistance provided is differentiated. One-star students are given clear support and clear task descriptions, with the tasks explained to them in detail. Two-star students, on the other hand, are expected to be able to complete the tasks independently. No further

assistance is provided, making their expected level of independence a key performance criterion. The difference between the star groups, who work on the same short story, and the “special educational needs students,” who are asked to work on a different story, is maintained throughout. Furthermore, the separation of high-achieving students is also clearly reproduced here, as the three-star group is not also present in the testing situation; rather, they take the test in another room.

Differentiation into different groups also firmly establishes differences, thereby constructing heterogeneity. The use of varying performance requirements emerges as a central feature of group formation, which simultaneously solidifies these groups. As seen with the special educational needs pupils, the criterion of performance is intersectionally intertwined with other categories of difference, establishing different performance systems the classroom

5.2 Individual performance activities

Up to this point, we have seen an unsurprising, yet highly differentiated reproduction of the multi-tier school system at the level of the individual classroom. However, the described lessons contain some sequences in which individuality becomes visible. While the “special educational needs pupils” as a group due to special education labeling, and the three-star pupils remain separated by being in a different room, there is a unidirectional corridor of fluctuation between the one- and two-star pupils. In other words, the two-star students not only get to

'choose for themselves' to which star group they will belong each semester, but they (and explicitly only this group) are also allowed to 'choose for themselves' at which level of difficulty they want to work on the class assignment:

> *Now the teacher says that the students can decide for themselves whether they want to write the two-star assignment, or whether they want to switch to the one-star assignment. It is not possible to switch from the one-star to the two-star class assignment.*
>
> *A student asks the person sitting next to him if he is also doing the two-star task. The person sitting next to him raises his shoulders briefly and leaves this uncommented. Nils also asks Lukas which class test he is doing. Lukas says that he will read through it at his leisure and then decide.*

The pupils assign themselves to the tasks. There are five remedial pupils; seven pupils do the one-star task and two do the two-star task.

The assignment to the desired subject group is a topic of conversation among some of the pupils. This indicates that the group assignment is actually perceived as an individual choice in the situation, even though this freedom is naturally limited. Students are also allowed to revise their decision afterwards. Thus, the order of performance is not universally determined for everyone; rather, individual freedom of choice is explicitly built into the lesson. However, this only applies to

two-star students and their option to switch to the less demanding one-star group. This measure helps to prevent experiences of failure by giving students the chance to switch to a lower difficulty level. At the same time, the previously mentioned leveling down is repeated: ‘Don't risk too much’ or ‘don't make overly taxing decisions’ is the implicit message.

5.3 Universalist performance activities

The aspect of universality emerges as the greatest challenge in the empirical analysis, because the common point of reference for the German lessons examined here remains unclear. Certainly there are formal characteristics that create common ground, such as the fact that pupils write a class assignment in the same time slot under the same group name (8a), take on specific actor positions (teacher, pupils), and have a ‘common subject matter’ (short story). Yet numerous disruptions undermine this communal orientation, such as spatial separation, the differentiation between academic and non-academic language use, varying task requirements and degrees of freedom. The subject-specific performance system, which as a meritocratic principle is generally considered to satisfy universalist demands, diffuses.[4] Thus, a ‘core of the school’ becomes decentralized – but this can be seen less as a movement towards a broad understanding of heterogeneity than a dissolution of community in favor of a parceled-out classroom operating within its smallest common space. For while school theory performance would be

expected to invoke a fundamentally universalistic reference system, the actual lessons themselves offer few opportunities to identify general and universalistic perspectives.

Finally, this can be seen in the assessment criteria for the German class assignment. There are various assessment schemes, each of which can be found at the end of the German assignment. The perspective focuses on individual performance (individuality) in relation to differentiated scaling (difference) and in relation to a description of the performance in the form of a grade, which is valid for all (universality).

For the one-star students, the individual score, that score in relation to the possible total of 55 points, and the resulting grade (see Fig. 1) are shown.

In total, you have reached_____ out of a possible 55 points.
This corresponds to the following grade:

Fig. 1: Assessment criteria for one-star assignment (transcript)

[4] Accordingly, there is criticism from a reform pedagogical perspective that such an understanding of performance stands in the way of differentiation and ultimately has a homogenizing effect (e.g. the contributions in Beutel and Beutel 2010). In a meritocratic sense, the numerical grades used here in the assessments of class work are intended to express the universalism of performance assessment, as they bring the principle of 'equal pay for equal work' into a (seemingly objective) standardized scale.

For the two-star students, there is also a key that shows the score in relation to the grading scale and the percentages achieved. The result is a differentiated relation of the individual performance and the overall grade range (see Fig. 2). The highest score is 61. Additionally, there is a differentiation for pupils with reading and spelling difficulties (LRS), with a maximum score of 55.

Points	*Grade*	*Points*	*Grade*
61-56	1	55-51	1
55-49	2	50-45	2
48-41	3	44-37	3
40-31	4	36-28	4
30-18	5	27-17	5
17-0	6	16-0	6

Fig. 2: Assessment criteria for two-star assignment (transcript)

The data for the three-star students is formally identical to that for the other groups, but the scoring scheme does not match that for two-star students. The highest score here is 67. This is an isolated categorization that does not allow for any direct comparison with the other groups. Here, too, there is a separate assessment key for pupils with reading and spelling difficulties, with a maximum score of 57

Points	*Grade*	*Points*	*Grade*
67-62	1	57-52	1
61-54	2	51-46	2
53-45	3	45-38	3
44-34	4	37-29	4
33-20	5	28-17	5
19-0	6	16-0	6

Fig. 3: Assessment criteria for three-star assignment (transcript)

Instead of a universal grading principle that represents academic performance within a scale, the homogenizing effects of which have been widely described and criticized, one finds here considerable differentiation. Five different assessment grids, which represent different logics and cannot be directly related to each other, are used.[5] A score of 51 points, for example, can lead to various grades between 1 and 3. However, the distribution of grades relative to the respective percentages remains the same for two- and three-star students; only for one-star students is this reference missing. There is no assessment scheme for pupils with special educational needs. In addition, the ranges vary

[5.] Following on from the finding of 'independence', the different assessment grids are also associated with a certain attribution of competence to the pupils : Pupils with special educational needs do not receive a grid with their work and thus no orientation for the awarding of points, one-star pupils do not have an itemized overview, while two- and three-star pupils are told very clearly which assessment is associated with which number of points.

depending on the grade: for example, six points for grade 1, eight points for grade 2, and eleven points for grade 4. The criteria vary depending on the pre-assigned performance group, making the use of a universal performance framework unfeasible. At the same time, the numerical principle of number grades is maintained.

6. Conclusion

Starting from the antinomic tension field of difference, universality, and individuality, the processing of heterogeneity is gaining salience in educational research on schools. Using the example of performance regulations, the presented analyses can be summarized as follows: In the described tension field, a performance-based, categorizing order of difference is dominant. This social order reproduces a four-tier school system, maintaining impermeability at the 'top' (three stars) and 'bottom' ("special educational needs pupils/ "Förderschüler*innen") as well as a certain corridor of flexibility 'in the middle' (one and two stars). In terms of individuality, there are decision-making opportunities concerning pupils' level of expectations and individual scope for handling knowledge-related behavior. However, this is of little significance in the analyzed lessons. The focus is on group-based differentiation. Universality, on the other hand, remains undefined and nearly invisible.

Overall, performance orders in heterogeneous school classes can be seen to be produced along the lines of individuality, difference, and universality. Consequently, the order of differentiation and the

order of performance are closely interwoven. From the perspective of heterogeneity theory, difference intrudes into the traditional relationship between individuality and universality, thereby multiplying performance regulation – thus also multiplying inequalities. Heterogeneity is not a categorical prerequisite (in the sense of being a permanent 'characteristic' of pupils), but a relational and constructed network. Inclusion in one group can go hand in hand with exclusion from another. This is not an implicit, 'hidden' effect in the analyzed example, as an unintended pedagogical by-product of it, so to say; rather, it is systematically and explicitly made visible through the classification of different performance groups. This not only undermines communal social orientation, but also shared performance expectations.

As an important condition of educational practice, heterogeneity is also constructed through pedagogical practices in subject-specific lessons. While an increased consideration of heterogeneity could offer opportunities to effectively address it, what is particularly evident are the stabilizations achieved through performance regulation. However, a stronger focus on pupil heterogeneity offers fewer perspectives; on the contrary, such an approach may actually reinforce stereotypes. It seems more sensible to suspend the current standardized concept of performance, rather than diffuse it by expanding performance regulation. The idea of meritocracy, which is prevalent in modern Central European societies, has shown itself to be not only of limited practical applicability, but also inappropriate for addressing heterogeneity.

Literature

Ball, S. J. (2010). New class inequalities in education. International Journal of Sociology and Social Policy, 30 (3/4), 155-166.

Barad, K. M. (2007). Meeting the universe halfway: quantum physics and the entanglement of matter and meaning. Durham: Duke University Press.

Bernstein, B. B. (1990). The Structuring of Pedagogic Discourse. Class, codes and control Vol. 4. London: Routledge.

Bourdieu, P. & Passeron, J.-C. (1971). Die Illusion der Chancengleichheit: Untersuchungen zur Soziologie des Bildungswesens am Beispiel Frankreichs. Stuttgart: Klett.

Braidotti, R. (2019). A Theoretical Framework for the Critical Posthumanities. Theory, Culture & Society, 36 (6), 31-61.

Budde, J. (2012a). Die Rede von der Heterogenität in der Schulpädagogik. Diskursanalytische Perspektiven [63 Absätze]. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 13(2), Art. 16,, 13 (2), Art. 16.

Budde, J. (2012b). Problematisierende Perspektiven auf Heterogenität als ambivalentes Thema der Schul- und Unterrichtsforschung. Zeitschrift für Pädagogik, 58 (4), 522-540.

Budde, J. (2013). Diversity in teachers' assessment of pupils. Relationship between implicit and explicit knowledge. In A. Herbert & Kraus Anja (Hrsg.), Praxeology as a Challenge: Modelling the Tacit Dimensions of Pedagogy (S. 89-109). Münster: Waxmann.

Budde, J. (2015). Heterogenitätsorientierung: Zum problematischen Verhältnis von Heterogenität und soziale Ungleichheit im

Unterricht. In J. Budde, N. Blasse, A. Bossen & G. Rißler (Hrsg.), Heterogenitätsforschung - Empirische und theoretische Perspektiven (S. 19-37). Weinheim: Beltz Juventa.

Budde, J., Blasse, N. & Johannsen, S. (2016). Praxistheoretische Inklusionsforschung im Schulunterricht. Zeitschrift für Inklusion, 11 (4).

Budde, J., Rißler, G., Blasse, N. & Geßner, J. (2022). Leistungsordnung in inklusiven Unterrichtskonstellationen. In Y. Akbaba & L. Fuhrmann (Hrsg.), Schule zwischen Stagnation und Wandel (S. 221-253). Wiesbaden: Springer.

Budde, J., Scholand, B. & Faulstich-Wieland, H. (2008). Geschlechtergerechtigkeit in der Schule: Eine Studie zu Chancen, Blockaden und Perspektiven einer gender-sensiblen Schulkultur. Weinheim: Juventa.

Crenshaw, K. (1989). Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics. University of Chicago Legal Forum, 1, 139-167.

Fenstermaker, S. & West, C. (2001). Doing difference revisited: Probleme, Aussichten und der Dialog in der Geschlechterforschung. Kölner Zeitschrift für Soziologie und Sozialpsychologie (Sonderheft 41/ 2001 Geschlechtersoziologie), 236-249.

Gogolin, I. (2011). The Challenge of Super Diversity for Education in Europe. Education Inquiry, 2 (2), 239-249.

Han, T.-Y. (2021). Asymmetry of Non-traditional Gendered Decisions: Gender Beliefs and High School Curriculum Track Decisions in Taiwan. Gender Issues, 38 (1), 25-46.

Herbart, J. F. (1962 [1810]. Kleine Schriften zur Pädagogik. Bad Heilbrunn/Obb.: Klinkhardt.

Kleiner, B. (2015). subjekt.bildung.heteronormativität. Rekonstruktion schulischer Differenzerfahrungen lesbischer, schwuler, bisexueller und trans*geschlechtlicher Jugendlicher. Leverkusen: Barbara Budrich.

Kolbe, F.-U., Reh, S., Fritzsche, B. & Rabenstein, K. (2008). Lernkultur: Überlegungen zu einer kulturwissenschaftlichen Grundlegung qualitativer Unterrichtsforschung. Zeitschrift für Erziehungswissenschaft, 12 (1), 125-143.

Liu, C. & Huang, Y. (2022). A Comparative Observation of Inclusive Education in Four Primary Schools in Taiwan. The Asia-Pacific Education Researcher, 31 (3), 227-242.

Norwich, B. (2008). Dilemmas of difference, inclusion and disability: international perspectives and future directions (1. publ). London: Routledge.

Rabenstein, K., Idel, T.-S. & Ricken, N. (2015). Zur Verschiebung von Leistung im individualisierten Unterricht. Empirische und theoretische Befunde ethnographischer Beobachtungen. In J. Budde, N. Blasse, A. Bossen & G. Rißler (Hrsg.), Heterogenitätsforschung - Empirische und theoretische Perspektiven (S. 234-251). Weinheim: Beltz Juventa.

Shen, L. F. (2016). Gender and Sexuality in Taiwan Schools. In G. W. Noblit (Hrsg.), Oxford research encyclopedia of education. Oxford: Oxford University Press.

Strauss, A. & Corbin, J. (1996). Grounded Theory: Grundlagen Qualitativer Forschung. Weinheim: Psychologie Verlags Union.

Tillmann, K.-J. (2008). Die homogene Lerngruppe - oder: System jagt Fiktion. In H.-U. Otto & T. Rauschenbach (Hrsg.), Die andere Seite der Bildung: Zum Verhältnis von formellen und informellen Bildungsprozessen (S. 33-39) (2. Auflage.). Wiesbaden: VS Verlag für Sozialwiss.

Trapp, E. C. (1977). Versuch einer Pädagogik (1. Auflage). Paderborn: Schöningh.

United Nation (2006). Convention on the Rights of Persons with Disabilities. Verfügbar unter: https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf.

Wu-Tien, W. (2007). Inclusive Education in Taiwan. Chinese Education & Society, 40 (4), 76-96.

Design and Implementation of the National Aims for Finnish Teacher Education during the Years 2016–2022

Dr. Jari Lavonen
University of Helsinki, Finland

Introduction

Improving teacher education often involves planning and implementing professional standards, strategies, development projects, or reform programs (Panda, 2019). However, engaging teacher educators and stakedolders in these initiatives is challenging, (Révai, 2018). Strategies are often developed by small expert groups without adequate implementation planning (Beach et al., 2014). Adoption relies on learning and knowledge creation processes, involving individual, group, and collective levels (Nonaka et al., 2006). This aligns with sociocultural learning theories, viewing adoption as social learning that links individual learning with community practices (Maier & Schmidt, 2015).

In February 2016, the Ministry of Education and Culture (MEC) established the Finnish Teacher Education Forum (FTEF) to develop the national teacher education strategy, the Finnish Development Programme for Teachers' Pre- and In-service Education (TEDP). The forum was tasked with identifying key competences and actions to

improve teacher education and supporting implementation through funding pilot projects and organizing workshops and seminars.

The TEDP is similar to professional standards for teachers, teacher standards and teacher education standards from the point of view of communicating national aims for teacher education. They all emphasise the improvement of the quality of teacher education and teachers' professionalism (Panda, 2019). In the Finnish decentralised education system, teachers are educated at universities, which have high autonomy in the planning of the teacher education programs. There is no accreditation or state level evaluation of student teachers or teachers. Therefore, it is challenging to implement national level strategies to autonomous universities. We focus in this chapter on the outcomes and characteristics of the pilot projects and how they guided teacher educators in local-level development work and professional learning related to the new strategic aims.

The TEDP, like various professional and teacher standards, communicates national aims for improving teacher education quality and professionalism (Panda, 2019). In Finland's decentralized system, universities autonomously design teacher education programs without state accreditation or evaluation, making national strategy implementation challenging.

This chapter analyses the planning process of the TEDP, and the implemention of the TEDP through pilot projects and their impact

on local-level development and professional learning among teacher educators. However, the teacher education context and theoretical background for the startegy work, including implementation, will be first shortly analysed. The implementation and adoption of teacher education strategies is considered here as teacher educators' professional learning (Nonaka et al., 2006; Maier & Schmidt, 2015).

Research on planning and implementing teacher education strategies

Implementing national teacher education strategies like TEDP is challenging (Russel & Martin, 2010). It is common to evaluate the graduating teachers through performance assessments or accreditation aligned with the strategies (Call, 2018). However, the adoption of the strategy by teacher educators through professional learning is often overlooked (Bourke et al., 2018). Researchers suggest collaborative projects, activities, or communities of practice as effective implementation methods (Kitchen & Figg, 2011; Patton & Parker, 2017). Such collaborations foster dialogue among teacher educators, stakeholders, and schools, aiding in understanding necessary teacher competences (Révai, 2018). The characteristics of strategy work, including implementaion, is described and discussed in research literature. For example, Darling-Hammond (1999) emphasises the participation of teacher educators in the planning and implementation of teacher education policy aims (cf., Pedaste et al., 2019)

Teacher educators, driven by an intrinsic desire to learn, typically engage in both formal and informal learning with colleagues and student teachers (Ping et al., 2020). Czerniawski et al. (2018) found that in Europe, teacher educators value research activities, personal reading, informal discussions, and opportunities to develop pedagogy. Ping et al. (2020) revealed that teacher educators prefer learning through academic research, traditional academic activities, collaborative efforts, professional development programs, and reflective practices. Contextual learning through real-life problem-solving is also crucial, as it highlights the context-specific nature of professional knowledge (Rasku-Puttonen et al., 2004). In more detail, activities supporting professional learning are often contextual and involve formal and informal collaborations among teacher educators (Ping et al., 2020; Czerniawski et al., 2018). These activities involve planning, working, and reflecting with colleagues. Teacher educators actively regulate their own learning by setting goals, self-assessing, and reflecting. Collaboration enhances their understanding of teaching and learning (Luft & Hewson, 2014; Kitchen & Figg, 2011). Reflection during collaboration fosters shared learning from experiences (Hiebert et al., 2002). Garet et al. (2001) stress that professional learning should align with program aims and be coherent with local contexts. Formal activities like research projects or development programs are goal-oriented and aim for concrete outcomes.

Finnish Education Context

Since the 1990s, quality in Finnish decentralised education system has been promoted through long-term planning and gradual changes. Moreover collaboration has been emphasised in the design of national guidelines like framework curricula and education strategies (Holappa, 2007). Finnish teacher quality focuses on school-level, cultural, and policy factors, not just individual competence (Müller et al., 2010).

Primary teacher education has been at the master's level for 45 years, and secondary for over 100 years. Master's theses help bridge theory and practice, enhancing teaching and planning. Finnish teacher educators must have a PhD and dedicate half their work hours to research (Eklund, 2018).

Finnish Development Programme for Teachers' Pre- and In-service Education (TEDP)

The Finnish government (2016–2020) initiated the TEDP as part of its education key actions (MEC, 2016). The TEDP was designed by 70 experts from universities, the MEC, and partner associations, the TEDP aimed for collaborative planning and implementation, similar to Estonia's approach (Pedaste et al., 2019). During the first year of the project, research on teacher education was analyzed, and national brainstorming sessions and multiple regional and nationwide meetings were held (Lavonen et al., 2020). The TEDP established three strategic competence goals for teachers' pre- and in-service education

and professional learning, applicable to all teacher levels, from early childhood to upper secondary (Torrance & Forde, 2017). According to the TEDP, Finnish teachers should

1. "have a professional knowledge base, such as deep knowledge in the subject matter and pedagogy; knowledge about learning, engagement and diversity among learners; collaboration and interaction as well as digital and research skills;
2. be able to generate novel ideas and educational innovations while, for example, constructing the local curriculum and planning inclusive education;
3. have the willingness and the competencies required for professional learning and the development of their schools' operations and environments". (Lavonen et al., 2020)

Furthermore, the TEDP introduced six strategic action guidelines which emphasise, for example, collaboration in the cumulative development of the competences of teachers. Training programmes and teaching/learning practices should be planned according to research outcomes, and student teachers should learn research skills (Lavonen et al., 2020).

The TEDP was implemented through research-oriented pilot projects, national seminars, workshops, and local meetings from 2017 to 2020, funded with 27 million euros (MEC, 2016). The first call for

proposals was in late 2016 and the second in 2017, focusing on TEDP's aims, pre- and in-service teacher education collaboration, and research orientation. Pilot project directors and expert group members met quarterly to present project progress and share feedback. Universities coordinated at least one pilot project each, with two universities of applied sciences managing two projects. In total, 129 of 456 possible municipalities participated as partners. Consequently, the pilot projects connect individual learning to the common practices and collaborative learning in the context of strategic aims.

Evaluation of the Implementation of the TEDP

The pilot project directors and participants were asked to evaluate the characteristics of the pilot projects by a survey, including open and closed questions (in detail Lavonen et al., 2021). The questionnaires were designed in spring 2018 based on the call for pilot projects and the literature review related to teacher educators' professional learning. First, a Likert-type instrument (1 = the aim of the TEDP has not at all been achieved … 4 = the aim has been achieved very well) asked the pilot project leaders to evaluate how well the aims of the TEDP, in the context of the pilot project, had been achieved. Altogether, 24 different aims were available for evaluation, but respondents were instructed to evaluate only those aims that were relevant to the pilot project. The second set of questions asked the pilot project directors and the project participants to evaluate how the characteristics of the activities in the

pilot project were supportive for the achievement of the TEDP aims with a Likert scale instrument (1 = not at all successful … 4 = very successful in supporting the achievement of the TEDP aims). The items were designed based on the literature review on teacher educators' professional learning. The open questions guided the project directors to analyse the project aims and how the project activities supported teacher educators' in achieving the TEDP aims or supported the professional learning of teacher educators.

The data were collected in summer 2018. Therefore, the data collection occurred 1.5 years after the publishing of the TEDP and start of the pilot projects. Altogether there were 125 standard pages, or 36 267 words, in the data related to the open answers. The open answers were analyzed using theory-driven content analysis. This method classifies units into categories based on shared meanings (Elo & Kyngäs, 2008). The main categories, derived from research on teacher educators' professional learning, focus on goal-oriented, active, and collaborative learning processes, along with evaluation and reflection. The analysis also considers the real education context and research orientation to support learning, emphasizing local and national collaboration. After defining the main categories, a pilot coding process was conducted to refine them. A total of 2,097 coding units were identified, with some sentences unrelated to professional learning. These units were then categorized into 20 subcategories based on project leaders' answers (Schwarz, 2015).

According to the questionnaire data, the implementation was considered to take place through teacher educators' professional learning. The pilot project directors evaluated the extent to which their projects achieved the TEDP aims. They found that 20 of the 24 aims were met well, with an average rating over 2.5 on a four-point scale. The projects made significant progress in developing teaching competencies; enhancing student teachers' research skills; generating ideas for teaching; selecting students for teacher education; fostering collaboration and networking; supporting student-centered approaches; and improving learning environments.

Directors rated the research-oriented and interactive nature of the projects positively (average over 3). Four aims, related to teacher education structure, program descriptions, digital tools, and pedagogical leadership, were rated between 2 and 2.5 as only satisfactory. Overall, the projects effectively supported TEDP aims and teacher educators' learning. Evaluations from both directors (N=31) and partners (N=500–670) on the projects' characteristics are summarized in Table 1.

Table 1. Evaluation of the characteristics of the pilot project activities by the partners (N=500–670) and the directors of the project (N=31).

Characteristics of the pilot project activities which were supportive for the achievement of the TEDP aims	Partner		Director			
	M	*S.D.*	*M*	*S.D.*	*U*	*p*
There has been interaction among the project members	3.52	.73	3.72	.46	9973	.231
We have been working collaboratively	3.46	.75	3.72	.46	9336	.081
The previous knowledge and skills of the partners have been taken into account	3.35	.83	3.33	.71	9709	.581
Our work has been research based	3.29	.87	3.78	.42	7335	.001
We have been working in authentic situations	3.17	.94	3.17	.89	9178	.879
Partners have been active in the pilot project	3.08	.95	3.31	.73	9541	.269
Partners have been networking in their own institutes	2.96	1.07	3.23	.72	8553	.360
Partners have been guided to reflect on their learning during the pilot project	2.95	.98	3.21	.68	7563	.286
Partners have been networking with experts	2.86	1.03	2.92	.71	9112	.964
Partners have been active in evaluating the progress	2.36	1.18	3.03	0.82	5707	.002
Partners have been active in setting aims	2.23	1.28	3.19	0.79	4648	0.00

For a third view considering the characteristics of the activities of the pilot projects supportive for implementation, we analysed the project directors' (NDirector = 31) answers to the five open questions, as described earlier, using the main categories introduced above. The identified subcategories in the inductive coding and their frequencies are presented in Table 2.

Table 2. The subcategories used in the inductive coding of the answers of the pilot project leaders (NDirector = 31) and examples of original answers (TE = teacher educators)

Main category	Subcategory	*f*
Goal orientation	- setting of pilot project aims	84
	- progress according to original aims	53
	- progress according to new aims	19
Active working and learning	- active co-planning	73
	- active learning	93
	- conference participation	40
Collaboration	- internatio-nal collabora-tion	53
	- national collaboration	90
	- local collaboration	40
	- collabora-tion through digital tools	153
Reflection	- self-evaluation	12
	- reflection	8
	- reflection based on data	32
	- quality work	2
Contextualising	- designing an outcome	165
	- designing learning material	35
	- designing the programme	31
Research orientation	- clarifying of needs	48
	- design is based on research	128
	- international research collaboration	19

Discussion

This chapter examines the characteristics of the pilot projects and how they supported TEDP’s goals and teacher educators' professional learning, because the implementation of the strategy happens through professional learning and practices, as Bourke et al. (2018) Nonaka et al. (2006) and Maier and Schmidt (2015) have argued. In general, implementing a strategy in teacher education and engaging teacher educators in this process is challenging (Beach et al., 2014; Révai,

2018). However, pilot project directors reported that 20 of 24 TEDP aims were achieved well or very well, with high marks for interaction, research-based activities, and strategic actions. However, there were challenges in applying outcomes to teacher education courses, with three aims rated as only satisfactory due to the early stage of implementation.

Directors and partners felt eight of the eleven characteristics of the pilot projects were very supportive for achieving TEDP aims, with an average rating over 2.9 on a 1–4 scale (Table 2). The work was seen as contextual and guided by research-based, interactive, and reflective practices, aligning with recommendations for professional learning (Rasku-Puttonen et al., 2004; Czerniawski et al., 2018). Both groups agreed on the research orientation and networking aspects, though directors rated these higher than partners. The pilot projects were praised for their real-world applications and their success in achieving TEDP aims. Overall, the pilot project characteristics supported teacher educators' learning and implementation of new practices, with evaluations averaging between 2.9 and 3.8 (Czerniawski et al., 2018; Kitchen & Figg, 2011). Two key supportive characteristics of professional learning in the pilot project were rated as satisfactory by partners (average 2.2 to 2.4). Partners felt excluded from setting project goals and evaluating progress, highlighting the need for better involvement in future projects.

Table 2 shows that pilot project leaders frequently mentioned

collaboration (336 times) at national (90), international (53), and local levels (40), especially through digital tools (153). Social media, learning management systems, and collaborative digital media (61) were preferred over traditional email (11). Directors and partners agreed that the project was interactive and collaborative (average >3, Table 1). Directors emphasized contextualization (231 times) through model design (165), learning materials (35), and program renewal (31), which partners also recognized as crucial. Research orientation (128), active learning (93), co-planning (73), and participation (40) were important characteristics for both directors and partners. Leaders discussed setting or resetting aims 156 times, but partners felt excluded from this process. Partners also reported low involvement in self-evaluation, which aligns with the low mentions of self-evaluation by leaders (12 times). Despite this, the survey showed that reflection on learning was well-supported. This reflects similar findings to Czerniawski et al. (2018) and Ping et al. (2020), who highlighted learning through collaborative activities and reflective practices.

Project directors viewed research orientation as a major success in the pilot projects, while partners rated it as average. Czerniawski et al. (2018) and Ping et al. (2020) also found that research engagement is crucial for teacher educators' professional learning. Traditional academic activities, such as research and conferences, support this learning (Cao et al., 2021; Diery et al., 2020). The survey and open answers suggest that

the TEPD pilot projects provided a supportive environment for teacher educators' autonomous learning and strategic collaboration (Kitchen & Figg, 2011). Effective collaboration across universities and with education stakeholders supports professional growth (Maier & Schmidt, 2015). However, project partners felt excluded from goal setting and progress evaluation, unlike the directors. Future projects should emphasize joint goal setting and evaluation for better professional learning outcomes.

It could be concluded that supporting teacher educators' professional learning, rather than using control measures, was effective for implementing TEDP, especially in a decentralized education system. Decentralization allows for local collaboration and adaptation, but also poses challenges for strategy implementation. Our study shows that the TEDP's approach—through national and local meetings and funded pilot projects—supported teacher educators' professional learning. However, our findings are limited to directors' self-assessments, and further research is needed on learning outcomes and program changes. This study highlights the importance of engaging teacher educators in professional learning within a decentralized education system.

In developing a national teacher education strategy, we found that creating a consensus requires time and a large expert group. Our strategy involved 70 experts from all universities and engaged various stakeholders, including education providers and teacher unions (Lavonen

et al., 2020). Based on our implementation experience, we suggest the following:

- Engage stakeholders like education providers in the strategy's implementation.
- Provide sustainable resources and fund pilot projects. We financed 45 projects with €27 million from 2017–2019.
- Organize research-oriented pilot projects to support professional learning, collaboration, and dissemination of outcomes. Key elements included goal orientation, active learning, and reflection (see Table 1).
- Encourage large, collaborative proposals involving universities and education providers. Our projects included all universities and 25% of municipalities.

Our approach aligns with OECD recommendations (Burns & Köster, 2016) and supports continuous quality assurance through collaboration and national meetings. Piloting was essential for teacher educators' professional learning and strategy dissemination (Kitchen & Figg, 2011; Maier & Schmidt, 2015).

References

Beach, D., Bagley, C., Eriksson, A., & Player-Koro, C. (2016). Changing teacher education in Sweden: Using meta-ethnographic analysis to understand and describe policy making and educational changes. *Teaching and Teacher Education, 44*, 160–167. https://doi.org/10.1016/j.tate.2014.08.011

Bourke, T., Ryan, M., & Ould, P. (2018). How do teacher educators use professional standards in their practice? *Teaching and Teacher Education, 75*, 83–92. https://doi.org/10.1016/j.tate.2018.06.005.

Burns, T., & Köster, F. (Eds.) (2016). *Governing education in a complex world: Educational Research and Innovation*. OECD Publishing. http://dx.doi.org/10.1787/9789264255364-en

Call, K. (2018). Professional teaching standards: A comparative analysis of their history, implementation and efficacy. *Australian Journal of Teacher Education, 43*(3). http://dx.doi.org/10.14221/ajte.2018v43n3.6

Cao, Y., Postareff, L., Lindblom-Ylänne, S., & Toom, A. (2021). A survey research on Finnish teacher educators' research-teaching integration and its relationship with their approaches to teaching. *European Journal of Teacher Education*. https://doi.org/10.1080/02619768.2021.1900111

Czerniawski, G., Gray, D., MacPhail, A., Bain, Y., Conway, P., & Guberman, A. (2018). The professional learning needs and priorities of higher-education-based teacher educators in England, Ireland and Scotland. *Journal of Education for Teaching, 44*(2), 133–148. https://doi.org/10.1080/02607476.2017.1422590

Darling-Hammond, L. (1999) Reshaping teaching policy, preparation and practice: Influences on the National Board for Teaching Professional Standards. AACTE Publications. https://files.eric.ed.gov/fulltext/ED432570.pdf

Diery, A, Vogel, F., Knogler, M., & Seidel, T. (2020). Evidence-based practice in higher education: Teacher educators' attitudes, challenges, and uses. *Frontiers in Education, 5*. https://doi.org/10.3389/feduc.2020.00062

Eklund, G. (2018). Master's thesis as part of research-based teacher education: A Finnish case. *Journal of Teacher Education and Educators, 8*(1), 5–20.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing, 62*(1), 107–115. http://dx.doi.org/10.1111/j.1365-2648.2007.04569.x

Garet. M., Porter. A., Desimone, L., Birman, B. &Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Education Research Journal, 38*(4), 915–945. https://doi.org/10.3102/00028312038004915

Hiebert, J., Gallimore, R., & Stigler, J. (2002). A knowledge base for the teaching profession: What would it look like and how can we get one? *Educational Researcher, 31*(5), 3–15. https://doi.org/10.3102/0013189X031005003

Holappa, A.-S. (2007). *Perusopetuksen opetussuunnitelma 2000-luvulla – Uudistus paikallisina prosesseina kahdessa kaupungissa* [*The renewal of the basic education curriculum: Case study in two cities*]. Acta Universitatis Ouluensis. Series E 94. Oulun yliopisto. Kasvatustieteiden tiedekunta.

Kitchen, J., & Figg, C. (2011). Establishing and sustaining teacher educator professional development in a self-study community of practice: Pre-tenure teacher educators developing professionally. *Teaching and Teacher Education, 27*(5), 880–890. https://doi.org/10.1016/j.tate.2011.02.003

Lavonen, J., Mahlamäki-kultanen, S., Vahtıvuori-Hännınen, S., & Mikkola, A. (2020). A collaborative design for a Finnish teacher education development programme. *Journal of Teacher Education and Educators, 9*(2), 241–262. https://dergipark.org.tr/en/pub/jtee/issue/56618/728673

Lavonen, J., Mahlamäki-kultanen, S., Vahtıvuori-Hännınen, S., & Mikkola, A. (2021). Implementation of a National Teacher Education Strategy in Finland through Pilot Projects. *Australian Journal of Teacher Education, 46*(10), 21 – 42. https://doi.org/10.14221/ajte.2021v46n10.2

Loughran, J. (2014). Professionally developing as a teacher educator. *Journal of Teacher Education, 65*(4), 271–283. https://doi.10.1177/0022487114533386

Luft, J. A., & Hewson, P. W. (2014). Research on teacher professional development programs in science. In S. K. Abell & N. Lederman (Eds.), *Handbook of research in science education* (2nd ed., pp. 889–909). Taylor and Francis.

Maier, R., & Schmidt, A. (2015). Explaining organizational knowledge creation with a knowledge maturing model. *Knowledge Management Research & Practice, 13*(4), 361–381. https://doi.org/10.1057/kmrp.2013.56.

Ministry of Education and Culture (MEC). (2016). *Opettajankoulutuksen*

kehittämisohjelma [Development Programme for Teachers' Pre- and In-service Education]. https://minedu.fi/artikkeli/-/asset_publisher/opettajankoulutuksen-kehittamisohjelma-julkistettiin-opettajien-osaamista-kehitettava-suunnitelmallisesti-lapi-tyouran

Müller, J., Norrie. C., Hernández. F., & Goodson. I. (2010). Restructuring teachers' work-lives and knowledge in England and Spain. *Compare, 40*(3), 265–277. http://dx.doi.org/10.1080/03057920902830061

Nonaka. I., von Krogh, G., & Voelpel, S. (2006). Organizational knowledge creation theory: Evolutionary paths and future advances. *Organization Studies, 27*(8), 1179–1208. https://doi.10.1177/0170840606066312

Panda, P. (2019). International perspectives on standards and benchmarking in teacher education. *Oxford Research Encyclopedia of Education.* https://doi.org/10.1093/acrefore/9780190264093.013.497

Patton, K., & Parker, M. (2017). Teacher education communities of practice: More than a culture of collaboration. *Teaching and Teacher Education 67*, 351–360. https://doi.org/10.1016/j.tate.2017.06.013

Pedaste, M., Leijen, Ä., Poom-Valickis, K., & Eisenschmidt, E. (2019). Teacher professional standards to support teacher quality and learning in Estonia. *European Journal of Education, Research, Development and Policy, 54*, 389– 399. https://doi.org/10.1111/ejed.12346

Ping, C., Schellings, G., Beijaard, D., & Ye, J. (2020). Teacher educators' professional learning: perceptions of Dutch and Chinese teacher educators. *Asia-Pacific Journal of Teacher Education*. http://dx.doi.org/10.1080/1359866X.2020.1725808

Rasku-Puttonen, H., Eteläpelto, A., Lehtonen, O., Nummila, L., & Häkkinen, P. (2004). Developing teachers' professional expertise

through collaboration in an innovative ICT-based learning environment. *European Journal of Teacher Education, 27*(1), 47–60. https://doi.org/10.1080/0261976042000211829

Révai, N. (2018). What difference do standards make to educating teachers? A review with case studies on Australia, Estonia and Singapore. OECD Education Working Paper No. 174. OECD. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2018)10&docLanguage=En

Russel, T., & Martin, A. K. (2010). Learning to teach science. In S. K. Abell. & N. G. Lederman (Eds.), *Handbook of research on science education* (pp. 1174–1175). Routledge.

Schwarz, B. (2015). A study on professional competence of future teacher students as an example of a study using qualitative content analysis. In A. Bikner-Ahsbahs, C. Knipping & N. Presmeg (Eds.), *Qualitative research in mathematics education* (pp. 381–399). Springer.

Torrance, D., & Forde, C. (2017). Redefining what it means to be a teacher through professional standards: Implications for continuing teacher education. *European Journal of Teacher Education, 40*(1), 110–126. https://doi.org/10.1080/02619768.2016.1246527

Williams, J. (2014). Teacher educator professional learning in the third space: Implications for identity and practice. *Journal of Teacher Education, 65*(4) 315–326. https://doi.10.1177/0022487114533128

Young, J. C., Hall. C., & Clarke, A. (2007). Challenges to university autonomy in initial teacher education programmes: The cases of England, Manitoba, and British Columbia. *Teaching and Teacher Education, 23*, 81–93. https://doi.https://doi.org/10.1016/j.tate.2006.04.008

Thriving in a Multimodal World: The Essential Role of Multiliteracies in Empowering Every Child

Dr. Alexius Chia Ti Yong
Nanyang Technological University, Singapore

Professor Huang Kun-huei, President of the Prof. Huang Kun-huei Education Foundation,
Members of the Organizing Committee,
Fellow Conference Presenters & Participants,
Ladies and gentlemen.

I'm deeply humbled and grateful for the invitation to speak with you today. It's a privilege to address this distinguished gathering and share my thoughts with you. Thank you for your kindness and generosity.

Introduction

My presentation is titled ‘Thriving in a Multimodal World: The Essential Role of Multiliteracies in Empowering Every Child.’ Within the overarching conference theme of ‘Empowering Every Child, Each According to Ability: Visions and Strategies for Quality Education,’ I am honored to be here today to discuss a topic that is becoming increasingly important in education: multiliteracies and the multimodal world and the

role they play in shaping teaching and learning in the 21st century.

We live in a time of profound change, driven largely by advancements in technology. The ways in which we communicate, learn, play and engage with the world are evolving rapidly. As educators, it is our responsibility to prepare our students for this dynamic landscape. But how do we do this? How do we ensure that our students are equipped to thrive in a world that is so different from the one many of us grew up in?

Part of the answer lies in the concept of multiliteracies. No longer is literacy confined to the ability to read and write text on a page (Cope & Kalantzis, 2005). Literacy today encompasses a wide range of skills and competencies, including the ability to understand, create and communicate through multiple modes—be they linguistic, visual, spatial, gestural and auditory modes (Anstey & Bull, 2018; Chia & Chan, 2017). This expanded understanding of literacy is what we refer to as multiliteracies, and it is essential for empowering every child to succeed in the 21st century.

During this presentation, I will explain the concepts of multiliteracies and multimodality, explore their implications for education and offer practical strategies for integrating these ideas into our teaching practices. Along the way, I will also consider the unique characteristics of Gen Z and Gen Alpha learners, and how we can tailor our educational approaches to meet their needs.

Understanding Multiliteracies and Multimodality

Let us begin by defining two key concepts: multiliteracies and multimodality.

The term 'multiliteracies' was introduced by the New London Group in 1996, a collective of scholars who recognized that traditional notions of literacy were no longer sufficient in a rapidly changing world. They argued that literacy should encompass more than just the ability to read and write print text. Instead, literacy should include the ability to engage with a wide range of communication forms—texts that integrate different languages, cultural contexts and multiple modes of communication. Freebody and Luke (1990) defined multiliteracies as:

> The flexible and sustainable mastery of a repertoire of practices with the texts of traditional and new communications technologies via spoken, print and multimedia.

Let me further unpack this definition for you.

- flexible: To be Positive and strategically responsive to changing literacies
- sustainable mastery: Able to sustain mastery i.e. to have developed the ability to reformulate current knowledge or access and learn new literate practices
- repertoire of practices: To possess a range of knowledge, skills and strategies to use when appropriate

- traditional communications technologies: Able to use traditional communications technologies: paper and live (face-to-face encounters)
- new communications technologies: Able to use new communications technologies: digital-electronic (using multiple modes, often simultaneously)

(Freebody & Luke, 1990)

The concept of multiliteracies encompasses:

- Multimodal literacy: Understanding and using multiple modes of communication, such as text, image, sound, and gesture.
- Multilingual literacy: Ability to communicate in multiple languages and dialects.
- Multicultural literacy: Understanding and navigating diverse cultural contexts and perspectives.
- Critical literacy: Analyzing and critiquing power relationships and social inequalities in communication.
- Digital literacy: Navigating and creating meaning in digital environments.

(Stordy, 2015)

In today's digital age, the concept of multiliteracies is not just

relevant—it is essential. The way we communicate has evolved far beyond traditional print. We now engage with texts that blend words, images, sounds and gestures, creating rich, multimodal experiences. Whether navigating multilingual environments, interpreting cultural nuances or critically analyzing digital content, these diverse forms of communication require us to draw on a complex set of literacies. From creating multimedia presentations to understanding the cultural context of a meme or critically evaluating information on social media, the literacies needed today are expansive and interconnected. This shift demands that we, as educators, broaden our approach to teaching literacy, ensuring that our students are equipped to thrive in a world where communication is dynamic, diverse and multifaceted.

This brings us to the concept of 'multimodality.' Multimodality refers to the use of multiple modes, or channels, to communicate. In a multimodal text, different modes—such as text, image, sound, and gesture—work together to create meaning. For example, a news website might combine written articles with videos, infographics and hyperlinks to convey information. Each of these elements adds a layer of meaning and understanding the message requires the ability to interpret all of them in conjunction.

The shift towards a multimodal world has profound implications for education. If we continue to focus solely on traditional literacy skills, we risk leaving our students ill-equipped for the demands of modern life. We need to broaden our approach to literacy instruction to include

multimodal texts and to teach students how to create and interpret these texts effectively (Anstey & Bull, 2018; Chia & Chan, 2017).

The Impact of Multimodality on Learning

Now that we have a clearer understanding of multiliteracies and multimodality, let us explore their impact on learning. When we incorporate multiple modes into our teaching, we engage students on different levels—some might say that we're making learning more meaningful and accessible to learners who might learn differently.

First, multimodality enhances **engagement**. Traditional teaching methods, which rely heavily on text-based materials, can sometimes fail to capture students' attention. However, when we use a combination of text, images, video and interactive elements, we create a more dynamic learning experience. For example, a lesson on the solar system that includes not just written descriptions, but also videos, diagrams and interactive simulations, is likely to be more engaging for students. This kind of multimodal approach helps to maintain students' interest and motivates them to learn.

Second, multimodality promotes **accessibility**. Not all students learn in the same way. Some may struggle with reading but excel in visual or auditory processing. By incorporating multiple modes of communication, we can make content more accessible to a wider range of learners, including those with disabilities or different learning preferences. For instance, a student who finds it difficult to understand a

complex scientific concept through text alone might grasp it more easily through a video demonstration or a hands-on experiment.

Third, engaging with multimodal texts helps to develop **critical thinking skills**. Multimodal texts are complex; they require students to analyze how different modes work together to convey meaning. This kind of analysis fosters critical thinking by encouraging students to consider not just what a text says, but how it says it. For example, when analyzing a news story, students might consider how the combination of written text, images and video clips influences the viewer's understanding and perception of the event.

Finally, multimodal learning fosters **creativity**. When students are given the opportunity to express their ideas using different modes—whether through digital storytelling, video production or graphic design—they are encouraged to think creatively. They learn to experiment with different forms of communication and to find new and innovative ways to express their ideas. This not only helps them to develop a wide range of skills but also boosts their confidence as learners and creators.

Profile of Our Learners: Gen Z and Gen Alpha

To effectively integrate multiliteracies and multimodality into our teaching practices, it is essential to understand the learners we are educating today—namely, the Gen Z and Gen Alpha.

Gen Z, also known as the 'digital natives,' were born between 1997 and 2012. Today, these would be our high schools to university todays. The Gen Z have never known a world without the internet, smartphones and social media. They are accustomed to accessing information quickly and navigating digital spaces with ease. For Gen Z, visual and interactive content is a natural part of their everyday lives. They prefer learning experiences that are personalized, collaborative and tech-driven. They are also highly proficient at multitasking, often engaging with multiple modes of information simultaneously (Dolot, 2018; Seemiller & Grace, 2015, 2017; Schwieger & Ladwig, 2018).

Gen Alpha refers to those born from 2013 onwards. These would be our elementary school children. This generation is the first to be born entirely in the 21st century, into a world even more saturated with technology than that of their Gen Z predecessors. Gen Alpha students are growing up with artificial intelligence, virtual reality and other advanced technologies as part of their everyday experiences. They are highly visual learners who prefer interactive and hands-on learning experiences. Like Gen Z, they are comfortable navigating multiple modes of communication and expect their learning experiences to be engaging and relevant to their lives (Fernando & Premadasa, 2024; McCrindle, 2021).

Understanding these generational traits is crucial for designing educational experiences that resonate with our students. Both Gen Z

and Gen Alpha are accustomed to interacting with multimodal texts daily, unfortunately, many schools and universities are slow to catch up. As such, they are forced to live in two realities— the reality of school and the reality outside of school. We should try to bridge this gap where more aspects of school reflect the realities of their digital lives. If we want to engage these learners effectively, we should consider incorporate the tools, technologies and modes of communication that they are familiar with.

Integrating Multimodality and Multiliteracies in Education

So, how can we integrate multimodality and multiliteracies into our teaching practices? Here are some strategies that can help us to create more engaging, relevant, and effective learning experiences for our students.

First, consider **incorporating digital tools** into our classrooms. There are countless digital platforms and tools available that allow students to create and analyze multimodal texts. These might include video editing software, graphic design tools, or even social media platforms. For example, we could have students create a digital story that incorporates text, images and sound. Or we might ask them to design an infographic that visually represents a complex concept. By using these tools, students can develop a wide range of literacies while also expressing their creativity.

Second, adopt a **project-based learning** approach that encourages

students to engage with multiple modes of communication. Project-based learning allows students to work on extended tasks that require them to use different modes to create a final product. For example, students could work in groups to produce a short documentary film on a topic they are studying in class. This project would require them to write a script, film and edit video, add sound and music, and create visual effects—all of which involve different literacies. Project-based learning not only helps students develop their multiliteracy skills but also fosters collaboration, problem-solving and critical thinking.

Third, design **interactive lessons** that integrate various modes of communication. This might involve combining text with images, videos and interactive activities in our teaching materials. For example, rather than simply assigning a reading, you could create a lesson that includes a short video introduction, followed by a reading assignment and then an interactive quiz or discussion activity. By providing content in multiple modes, we can help students to understand the material more deeply and from different perspectives.

Finally, it is important to consider how we **assess** students' multimodal literacies. Traditional assessments often focus solely on reading and writing skills, but to truly embrace multiliteracies, we need to develop assessment strategies that recognize and value students' abilities to communicate through multiple modes. This might involve evaluating students' ability to create and interpret multimodal texts or using digital portfolios to showcase their work across different modes.

For example, rather than having students write a traditional essay, you could ask them to create a digital presentation that combines text, images and video. By assessing students' multimodal work, we can gain a more comprehensive understanding of their abilities and support their development as literate individuals in a multimodal world.

Teacher Professional Development

Implementing these strategies requires that teachers themselves are well-versed in multiliteracies and multimodality. This is where professional development comes in. Teachers need ongoing training to keep up with the rapidly changing digital landscape. This includes learning how to use new digital tools, understanding how to create and analyze multimodal texts and developing strategies for integrating these concepts into their teaching.

Professional development should also be **collaborative**. Teachers can learn a great deal from sharing experiences and strategies with their peers. This could take the form of workshops, peer mentoring or online professional learning communities. By working together, teachers can develop a shared understanding of multiliteracies and multimodality and support each other in implementing these ideas in their classrooms.

Finally, teachers should be encouraged to engage in **reflective practice**. This involves regularly reflecting on their teaching practices, considering how well they're integrating multiliteracies and multimodality and identifying areas for improvement. Reflective

practice helps teachers to stay current with best practices and to continually refine their approach to teaching in a multimodal world.

Conclusion

In sum, thriving in a multimodal world requires us to expand our understanding of literacy to include multiple modes of communication. By embracing multiliteracies and integrating multimodality into our teaching practices, we can empower every child to succeed in the 21st century.

We've explored the importance of understanding our learners, particularly Gen Z and Gen Alpha, and how their characteristics inform our educational strategies. We've also looked at practical ways to integrate multimodality and multiliteracies into the classroom and discussed the importance of professional development for teachers.

As we move forward, let us all commit to creating learning environments that are inclusive, engaging and reflective of the diverse and dynamic world our students inhabit. We have a responsibility to prepare our students not just to survive, but to thrive in a world that is increasingly complex and unpredictable.

Thank you very much for your attention.

References

Anstey, M., & Bull, G. (2018). *Foundations of multiliteracies*: Reading, writing and talking in the 21st century. Routledge.

Chia, A., & Chan, C. (2017). Re-defining 'reading' in the 21st century: Accessing multimodal texts. *Beyond words, 5*(2), 98-105.

Cope, B., & Kalantzis, M. (2005). Introduction: Multiliteracies: The beginnings of an idea. In *Multiliteracies: Lit Learning. Routledge*.

Dolot, A. (2018). The characteristics of Generation Z. *E-mentor, 74*(2), 44-50.

Fernando, P. A., & Premadasa, H. S. (2024). Use of gamification and game-based learning in educating Generation Alpha. *Educational Technology & Society, 27*(2), 114-132.

Freebody, P., & Luke, A. (1990). 'Literacies' programmes: Debates and demands in cultural context. *Prospect, 11*, 7–16.

McCrindle, M. (2021). *Generation alpha*. Hachette UK.

Seemiller, C., & Grace, M. (2015). *Generation Z goes to college*. John Wiley & Sons.

Seemiller, C., & Grace, M. (2017). Generation Z: Educating and engaging the next generation of students. *About campus, 22*(3), 21-26.

Schwieger, D., & Ladwig, C. (2018). Reaching and retaining the next generation: Adapting to the expectations of Gen Z in the classroom. *Information Systems Education Journal, 16*(3), 45.

Stordy, P. (2015). Taxonomy of literacies. *Journal of documentation, 71*(3), 456-476.

The New London Group. (1996). A pedagogy of multiliteracies:

Designing social futures. Harvard Educational Review, 66(1), 60-92.

Unsworth, L. (2001). *Teaching multiliteracies across the curriculum* (pp. 7-20). Buckingham: Open University Press.

Teaching Students to Drive Their Own Learning

Dr. Douglas Fisher
San Diego State University, USA

The educational field made a major leap forward when John Hattie introduced the Visible Learning database in 2009. He developed an innovative approach to examine effect sizes across thousands of meta-analyses, which are studies of studies that yield a common measure of impact called an effect size. By comparing aggregate effect sizes, Hattie can confidently share what works best to accelerate students' learning. Hattie notes that 95% of what teachers do works if the expected growth is zero. Yes, just about any actions educators take in the classroom improves students' learning above zero.

But that's not our goal. Our goal is to ensure that students' progress a full year for each year they are in the classroom. Applying the "one year growth for one year of school" criteria to most of the influences in the database changes the conversation. In fact, there are significantly fewer actions and strategies that have the impact we're looking for. But some do. It turns out that making home visits doesn't really impact students' learning much, but something like classroom discussion does. Hattie produced a list of influences on achievement that we can all use to make informed decisions. If the effect size exceeds .40, the summary

of research evidence indicates that it is an above average influence and likely to accelerate learning.

The database continues to grow as new meta-analyses are added to the corpus of evidence (www.visiblelearningmetax.com). There are over 2100 meta's now, comprised of 350,000,000 students worldwide inform our knowledge about these more than 400 influences. Among the most electrifying dimensions of Visible Learning is the outsized influence students play in their own learning. It is a notion long expressed in education: student ownership of learning functions as an accelerant. What the Visible Learning work has demonstrated without question is that our efforts should be directed at making this happen.

Student ownership of learning is commonly referred to as self-regulation. These are a constellation of habits and dispositions that include both cognitive and emotional skills. Hattie originally referred to these students as "assessment-capable visible learners" (ACVL) because they assess themselves (not just waiting passively for others to give them feedback). Because they can do so, they are able to gauge their progress, seek help as needed, and teach others. Our work with John Hattie had yielded six dispositions of learners that form the core of assessment capability (Fisher et al., 2023):

- Know their current level of understanding
- Understand where they're going and have the confidence to take on the challenge

- Select tools to guide their learning
- Seek feedback and recognize that errors are opportunities to learn
- Monitor progress and adjust their learning
- Recognize their learning and teach others

We believe that students can and should become their own teachers. And we believe that teachers have a profound role in helping students accomplish that. When students own their learning and begin to teach themselves, we say that they are visible learners or students who drive their own learning.

Of course, students don't show up at the classroom door already knowing how to drive their own learning. The conditions that make learning visible to students are created with intention by teachers. These classrooms are noticeably different from others because of the presence of a crucial factor: Goal setting.

A Goal Setting Environment

Goals drive much of what we do every day, from morning routines to housekeeping tasks to completing work assignments. But students too often rely on their teachers to determine goals for them. Yet the evidence is that goal setting has a strong influence on learning, at a 0.50 effect size. Goals for learning might be daily, weekly, or at the unit level. They have less to do about grades ("I want to get an A in algebra"), and more about the learning ("I want to learn how to use algebraic

thinking.”). And consider what they need to know to set useful goals for themselves—an understanding of their present level of performance, and a clear vision of the destination. Classrooms should be rich in goal setting by discussing success criteria, then asking students how they will know they are successful. Their answers are the start of the goal setting process.

That said, personal records (PRs) can be great goals, and have the bonus of being motivating, too. Invite your students to set a new PR on a reading fluency assessment, writing assignment, or problem-solving task. Challenge them to reach a new personal best in the number of pages they read in a week. Propose a new number of words per minute students write in a timed power writing exercises. Then encourage students to track their own progress so they can see the gains they are making. Meet with students individually to look together at their progress toward larger goals and discuss with them what it will take for them to reach it.

Once students are surrounded by goals, goals they believe that they can attain with some effort and support from teachers, the remaining six factors help students to drive their learning. In doing so, they self-regulate their learning and develop agency.

Student Agency

Student agency is multidimensional and fostered by approaches to instruction, task design, motivation, assessment, and the development

of study habits. These are also key for transfer of learning, which is the ability to apply knowledge and strategies under new conditions (National Research Council, 2012). Research on student agency in schools identified eight dimensions: self-efficacy, pursuit of interest, perseverance of effort, locus of control, mastery orientation, metacognition, self-regulation, and future orientation (Zeiser et al., 2018).

Self-efficacy. The belief that one can achieve goals is fundamental to student agency, as it is with adults. The four sources of self-efficacy are having mastery experiences, seeing models, benefiting from social persuasion and encouragement, and knowing how to manage the physiological responses (Bandura, 1982). A child who possesses a higher level of self-efficacy believes that they can reach goals. Self-efficacy, with an effect size of 0.71, reliably holds the potential to accelerate learning.

Pursuit of interest. Think of this as a consistency of passion for a topic. We've seen the determination of students to learn everything there is to know about something that has seized their interest: coding, the Titanic disaster, geocaching, ice skating. They pursue their interests by reading books, talking with others about it, practice, and searching for new challenges that will build their skills. An important aspect of this is that they stick with some interests for a period of time and don't lose interest quickly (Peña & Duckworth, 2018).

Perseverance of effort. Hand-in-hand with interest is the willingness to continue on when something becomes more difficult. A student's persistence and concentration of effort to finish tasks has the potential to accelerate learning, with an effect size of 0.54. A student with a higher degree of persistence understands that setbacks can happen but is willing to see a project or task through to the end. Importantly, perseverance of effort can't be fostered when the tasks are not challenging. Unfortunately, this happens too often with some advanced students who skate through their years of schooling, only to discover that when they reach college they don't have the wherewithal or the resiliency to confront challenge.

Locus of control. The key word is "control"—to what extent does a learner believe that they are an influencer in the successful completion of the task? The location, or locus, of control speaks to where they attribute success and failure. A person with a strong internal locus of control places a higher value on their own skills and effort, while those with an external locus of control focus on the difficulty of the project or what other people's skill levels are. In truth, locus of control is on a continuum, rather than an internal/external binary. Learners can also attribute luck or an authority, such as the teacher, in explaining their success. A learner who says, "the teacher doesn't like me, that's why I got a bad grade" is attributing failure to an external authority figure. "I got lucky on that exam, so that's why a got a good grade" is attributing success to luck. An internal locus of control is

associated with higher levels of achievement (Shepherd et al., 2006).

Mastery orientation. Goals drive all of us, but there is also the motivation for those goals. The beliefs we have about the goal orient us onto a path. The goals of students can fall broadly into two paths: a mastery orientation or a performance orientation (Pintrich, 2003). Students with a mastery orientation understand that what they are learning benefits them. They understand that learning a topic in one class will benefit them in another. As well, the judge their own performance in terms of what they have learned, not in comparison to others. A student with a mastery orientation says, “I want to learn English so I can speak to people in other countries.” Students with a performance orientation have goals, too, but they may be tied more closely to the amount of effort required and their standing with others. A student with a performance orientation may say, “I want to pass English class” or “I want to get an A in this class so I can move up in the class ranking.” A student with a deep motivation and approach seeks mastery and is willing to invest a higher degree of effort. That kind of motivation has an effect size of 0.57 and can accelerate learning.

Metacognition. Often described as “thinking about thinking,” metacognition develops in the first years of schooling and continues across a lifetime. You’ll notice this happening with the five-year-old that checks the picture on a puzzle box lid to complete it. Metacognitive strategies are embedded in instruction. We teach early readers to monitor their understanding so that when they lose meaning in a text they go

back to re-read. We teach older students to take notes and use them as part of their studying. A student with a higher degree of metacognition will notice what is confusing, ask questions, and mentally summarize what they are learning.

Self-regulation. Closely related to metacognition is the self-regulation needed to learn. A student with a higher degree of self-regulation can reset their attention during class when they notice they're thinking instead about a video game. Self-regulation plays an important role in practice and studying. For instance, being organized, keeping track of assignments, and setting aside time for study are all essential skills.

Future orientation. Perceptions of what constitutes the future are definitely going to vary with age. Young children may consider the future to be lunchtime. But a goal of schooling is to help students see that the learning they do today is grounded not only in their current context, but also in their investment in their own future aspirations. Early grades social studies curriculum includes study of different occupations and community roles, and lots of schools host Career Days so that children can ask questions about how the firefighter decided on that professional field. Middle and high school efforts include helping students develop resumes and introducing academic and extracurricular efforts that will burnish their post-secondary applications. Students with a future orientation are able to equate their school efforts and experiences as a foundation for adult aspirations.

Teaching Students to Drive Their Learning

With the goal of developing self-regulated learners and students who have high levels of agency, teachers need to ask themselves several questions to determine their next steps. In doing so, they can modify the experiences in the classroom to ensure that students have opportunities to practice and develop skills in driving their own learning.

Do students know their current level of understanding?

Students need lots of opportunities to self-assess in order to figure out where they currently are in their learning. At the beginning of a unit of instruction, teachers can provide students with an ungraded pre-assessment and discuss the results. Link daily learning intentions and success criteria to chances to gauge themselves, such as using an exit ticket at the end of the lesson. And build their ability to accurately estimate task difficulty by asking them to predict the amount of time they'll need to complete it.

Unfortunately, in some classrooms, well-meaning teachers avoid informing students about their current level of understanding because they think students will be embarrassed. We're not saying that teachers should broadcast students' performance levels on the PA system, but rather that they should confer with students and ensure that students understand the difference between their current level of mastery and the goal.

But this will not work if students fail to see errors as learning opportunities. When students feel embarrassed, shame, or humiliation for making errors, they hide their misunderstandings or check-out of the learning. Thus, it is important to clearly communicate that we all make errors and that, when we do, it's a chance to learn.

Do students know where they are going and are they confident to take on the challenge of learning?

If students are to understand their current performance and where they are going along the learning journey, their teachers must provide clarity. Every day, in every lesson, students should know what they are supposed to be learning and what learning would look like. Students should not have to infer what they are learning; they should be told. And they should be invited to identify their own learning targets, in collaboration with their teachers. Teacher clarity is an accelerator of students' learning with an effect size of .85, and we should be thinking about that as we create the environments in which students learn. As part of teacher clarity, it's important that students know what they are learning (learning intentions) and what success looks like (success criteria) (Fisher et al., 2024).

Motivation is a key dimension of learning. When we are interested in learning about something, it greatly increases the likelihood that you'll be able to do so. A student who drives their own learning understands that challenge is necessary on the road to mastery. When they face a temporary setback, they are nonetheless resilient. Much has

been said about growth mindset. But Dweck (2016) herself warns of the danger of communicating a "false growth mindset." It's not a state of being; it is a coping skill. Children who rarely face a challenge are failure-deficient and don't develop coping skills. Ask them, "How could I make this more challenging for you?" When faced with a challenge, ask students who are stuck, "What could you try next?" When they aren't satisfied with their results, ask them "What can you practice to get better?" Our positive responses build a mindset that equates challenge with growth.

Motivation requires that students accept the fact that learning is hard. Learning is challenging for all of us. But if it's too challenging, we get frustrated and quit. If it's not challenging enough, we get bored and quit. As Hattie notes, there is a sweet spot that he calls the Goldilocks challenge; not too hard and not too boring! The effect size of the Goldilocks challenge is .74.

Importantly, challenge does not simply mean difficult. There is a difference between a complex task and a difficult task. A difficult task requires additional time and work whereas complex task involves thinking, background knowledge, many steps, and perhaps action. Clearly 9 more math problems does not automatically increase the complexity, but it does increase the difficulty. Nine strategically chosen math problems could increase the complexity. Students are looking for more challenging tasks, but not more work.

In part, students accept the challenge for learning when they have experienced success. Simple said, success is motivating. When students have experienced success, they are more likely to accept the challenge of additional learning. Think about all the video games that people play. We don't start the game at level 50. But we don't stay at level 1 either. Players experience some early success and then the game makes it a bit harder. We accept the challenge and keep at it until we achieve that success again. And so it goes, and many people find video games so much fun.

Do students select learning tools?

No homeowner goes to the garage, picks up a hammer, and then walks around the house looking for something to fix with a hammer. But too often we give students tools and then ask them to solve a problem with it. Students who drive their own learning choose tools based on the problem they seek to resolve. Build choice into classroom practice so that students can learn how to learn. This means teaching them study and practice strategies, then allowing them to choose what works best for them. As part of these choices, ask students to reflect on their selection.

There should be a link between teaching and learning. Of course, we recognize that sometimes that link is broken. But ideally, the tools that are used for teaching impact students' learning. And if we want students to become their own teachers, we will need to allow them

opportunities to select tools that work for them. We did not say that teachers should provide an endless list of tools, but rather than teachers can provide students some choices in the selection of tools that will help their learning.

Let's take graphic organizers as a simple example. At the start of the year, teachers might introduce students to a range of types of visual graphic tools. For example, there may ways to visually represent comparing and contrasting. When students have been taught these ways, they can then have opportunities to select from those tools when the time comes. Of course, they may make a bad choice and then have an opportunity to learn more about the strategic selections of learning tools.

Study skills is another area in which there are many choices. There are a lot of right ways to study, and probably some wrong ways. The effect size of study skills is .59. In fact, study skills have three parts that combine to create the effect size noted above.

- Cognitive skills. There are a number of effective approaches to studying, including taking and reviewing notes, summarizing information, reviewing vocabulary terms, and annotating a text.
- Metacognitive skills. In addition to the cognitive skills, students should be taught to plan and monitor their studying, set goals, engage in self-questioning, and recognize when they should use specific cognitive skills.

- Affective skills. Beyond metacognitive skills, students need to develop motivation, agency, and self-concept if they are to integrate study skills as a habit.

Students can be provided choices in terms of their study habits once they understand the options that are available. As students make choice, they are developing their skills and become assessment-capable, visible learners. And they are much more likely to teach themselves in the future as a result.

How do students seek feedback?

There are three sources of feedback: teacher, peers, and self. Unfortunately, the first source is used too often. To the exclusion of the other two. Teachers who want their students to drive their own learning set up regular peer-response sessions so that students can ask questions about each other's work. We aren't expecting students to edit each other's work but rather to ask questions about it. These peer-response sessions build their ability to critically analyze their own work, too. That's where feedback to self occurs.

Feedback works when it is received. That's logical, right? Have you ever given someone feedback and noticed, by the look on their face, that the feedback was not getting through? When that happens, not much change is likely. Our learners are the same. The feedback has to be received if it is to work. And when it is received, good things can

happen in terms of students' learning.

The question, then, is how to ensure that feedback is received. The likelihood of feedback being received increases when the learner asks for it. Have you ever asked for feedback from someone? If you were authentic, and the feedback was constructive, you probably learned from the experience. Both of these two conditions are important. First, the request has to be authentic and second, the feedback needs to be constructive.

So, teaching students how to solicit feedback rather than wait passively for it is an important aspect of self-regulation and student agency. In some classrooms, students simply turn over a card. One side of the card says "working" and the other side says, "feedback needed." In addition, we need to teach students to ask the questions to get the feedback they need. It's more than "can you help me" or "I don't understand this." Instead, it's learning to ask the right question that will move learning forward.

How do students monitor their progress?

Monitoring one's progress provides motivation to do more and to try something new. Help students set incremental learning goals for themselves so they can see their progress, not just outcomes. A goal that reads, "I want to get an A in Biology" is less useful for doing so than a goal that reads, "I want to be able to answer all the chapter 7 questions

correctly when I study." The goal setting process should include incremental stages to achieve larger goals such as a course grade. Be sure to provide students with opportunities to set and monitor their goals.

There are all kinds of systems that help students to monitor their progress. The success criteria communicate the final destination. But how will students know the stopping points along the way? In other words, how will they know if they are on the right path toward proficiency? If the success criteria are shared as "I can" statements, such as "I can identify the phases of the moon," students can be asked to provide evidence of their learning by changing the "I can" statement to a "Can I" question, such as: Can I identify the phases of the moon? This example is fairly literal, but consider the success criteria "I can monitor my emotional response when learning gets hard." How might students monitor their success toward that criterion?

Self-assessment tools can be very useful in helping students monitor their progress. In addition, self-assessment tools provide students an opportunity to reflect on their learning, building some metacognitive skills in the process. It may be that you want to add a self-assessment tool for each chunk of learning that students need to do. They could even use this as a checklist as the learning progresses.

Do students teach others?

There is a saying that “to teach is to learn twice.” Students who have opportunities to teach others benefit greatly from the experience. Teachers who understand the value of self-regulation, student agency, and teaching students to drive their own learning create a robust peer learning system in the classroom such that students can teach one another. Peer tutoring has a strong evidence base for bolstering academic performance, especially in reading and mathematics (e.g., Bowman-Perrott et al., 2013). Dyads or triads of students meet together to master academic content. But the evidence on social outcomes is equally strong (Bowman-Perrott et al., 2014). Communication skills, positive behavior, and social skills can increase using peer tutoring. Both cross-age and within-class peer tutoring has a significant impact on student learning with an effect size of .58. There are a number of models for peer tutoring and we’ll examine a few of them.

Same-Age Peer Tutoring. A higher-performing peer is matched with a lower performing classmate to learn content the tutee has not yet mastered. The arrangement does not need to be performed as a whole class model, and in fact is sometimes accomplished during small group rotations while other students meet with the teacher or work independently. A popular version of same-age tutoring is paired reading. The selected book is chosen to stretch the tutee’s reading skills. A passage is read aloud by the tutor, who serves as the model, then is read aloud again by the tutee. The pair then discuss the meaning of the text using questions prepared by the teacher.

Reciprocal Peer Tutoring. Students are heterogeneously paired, with each member serving simultaneously as both tutor and tutee to support their collective success. This collaborative learning task charges them with synthesizing content, preparing tasks, and asking questions to elicit answers and explanations. For example, students read a passage from the textbook. The tutor asks questions about the passage to the tutee, who must locate the information. The tutor writes down the questions and the answers. The pair then reads the next passage using reversed roles. Once the assigned passages have been read and discussed, they review the questions they compiled for further practice.

Class-wide Peer Tutoring (CWPT). The entire class engages in this competitive form of peer tutoring simultaneously. Students work in pairs to practice skills or concepts they have already been taught. Each member of the team takes turns being the tutor and tutee. The tutor asks questions prepared in advance by the teacher of and assesses the accuracy of their partner's answers. Correct responses earn two points. Partially answered or incorrect responses earn one point, after the corrected response is repeated orally and in writing three times. Then the roles switch and the new questions are asked. Pairs tally their points to determine the winning team of the day.

Teach-Back. Students are assigned a skill or concept that has been previously taught and develop a short lesson to teach it back to a peer. These lessons can be recorded and viewed digitally or enacted in real

time. As one example, students were assigned a range of mathematical tasks to demonstrate how fractions are represented in different ways. Students developed charts to explain the representation they chose (e.g., groups of objects, a number line, shapes in a tangram) then used their chart as a display to teach a partner.

Cross-Age Peer Tutoring. Older students serve as tutors and are paired with younger ones. The content being taught it developmentally appropriate for the tutee. The tutor explains the concept or skill, models positive behavior, and asks questions to encourage the thinking of younger students. reading, writing, and learning skills.

Conclusion

As committed as we are to the education of our students, we do them a disservice if they don't leave us with the dispositions they need to drive their won learning. The goal of education and schooling is not simply to fill their minds with facts and skills, but rather to develop dispositions. The goal is for students to drive their own learning, teach themselves, and to take responsibility for their development. As you talk with students, listen for evidence of these dispositions.

- "I know where I'm going."
- "I have the tools I need."
- "I gauge my progress."
- "I know what's next."

- "I know what to do when I don't know what to do."

References

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*(2), 122–147.

Bowman-Perrott, L., Davis, H., Vannest, K., Williams, L., Greenwood, C., & Parker, R. (2013). Academic benefits of peer tutoring: A meta-analytic review of single-case research. *School Psychology Review, 42*(1), 39–55.

Dweck, C. (2016). Praise the effort, not the outcome? Think again. *TES: Times Educational Supplement*, (5182), 38-39.

Fisher, D., Frey, N., Almarode, J., Barbee, K., Amador, O., & Assof, J. (2024). *The teacher clarity playbook: A hands-on guide to creating learning intentions and success criteria for organized, effective instruction* (2nd ed.). Corwin.

Fisher, D., Frey, N., Ortega, S., & Hattie, J. (2023). *Teaching students to drive their learning: A Playbook on engagement and self-regulation.* Corwin.

Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

National Research Council. (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century.* The National Academies Press.

Peña, P. A., & Duckworth, A. L. (2018). The effects of relative and absolute age in the measurement of grit from 9th to 12th grade.

Economics of Education Review, 66, 183–190.

Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. Journal of *Educational Psychology, 95*, 667-686.

Shepherd, S., Owen, D., & Fitch, T. J. (2006). Locus of control and academic achievement in high school students. *Psychological Reports, 98*(2), 318–322.

Zeiser, K., Scholz, C., & Cirks, V. (2018). *Maximizing student agency: Implementing and measuring student-centered learning practices.* American Institutes of Research. Retrieved at https://files.eric.ed.gov/fulltext/ED592084.pdf

特邀演講摘要

差異、個體性和普遍主義之間的異質性：來自中歐的異質性觀點

Dr. Jürgen Budde
Europa-Universität Flensburg, Germany

中歐國家對於學校教育應滿足學生多樣性的需求不斷增長。雖然這種需求與希望減少教育不平等和提供更好的個人支持有關，但這觀點忽略了學校也致力於促進社群和民主的普遍主義觀點。因此，單方面關注差異或個體性是不夠的，必須用更複雜的觀點來取代。

民族誌研究也顯示成功解決差異的期望並未完全實現；相反，教育實踐和機構中的交織不平等現象長期存在。這現象主要受到教育功績原則的影響，其涉及標籤化、刻板印象和責任歸屬的個人化。

芬蘭師資培育國家目標的設計與實施：2016 年到 2022 年

Dr. Jari Lavonen
University of Helsinki, Finland

本章概述了芬蘭師資培育論壇對國家師資培育目標的規劃、分析和反思。該論壇由來自大學、學校和其他利害關係人的 70 名專家組成，透過網路腦力激盪討論了研究和國際政策。 2016 年時，論壇為師資培育設定了三大策略目標：紮實的知識基礎、創新能力與教師和學校的專業發展，還制定了六個指導方針，並補助了涉及多所大學和教育機構的 45 個合作試辦計畫。這些計畫透過國家層級和地方層級會議推動了策略目標，並支持師資培育工作者的專業學習。

改善師資培育通常涉及規劃和實施專業標準、策略、發展計畫或改革課程（Panda, 2019）。然而，讓師資培育工作者和利害關係人參與這些措施具有挑戰性（Révai, 2018）。策略通常由小規模專家小組制定，沒有適切的實施規劃（Beach et al., 2014）。採用這些策略有賴學習和知識創造過程，涉及個人、團體和集體層面（Nonaka et al., 2006）。這與社會文化學習理論一致，將「採用」視為將個人學習與社群實踐聯繫起來的社會學習（Maier & Schmidt, 2015）。

在多模態世界中蓬勃發展：多元識讀在賦予每個孩子權力的重要角色

Dr. Alexius Chia Ti Yong
Nanyang Technological University, Singapore

因應本會議主題「因材施教，成就每個孩子 -- 台灣優質教育的願景與對策」，這份摘要深入探討了多元識讀在塑造現代教育典範中的關鍵角色。在科技快速進步和數位互聯的時代，讀寫能力的概念已經超越了傳統界限，不僅包括語言熟練程度，還包括視覺、空間、手勢和音訊模式的流暢性。

這次討論的核心是認識到每個孩子都有獨特的能力和學習方式。多元識讀教育旨在透過提供學生工具和機會，讓他們在不同的溝通方式中發揮個人優勢，從而增強學生的能力。透過擁抱多元識讀，教育工作者可以創造一個包容性的學習環境，滿足每個學生的不同需求和能力，從而培養公平和卓越的文化。

本演講倡導教學實踐的典範轉移，即教育工作者成為學習的促進者而不是資訊的傳播者。透過將多模態元素融入課程計劃並利用數位平台，教育工作者可以讓學生參與動態和互動的學習體驗，從而促進創造力、批判思考和協作。

本演講強調了教師專業發展在駕馭多元識讀領域的關鍵角色。教育工作者必須接受持續的培訓和支持，才能將多模態文本無縫整合到他們的教學實踐中。這需要培養終身學習的文化，並

採取積極主動的方法來適應在日新月異的世界中學生不斷變化的需求。

總之，本演講提倡採用更全面的教育方法，以彌合學生的多模態世界與傳統的學校環境之間的差距。透過擁抱多元識讀並為教育工作者提供必要的工具和策略，我們可以創造出無縫整合不同溝通方式的學習環境。這一策略可促進 21 世紀技能的發展，並為學生在相互關聯、複雜的全球社會中取得成功做好準備。

教導學生主導自己的學習

Dr. Douglas Fisher
San Diego State University, USA

許多教育工作者都在努力應對與學生自我調節相關的挑戰，經常想知道如何鼓勵學生在學習過程中變得更加積極主動。本場次為教育工作者提供了相關觀點和技能，讓教師不僅是期待學生的自我調節，而且可以積極地教授和培養學生的自我調節。本場次的重點是透過了解學生目前的知識水準和規劃方法來指導學生選擇合適的工具來追蹤和監控自己實現目標的進度，從而使學生能夠掌控自己的學習，在他們的學習經驗中培養學習自主權的意識和責任感。

特邀演講

差異、個體性和普遍主義之間的異質性：來自中歐的異質性觀點

Dr. Jürgen Budde
Europa-Universität Flensburg, Germany

第一章 簡介：異質性作為一個理論概念

異質性是一個很難定義的現象。廣義上講，可以推測幾乎每一種人類感知——無論是事實、人、文物、情感或其他事物——都涉及各種質和量的比較。在中歐資產階級現代社會的啟蒙傳統中，這個比較過程就是如何標示差異與建立同源性；其賦予了世界秩序和結構。從康德（1784）開始，標示差異可以被理解為一種認識論原則——它不僅是對社會實踐認知的基礎，也是行動能力的基礎。差異和類別簡化了社會現實的複雜性，將模糊轉化為秩序，這使行動成為可能。因此，「創造差異」意義上的異質性似乎是一種普遍的人類學現象。人類的認知、行動或感知總是在差異的基礎上實現的。

[1] 近年來，這種觀點從後人文主義的角度受到了徹底的質疑，其特徵被認為是全球北方的殖民思想形象（Barad 2007; Braidotti 2019）。本內容也遵循這項批評；因此，本文將中歐思想人物置於本演講的中心，但沒有聲稱具有全球有效性。

近年來，「異質性」和「多樣性」這兩個名詞在教育科學和學校教育學研究中越來越多地被引用（Govaris & Kaldi, 2010）。希望多樣性的重要性得到認可，不平等現象減少，學生學習成果也能改善。另一方面，異質性代表教育中和透過教育的不平等的再生產。異質性的概念是基於超個體差異 (supra-individual differences)。這些通常指社會文化類別，例如性別、種族、社會環境或殘疾，以及它們的交織重疊。這些社會文化差異的類別在個人的社會化和社會不平等的動態中發揮著重要作用。然而，與個人能力（主要被理解為個人天賦）相關的差異也被討論。由於「異質性」一詞非常複雜，並且在理論上尚未確定，因此它也被稱為模糊概念或概括名詞。因此，接下來首先試圖在歷史背景下定義該名詞（第 2 章），將其與學校論述聯繫起來（第 3 章），並進一步發展與表現規範的關係（第 4 章）。使用示例性實證分析，將闡述異質性背景下表現調節的擴散（第 5 章）並得出結論（第 6 章）。

第二章　差異性、普遍性和個體性之間的矛盾領域中的異質性

異質性必須被視為一種社會建構。在任何給定時間被認為異質的事物都源自於社會協商過程。在民族方法論中，這被稱為「做差異」(doing differences)（Fenstermaker & West, 2001），它強調實踐中差異的社會建構性質。由於異質性從根本上被理解為一

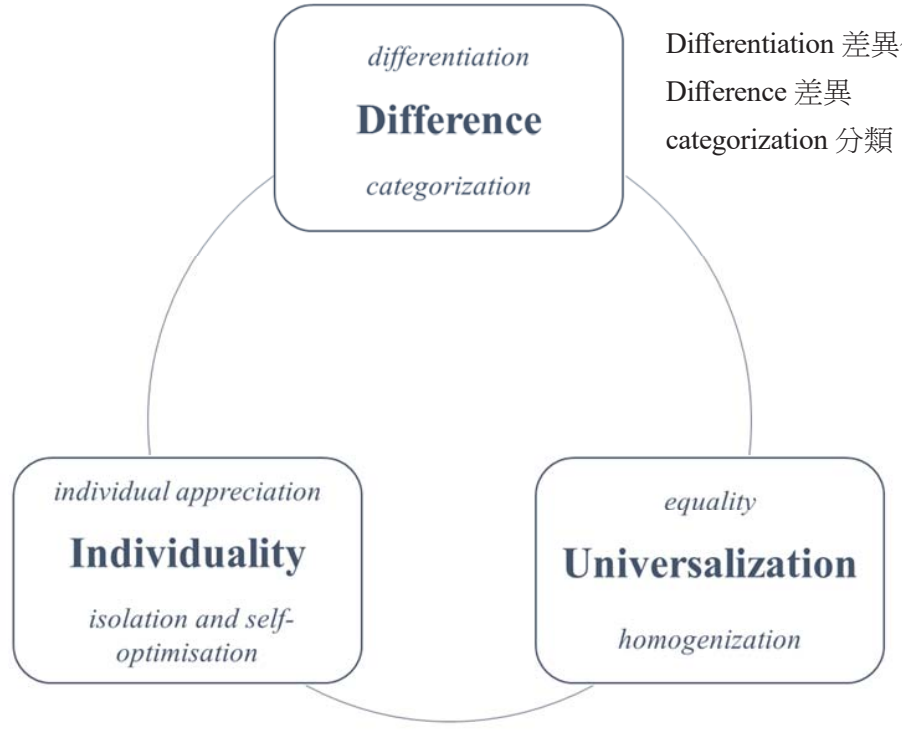
個過程而不是一個自然事實（##；Budde, 2012b），因此它只能存在於同質性中。這兩個概念都源自於感知和比較的過程，這些過程是基於隱式或顯式的標準或參考。異質性和同質性是互補且同時發生的。異質性描述了兩個事實、人、人工製品、情感或其他事物之間相對於特定標準的差異，而同質性則描述了比較方面的平等性。這個比較過程產生了相同點和不同點，每一個都有特定的意義和價值。對於學校異質性或同質性的構成的看法各不相同，取決於文化、歷史和 / 或特定領域的背景。如果這些背景發生變化，那麼處理異質性的想法和實踐也會改變。

還應該指出的是，學校環境中的異質性建構滲透著權力關係並再現了社會不平等。這些建構導致了學生的社會定位；因此，異質性本身不能以價值中立的方式描述為平等主義差異，而必須始終納入權力關係進行分析。差異或平等與價值的等級化有關。如果我們忽略其間的權力關係，我們就有可能將異質性簡單地等同於「多樣性」或「五彩繽紛」，從而以純粹相加的方式並列差異。這就是為什麼認為僅透過使用「不同的方法」，例如透過開放的教學方法或改變教師的態度，就能充分解決異質性的想法是值得懷疑的。當異質性的處理具有極其積極的含義並且得到規範支持時，這種風險尤其嚴重。

為了充分解決學校中的異質性問題，同時承認其社會建構的本質，我們可以將異質性概念視為差異性、普遍性和個體性之間緊張關係的對立領域。這種矛盾關係中的每一極都代表著風險和機會（見圖 1）。首先，學校作為機構有義務維護普世主義的平

等理念。「全民學校」(school for all) 的普世主義理念——作為一種不因「地位和尊嚴」而存在差異的民主成就——正是基於這種平等理想。特別是當社會文化類別的差異被忽視時，一般教育系統被設計來平等對待每個人。如果沒有這種包容性的主張，學校體系將不具合法性。然而，普遍化也可能透過同質化產生排他性，並可能建立排他性規範。這些規範透過「符合規範」和「偏離規範」學生之間的二分法和很大程度上隱含的區分來穩定的——這種區分是基於能力主義、異性戀或中產階級中心取向。因此，解決教育環境中的差異可以有助於透過針對特定群體的服務（例如基於性別或反種族主義的教學法或融合教育；Sheets, 2009）來促進對差異的社會文化類別的考慮。從這個意義上說，認識到差異有助於差異化（Juvonen, Kogachi & Graham, 2018）。然而，也存在排他性階層分類的風險。差異總是透過標籤化來解決，標籤化本身就鞏固了構成社會排斥的類別。這個問題在性別研究中被描述為具體化問題，或在融合教育研究中被描述為「差異的困境」(dilemma of difference)（Norwich, 2008），因為根本問題仍未解決。此外，承認和促進兒童和青少年的個體性是教學實踐的基本原則。個人化教學被視為異質性和個人欣賞的黃金標準教學方法。然而，最近的研究表明，由於個人化需要強大的自我指導能力，它不僅會加劇不平等，還可能導致孤立或不知所措。此外，強調個人化不僅意味著加強個人責任，還會迫使學生不斷提升自己，這與培養社群意識的努力背道而馳。

圖 1 應對異質性的機會與風險



Differentiation 差異化
Difference 差異
categorization 分類

Individual appreciation 個別理解
Individuality 個體性
Isolation and self-optimisation 孤立與自我優化

Equality 平等
universalization 普遍化
homogenization 同質化

第三章 學校論述的異質性

德國是典型的例子，十歲的學生很早就根據學業成績被分配到不同類型的學校，長期以來，學校主要被視為同質化和再現不平等的機構。通行的教師中心教育方法也受到批評（Tillmann, 2008）。然而，異質性現在似乎正在幾個中歐國家被確立為一

種論述規範導向架構（Gogolin, 2011）。儘管當今學校教育學中的「異質性論述」(discourse of heterogeneity)（Budde, 2012a）表明該名詞的使用量顯著激增，但自 19 世紀以來，學生異質性一直是德國現代學校的中心主題。早期的德語教育家，例如提出「心靈多樣性」(diversity of minds) 的 Herbart（Herbart，1962 [1810]）或提出「中間頭腦」(middle heads) 概念的 Trapp（Trapp, 1977），已經認識到學生的多樣性，並建議教學應該為適應學生的多樣性而量身定制。學生的多樣性不是被視為一個特定的問題，就是被視為一個特定的挑戰。自 20 世紀初以來的教育學改革也可以被解釋為試圖透過更好地適應學生多樣性的個人化教學方式來對抗傳統書本教育的同質化趨勢。差異不應該被誤解為僅僅是個人的個人特徵，從而僅僅歸因於他們，或被文化化 (culturalized)。這是因為學校在創造異質性方面發揮作用，並且在面對差異時絕不是中立的。以下只是一些最相關的例子，學校根據這些例子來建構差異。

- 組織差異和差異是現代學校的基本特徵。學校有不同類型、年級、科目、教學編排、學習小組和特定科目的教師，學校是一個橫向和縱向差異化的組織，它創造差異，從而處理異質性。
- 移民和難民移動（20 世紀 60 年代來自南歐的所謂「客工」，來自越南的所謂「合同工」，以及自 2000 年代以來來自戰爭和危機地區的難民，如阿富汗、敘利亞或現在的烏克蘭）還改變了中歐國家中小學學生群體的組成。移民問題主要

透過特殊教育措施來解決：過去的「外國人班」現在變成了「歡迎班」，這兩種情況都意味著同一件事：對移民背景的學生進行分別教育。同時，德語作為學術語言的主導地位得以維持。

- 學校課程的教學和教學組織也可以產生差異。差異化、個人化、數位化、合作和自主學習等形式的開放式教學形式被強調為更好地適應學生多樣性的當代教學法。以教師為中心的課堂討論不再是主導的教學形式。一方面，教學安排被用來在學生之間製造差異。另一方面，自我導向被確立為區分標準。這是因為獨立學習的能力已被證明是一種重要資源，可以幫助教育工作者區分快速學習者和緩慢學習者。在個人化課程中，處理時間的標準會涵蓋特定學科的要求。
- 關於異質性，社會不平等的再現一直是現代學校數十年來面臨的主要挑戰之一。因此，由第一份 PISA 結果發布開始（OECD, 2021），德國學校體系顯而易見在加劇不平等方面一直高於國際平均水平。批評者認為，學校代表了一種特殊的資產階級機構，對社會經濟背景較低的兒童不利。這也顯示了諸如「制度歧視」(institutional discrimination)（Gomolla & Radtke, 2009）、與性別刻板印象相關的潛在課程以及基於社會文化差異對學生的歧視等問題。這些發現是長久以來傳統的一部分，其顯示學校作為重要機構的核心功能，它產生了根據社會環境建構的社會並使之合法

化。Bourdieu（1983）的文化資本概念強調了教育在社會定位中的重要角色。他區分了獲得教育的各種形式，例如制度化的學位、教育產品和特定的教育態度，並強調透過學校學位進行差異化的重要性。

- 然而，對差異的看法也產生於教師對學校學位的態度層面。然而，對差異的認知也產生於教師的態度層次（Budde, 2013）。例如，許多教師將種族或移民背景視為學業成績較低的信號。基於這些先天特徵，具有移民背景的學生常被視為外人，無法實現學校合理措施和表現的理想。同樣，對社會行為的評價也揭示出不同的態度。因此，男孩更有可能被認為是麻煩製造者，而女孩則更常被給予積極且符合課堂的歸因（Budde, Scholand & Faulstich-Wieland, 2008; Han, 2021）。另一方面，在融合教育中，相關專業人士（重新）建構有特殊教育需求和沒有特殊教育需求的學生之間的差異（Blasse et al., 2019）。教師如何教導 LGBTIQ 也受到傳統和刻板態度的影響（Kleiner, 2015; Shen, 2016）。

然而，不同類別並不是孤立存在的。它們是交織在一起的。交織性 (intersectionality) 的概念有助於從理論上捕捉各種差異類別的互動。自 20 世紀 80 年代以來，交織性一直被用來描述社會差異類別的重疊以及由此產生的定位。交織性由 Crenshaw（1989）引入美國女權運動，描述了重疊且相互關聯的歧視（特別是種族主義、階級主義和性別歧視）。例如，黑人女性和勞工階級女性與中產階級白人女性相比，經歷了不同的社會、性別和

法律排斥。交織性不僅被理解為一個理論概念，而且是一種「設計和進行研究的方式」（Agosto & Roland, 2018, p.279）。可以翻譯為交織點。這個名詞將交織隱喻的清晰性與開放概念的抽象性結合在一起。這種複雜性對教育實踐提出了挑戰，要求教育實踐能夠解決不同差異的頂點，但又不能將其具體化。

然而，學校的規範基礎也隨著異質性而改變。畢竟，現代學校有促進社會包容和減少不平等的規範性責任（Liu & Huang, 2022; Wu-Tien, 2007）。這些目標被寫入學校法律並透過支持計劃來實現。隨著《聯合國殘疾人權利公約》在全球範圍內的廣泛批准，對「各級融合教育體系」（聯合國，2006 年，第 24 條）的需求再次成為教育機構關注的焦點，存在以融合方式解決分歧的具有法律約束力的義務。在這種背景下，異質性不再（或至少不再排他地）被視為一個問題，而是越來越被視為一個機會。差異被積極地看待，並且越來越多地被視為一種生產資源。這種整體觀點被廣泛地稱為「異質性取向」(heterogeneity orientation)（Budde, 2015），可以說是民主社會現代學校教育的當前典範。就機會均等、認可文化或教育改革等而言，這開啟了新的可能性。然而，它也帶來了挑戰，可能會影響學校作為普遍主義機構的基礎。

第四章　學校表現規範作為社會差異條件下現代學校的中心參考點

很明顯，異質性是在課堂上建構的。擇優原則在塑造學校內

部的異質性方面發揮核心作用。本文著眼於潛在的社會差異秩序，教育工作者和教育系統試圖透過這種差異來規範學生的學業成績（和行為），並將其納入特定的規範秩序——以下稱為「表現規範」。與個人無關的同工同酬的功績承諾是現代學校制度合法化的基本支柱。這項功績原則承諾（據稱）「公平」(fair) 地納入功績體系，並使基於不同表現水平的差異合法化。

學生表現的差異造成了差異。在這方面，表現差異代表了學校的明確職能，因為它們服務於所謂的分配人員日期。換句話說，學校的任務是為學生進行職業生涯定位，並以不同的方式衡量他們的表現以實現這一目標。畢竟，學校不僅用於教育個人或促進社會融合；它們也為學生的社會和專業地位奠定了基礎。從理論上講，這完全是根據每個學生的個人（因此根本上是不同）的能力來完成的。因此，學校必須在其組織形式中並透過其組織形式產生表現差異，否則它們就無法履行其使命，即為功能分化的社會培養具有不同成功水平的畢業生。這種功績導向的體現是當前全球趨勢，透過制定標準、統一辦理的考試、學校排名、比較工作和類似措施，對能力採取統一的基準。學校成績評量的功能對於教學的組織和維持也至關重要。因此，學校表現規範對於理解學校規範過程具有關鍵作用。

---

2. 標準化和聚焦異質性是矛盾的，因為標準化提倡規範化。然而，促進比較的措施之所以變得必要，是因為假定的同質性不再被認為是理所當然和預期的。

與異質性一樣，表現應該被理解為一種結構。根據 Bernstein (1990）的觀點，表現的概念可以透過分析區分教學和規範論述來理論化。表現的產生是由特定學科的學習和教學行動共同推動的，因此學校表現可以被描述為行為和知識規則的綜合體（Kolbe, Reh, Fritzsche & Rabenstein, 2008）。這可以透過區分 a) 特定學科知識的活動、b) 知識相關行為和 c) 準備、與表現相關的例程來進行分析細化（Budde, Rißler, Blasse & Geßner, 2022）。「特定學科知識」是透過校本知識和非校本知識之間的協商而出現的（a）。這意味著在內容上，學校相關知識與學校無關知識被標示和區分。同樣，哪些與知識相關的行為被認為適合或不適合學校，是根據具體情況進行協商的（b）。這些協商行為在教育實踐中變得明顯，例如懲戒或讚美。與此不同的是「與表現相關的日常活動」，它代表一種必須完成的準備活動，以確保一個人做好執行的準備（c）。例如，這是指表明對課程或學習材料的準備的專注的特定身體姿勢。這三個面向都嵌入到表現的產生中，從而形成了知識和行為的綜合規定，共同構成了課堂表現規定。

教學的日益差異化和個別化促進了對表現的個別化理解。這導致「表現的轉變」(shift in performance)（Rabenstein, Idel & Ricken, 2015: 242; Ball, 2010），從而導致「預期、顯示和評量」的轉變（同上：254）。重點不再關注特定學科的知識，而是轉移到呈現：什麼可以被識別為表現，以及由誰來識別，從而變得分散和多元化。這樣，表現導向的社會的功績原則和承認多樣性的要求就形成了一種矛盾關係。

繼 Bernstein（1990）以及 Bourdieu & Passeron（1971）之後，本文的一個中心論點是，表現規範代表了學校異質性建構和不平等傳播的中央「控制開關」。表現規範因社會環境而有所不同，並以「適應問題」(problem of fit) 來顯現。然而，更重要的是隱含的行為期望和規則。學生的一致性與家庭的教育傾向以及在那裡獲得的學習和行為概念有關。來自受教育特權的中產階級背景的孩子被認為比來自所謂的教育弱勢家庭的孩子更善於識別表現規範。因此，學校作為資產階級機構，比那些來自社會弱勢背景的孩子更容易接受來自前一種環境的孩子。關鍵是學校透過其具體的表現規定直接參與了這種差異的建構。畢竟，此類規定絕不是中立的或普遍有效的；相反，他們偏愛具有較高一致性的學生。因此，基於表現的差異建構並非獨立於社會不平等，儘管正是由於假定的個人或自然（表現）差異，這種關係常被視為社會文化差異的合法基礎。這就是為什麼將表現與社會文化差異類別連結起來通常是隱性的。在這種情況下，性別、殘疾和階級等交織性的社會文化差異，以及嘗試意願、勤奮和興趣（被認為是個人人格特質）等表現導向的差異發揮著重要作用。

第五章　實證觀點：透過星星分組實現與表現相關的差異化

因此，在分析學校如何處理異質性時，差異性、普遍性和個體性之間的矛盾張力場具有特殊的意義。以下透過實證民族誌方法說明了這一點，特別關注所謂的融合教育中的表現規範。為了

理解學校中差異性、個體性和普遍性的關係如何產生和處理異質性，它著眼於在社會異質性背景下正在進行的教學研究中收集的人類學課堂觀察中的表現實踐經驗數據。分析的表現規則側重於特定學科的知識。與知識相關的行為在流程摘錄中扮演的角色很小，而與表現相關的常規則根本不扮演任何角色。

分析的材料來自德國北部一所綜合中學 (Gemeinschaftsschule) 八年級德語班的焦點課堂觀察。共有 24 名學生，其中 5 名有特殊教育需求。這堂課的主題是「將短篇故事摘要」。資料以紮根研究法 (Strauss & Corbin, 1996) 中的編碼方式進行分析，特別有趣，因為它展示了表現規範的差異是如何呈現。差異化表現要求的組織方式值得特別注意。在這裡，學校功績原則下可能期望的共同期望範圍被中止，取而代之的是多元表現規範，其中異質性經由不同的個體和普遍性表現活動來呈現。

5.1 差異相關的表現活動

實證資料中的表現規範可以立即識別。這些規範類似於 1980 年代以來德國公立改革學校常見的表現差異，反映了多層次中學系統的組織結構。

德語課程的摘錄說明了差異是如何產生的。學生完成針對不同表現水準的作業（寫短篇故事的摘要），作為內在差異化的形式。不同表現小組標有星號 (*)，在學校中被稱為「星星」(starrie)：

> 解釋完短篇故事的內容後，老師就佈置作業。學生先寫摘要，剩下的就是作業。Meier 女士在黑板上寫下了作業：

* = 形成段落並考慮標題；寫下重點
** = 與 * 相同，且另外寫一個簡介
Förderschüler = 對文字部分進行排序並貼上

[...] 課程結束時，Meier 老師再次宣佈作業，並祝同學們週末愉快。所有學生都收拾好東西，門打開，其他學生走進教室。這些是正在做 *** 任務的學生。

全班收到的家庭作業最初針對三個不同的群體，並用符號標示了對不同組的表現期望。「星星」這個淡化的詞彙暗示掩蓋了表現本位差異化的嚴肅性和相關性。一星組和二星組學生在同一個故事上被指派相同的作業，但二星組學生也必須寫一篇介紹。儘管兩組學生預期的技能類似——兩組都必須寫作——但寫作過程的範圍和複雜性存在差異。因此，「Förderschüler」（「特教學生」）在此用於表示第三組，需要按照教材實際的順序對文本各部分進行排序並貼在一起。這項任務不需要寫作技能，但理解和組織內容仍然很重要。一星組和二星組學生在量化排名中用星號進行象徵性標示，並根據每個學生的表現水平進行區分，而「特教學生」則通過不同的專有名詞進行標示。他們的特徵是沒有星星並且被賦予了特殊的地位。可以想像，我們也可以將他們細分為一星組、二星組和三星組，而沒有任何基於地位的語言差異。然而，這種區別是透過分別的身份認定來實現的，即學生是否需要特殊支持作為標籤，標示並鞏固了與那些不需要特殊教育支持身份的人的差異。同時，這種地位和差異與學生學業成績和實質成就掛勾。

課程結束時，當第四組，即真正的三星組學生進入房間時，這種差異出現了特殊的轉折。這個表現特別出色的小組與其他小組同時接受教學，但內容不同，地點也不同。這裡，內部分化伴隨著外在分化。與「融合性」(inclusive) 課堂中的典型觀察不同，「有特殊教育需求學生」在空間或教學上被排除在外——這在「有或沒有特殊教育需求兒童的融合教育」中經常發生，這裡（Budde, Blasse & Johannsen, 2016）－表現最好的小組學生被分開，其餘的學生則在一個空間固定的群體中分組。進一步觀察課堂情況發現，三星組學生不僅是以德語單獨授課，數學和英語也由不同老師單獨授課。這三門學科作業的星星分組整學期不變。老師與學生討論他們的安置，然後按照學校的說法，學生們個別「安置自己」(place themselves)。然而，特殊教育需求學生被排除在這種「自由選擇」和靈活性外，因為他們的地位是透過官方評量過程來確定的。在個別學校班級的層面上，這導致了再現傳統四級學校體系的穩定群體。

在隨後以複習作業為重點的德語課程流程中，學生表現的這種差異化順序在內容層面上變得顯而易見。在這裡，使用正確的技術語言成為一星組或二星組學生作業的決定性標準：

> Nele 大聲朗讀她的總結。閱讀後，其他學生會提出回饋意見和改進建議。Marie 認為她以「now form」(現在式) 寫作很好。Meier 老師問全班同學「現在式」叫什麼。Lukas 向全班同學喊道並說「現在式」。Meier 女士說，「一星組學生」可以回答「now form」，但「present tense」才是關鍵字。

Marie 對 Nele 總結的回饋被老師公開用來與全班討論差異化的語言期望。當 Marie 談論「now form」時，Lukas 在提示時插入了正確的名詞。 因此，學術語言要求因群體而異。雖然二星組學生學習目的是學術語言，但一星組學生卻擺脫了這些期望。即使沒有確切的學術名詞，這也創造了參與的機會。然而，同時，它鼓勵對表現預期的「向下」規範。引人注目的是，在家庭作業檢查過程中，沒有關注有特殊教育需求的學生。他們既沒有被要求展示作業，也沒有被告知哪種語言適合「他們的小組」。

除了學術語言上的差異外，四個表現小組在預期的獨立性方面也存在差異，如「總結短篇故事」作業所示：

> 分配作業後，首先在全體會議上討論一星組作業。對於一星組作業，Meier 老師非常仔細地說明課堂作業，非常詳細地描述相關任務。這大約需要 10 分鐘。
>
> 然後討論二星組作業。然而，Meier 女士只討論了一項任務。她說所有的任務都是不言自明的。
>
> 然後她轉向特殊教育需求的學生。他們的作品也是短篇故事，但他們的故事與一星組二星組不同。

在學生開始寫作之前，對一星組的作業進行了詳細討論。相較之下，二星組的任務被標示為「不言自明」，揭示了對語言能力和知識相關行為期望的不同期望。提供的幫助是有差別的。一

[3] 與其他情況下其他學生的質疑和教師的學科實踐相比，這種相同的質疑可以被分析為與知識相關的行為差異。

星組學生將獲得明確的支持和清晰的任務描述，並向他們詳細解釋任務。另一方面，二星組學生應該能夠獨立完成任務。沒有提供進一步的幫助，這使得他們的預期獨立程度成為關鍵的表現標準。創作同一個短篇故事的星星小組和被要求創作不同故事的「特殊教育需求學生」之間的差異始終保持不變。此外，這裡也清楚地再現了成績優異的學生的分離，因為三星組也沒有出現在測驗情境中；相反，他們在另一個房間參加考試。

分化成不同的群體也牢固地建立了差異，從而建構了異質性。使用不同的表現要求成為團體形成的核心特徵，同時鞏固了這些團體。正如對待特殊教育需求學生的方式，表現標準與其他類別的差異交織在一起，在課堂上建立了不同的表現系統。

5.2 個人表現活動

到目前為止，我們已經看到了多層學校系統在個別教室層面的再現，這並不令人驚訝，但又存在高度差異化。然而，所描述的課程包含一些個體性變得可見的序列。雖然由於特殊教育的標籤而將「特殊教育需求學生」作為一個群體，與三星組學生因在不同的房間而保持分離，但一星組和二星組學生之間存在單向波動走廊。換句話說，二星組學生不僅可以「自己選擇」每學期屬於哪個星星組，而且他們（明確地說只有這個組）也可以「自己選擇」在哪個組別他們想要完成課堂作業的難度：

> 現在老師說學生可以自己決定是否要寫二星組作業，或是要改寫一星組作業。無法從一星組班級作業切換

到二星組作業。

一名學生問坐在他旁邊的人是否也在做二星組作業。坐在他旁邊的人短暫地抬起肩膀，沒有發表任何評論。Nils 還問 Lukas 他正在做哪個分組測驗。Lukas 表示，他將在閒暇時閱讀該內容，然後做決定。

學生為自己分配任務。有五名補救學生；七名學生參與一星組作業，兩名學生做二星組作業。

想要的分組作業是一些學生之間的話題。這表明分組實際上被視為個人選擇，儘管這種自由自然是有限的。學生也可以事後改變他們的決定。因此，表現的順序並不是對每個人都通用的。相反，個人的選擇自由明確地融入課程。然而，這僅適用於二星組學生以及他們可以選擇切換到要求較低的一星組。這項措施為學生提供了切換到較低難度等級的機會，有助於防止失敗的經驗。同時，前面提到的降低水準又重複了：「不要冒太大的風險」或「不要做出過度徵稅的決定」是隱含的資訊。

5.3 普遍主義表現活動

普遍性方面成為實證分析中最大的挑戰，因為所研究的德語課，其共同參考點仍然不清楚。當然，其中存在一些創造共同的形式特徵，例如學生在同一時段以同一小組名稱（8a）撰寫課堂作業，擔任特定的角色（老師，學生），並有一個「共同課題」（故事）。然而，許多干擾破壞了這種公共取向，例如空間分離、學術和非學術語言使用之間的區別、不同的任務要求和自由。特

定學科的表現體系作為一種功績原則，通常被認為是為了滿足普遍主義的要求，但這種體系正在擴散。 因此，「學校的核心」變得去中心化——但這與其說是朝向對異質性的廣泛理解，不如說是社群的解散，有利於在學校最小的共同空間內運作。因為雖然預期學校的理論表現會啟動一個根本上普遍的參考系統，但實際的課程本身幾乎沒有提供辨識一般性和普遍性觀點的機會。

最後，從德語課堂作業的評量標準可以看出。有多種評量方案，每種評量方案都可見於德語作業最後。此觀點著重於與差異化尺度（差異）以及與對所有人都有效（普遍性）的等級形式的表現描述相關的個人表現（個體性）。

對於一星組學生，顯示了個人分數、該分數與可能的總分 55 分的關係以及最終成績（見圖 1）。

總共，您已達到 _____ 分（滿分 55 分）。
這對應於以下等級：

圖 1 一星組評價標準（文字記錄）

對於二星組學生，檔案另有顯示與評分標準和所達到的百分比相關的分數。結果顯示個人表現和整體成績範圍之間存在差異化關係（見圖 2）。最高分為 61 分。

4. 這種對表現的理解阻礙了差異化，最終產生了同質化效應（例如 Beutel & Beutel 2010 的貢獻）。從功績主義的意義上講，班級作業評量中使用的數字等級旨在表達表現評量的普遍性，因為它們將「同工同酬」的原則納入（看似客觀的）標準化尺度。

點數	*成績*	*點數*	*成績*
61-56	*1*	*55-51*	*1*
55-49	*2*	*50-45*	*2*
48-41	*3*	*44-37*	*3*
40-31	*4*	*36-28*	*4*
30-18	*5*	*27-17*	*5*
17-0	*6*	*16-0*	*6*

圖 2 二星組評定的評量標準（文字記錄）

三星組學生的數據在形式上與其他組別相同，但評分方案與二星組學生不同。這裡的最高分是 67。這裡也另呈現有閱讀和拼字困難學生的個別評量資訊，最高分為 57 分。

點數	*成績*	*點數*	*成績*
67-62	*1*	*57-52*	*1*
61-54	*2*	*51-46*	*2*
53-45	*3*	*45-38*	*3*
44-34	*4*	*37-29*	*4*
33-20	*5*	*28-17*	*5*
19-0	*6*	*16-0*	*6*

圖 3 三星組評定標準（文字記錄）

這裡可發現相當大的差異化，而不是運用一定範圍內的學術表現的通用評分原則，其同質化效應已被廣泛描述和批評。這裡使用了五個不同的評量網格，分別代表不同的邏輯並且不能直接相互關聯。 例如，總分 51 分代表最後可能取得分數是 1 分到 3 分之間。只有一星組學生才會沒有此參考訊息。課程沒有針對有特殊教育需求學生的評量規劃。此外，範圍因年級而異：例如，1 級為 6 分，2 級為 8 分，4 級為 11 分。同時，保持了分數等級的數值原則。

第六章 結論

從差異性、普遍性、個體性的對立張力場出發，異質性的處理在學校教育研究中日益凸顯。根據以上表現規範的例子，所呈現的分析可總結如下：在所描述的張力場中，基於表現的差異分類順序占主導地位。這種社會秩序再製了四層次學校體系，保持了「頂部」（三星組）和「底部」（「特殊教育需求學生 / “Förderschüler*innen」）間的不可滲透性，以及「中間者」(一星與兩星組) 的一定靈活性。在個體性方面，存在著關於學生知識處理相關行為的期望程度和個人權限的決策機會。然而，這在所分析的課程中意義不大，因本研究聚焦於群體的差異化。另一

[5] 根據「獨立性」的發現，不同的評量網格也與學生某種能力屬性相關：特殊教育需求學生不會收到其作業的網格，因此沒有評分取向，一星組學生沒有各項目的概述，而二星組和三星組學生則被非常清楚地告知哪種評量與多少分相關。

方面，本研究對於普遍性仍未定義且幾乎不見這部分。

整體而言，異質學校班級中的表現順序可以看出是按照個體性、差異性和普遍性的原則產生的。因此，差異化的順序和表現的順序緊密地交織在一起。從異質性理論的角度來看，差異性侵入了個體性與普遍性之間的傳統關係，因此大幅增加了表現規範——因此不平等也倍增。異質性不是一個絕對的先決條件（就學生的永久「特徵」而言），而是一個相關的、建構的網絡。融入一個群體可能與排斥另一群體同時發生。這並不是本分析範例中隱含的「潛在」(hidden) 效應，不是無意的教學附帶產品；相反，它透過對不同表現組的分類而系統地、明確地顯現出來。這不僅破壞了共同的社會導向，也破壞了共同的表現期望。

作為教育實踐的重要條件，異質性也是透過學科教學實踐來建構的。雖然目前更多關注異質性可以提供有效解決教學實踐問題的機會，但特別明顯的是透過表現規範達成的穩定性。然而，更重視學生異質性所提供的展望較少。相反，這種做法實際上可能會強化刻板印象。暫停當前表現的標準化概念似乎比透過擴大表現規範來分散標準化更為明智。當代中歐社會盛行的功績理念已顯示其實際適用性不僅有限，而且不適合處理異質性問題。

參考文獻

Ball, S. J. (2010). New class inequalities in education. International Journal of Sociology and Social Policy, 30 (3/4), 155-166.

Barad, K. M. (2007). Meeting the universe halfway: quantum physics and the entanglement of matter and meaning. Durham: Duke University Press.

Bernstein, B. B. (1990). The Structuring of Pedagogic Discourse. Class, codes and control Vol. 4. London: Routledge.

Bourdieu, P. & Passeron, J.-C. (1971). Die Illusion der Chancengleichheit: Untersuchungen zur Soziologie des Bildungswesens am Beispiel Frankreichs. Stuttgart: Klett.

Braidotti, R. (2019). A Theoretical Framework for the Critical Posthumanities. Theory, Culture & Society, 36 (6), 31-61.

Budde, J. (2012a). Die Rede von der Heterogenität in der Schulpädagogik. Diskursanalytische Perspektiven [63 Absätze]. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 13(2), Art. 16,, 13 (2), Art. 16.

Budde, J. (2012b). Problematisierende Perspektiven auf Heterogenität als ambivalentes Thema der Schul- und Unterrichtsforschung. Zeitschrift für Pädagogik, 58 (4), 522-540.

Budde, J. (2013). Diversity in teachers' assessment of pupils. Relationship between implicit and explicit knowledge. In A. Herbert & Kraus Anja (Hrsg.), Praxeology as a Challenge: Modelling the Tacit Dimensions of Pedagogy (S. 89-109). Münster: Waxmann.

Budde, J. (2015). Heterogenitätsorientierung: Zum problematischen Verhältnis von Heterogenität und soziale Ungleichheit im Unterricht. In J. Budde, N. Blasse, A. Bossen & G. Rißler (Hrsg.), Heterogenitätsforschung - Empirische und theoretische Perspektiven (S. 19-37). Weinheim: Beltz Juventa.

Budde, J., Blasse, N. & Johannsen, S. (2016). Praxistheoretische

Inklusionsforschung im Schulunterricht. Zeitschrift für Inklusion, 11 (4).

Budde, J., Rißler, G., Blasse, N. & Geßner, J. (2022). Leistungsordnung in inklusiven Unterrichtskonstellationen. In Y. Akbaba & L. Fuhrmann (Hrsg.), Schule zwischen Stagnation und Wandel (S. 221-253). Wiesbaden: Springer.

Budde, J., Scholand, B. & Faulstich-Wieland, H. (2008). Geschlechtergerechtigkeit in der Schule: Eine Studie zu Chancen, Blockaden und Perspektiven einer gender-sensiblen Schulkultur. Weinheim: Juventa.

Crenshaw, K. (1989). Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics. University of Chicago Legal Forum, 1, 139-167.

Fenstermaker, S. & West, C. (2001). Doing difference revisited: Probleme, Aussichten und der Dialog in der Geschlechterforschung. Kölner Zeitschrift für Soziologie und Sozialpsychologie (Sonderheft 41/ 2001 Geschlechtersoziologie), 236-249.

Gogolin, I. (2011). The Challenge of Super Diversity for Education in Europe. Education Inquiry, 2 (2), 239-249.

Han, T.-Y. (2021). Asymmetry of Non-traditional Gendered Decisions: Gender Beliefs and High School Curriculum Track Decisions in Taiwan. Gender Issues, 38 (1), 25-46.

Herbart, J. F. (1962 [1810]. Kleine Schriften zur Pädagogik. Bad Heilbrunn/Obb.: Klinkhardt.

Kleiner, B. (2015). subjekt.bildung.heteronormativität. Rekonstruktion schulischer Differenzerfahrungen lesbischer, schwuler, bisexueller

und trans*geschlechtlicher Jugendlicher. Leverkusen: Barbara Budrich.

Kolbe, F.-U., Reh, S., Fritzsche, B. & Rabenstein, K. (2008). Lernkultur: Überlegungen zu einer kulturwissenschaftlichen Grundlegung qualitativer Unterrichtsforschung. Zeitschrift für Erziehungswissenschaft, 12 (1), 125-143.

Liu, C. & Huang, Y. (2022). A Comparative Observation of Inclusive Education in Four Primary Schools in Taiwan. The Asia-Pacific Education Researcher, 31 (3), 227-242.

Norwich, B. (2008). Dilemmas of difference, inclusion and disability: international perspectives and future directions (1. publ). London: Routledge.

Rabenstein, K., Idel, T.-S. & Ricken, N. (2015). Zur Verschiebung von Leistung im individualisierten Unterricht. Empirische und theoretische Befunde ethnographischer Beobachtungen. In J. Budde, N. Blasse, A. Bossen & G. Rißler (Hrsg.), Heterogenitätsforschung - Empirische und theoretische Perspektiven (S. 234-251). Weinheim: Beltz Juventa.

Shen, L. F. (2016). Gender and Sexuality in Taiwan Schools. In G. W. Noblit (Hrsg.), Oxford research encyclopedia of education. Oxford: Oxford University Press.

Strauss, A. & Corbin, J. (1996). Grounded Theory: Grundlagen Qualitativer Forschung. Weinheim: Psychologie Verlags Union.

Tillmann, K.-J. (2008). Die homogene Lerngruppe - oder: System jagt Fiktion. In H.-U. Otto & T. Rauschenbach (Hrsg.), Die andere Seite der Bildung: Zum Verhältnis von formellen und informellen Bildungsprozessen (S. 33-39) (2. Auflage.). Wiesbaden: VS Verlag

für Sozialwiss.

Trapp, E. C. (1977). Versuch einer Pädagogik (1. Auflage). Paderborn: Schöningh.

United Nation (2006). Convention on the Rights of Persons with Disabilities. Verfügbar unter: https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf.

Wu-Tien, W. (2007). Inclusive Education in Taiwan. Chinese Education & Society, 40 (4), 76-96.

芬蘭師資培育國家目標的設計與實施：2016 年到 2022 年

Dr. Jari Lavonen
University of Helsinki, Finland

2016 年 2 月，教育文化部成立了「芬蘭師資培育論壇」，以制定國家師資培育策略，即「芬蘭教師職前和在職教育發展計畫」（the Finnish Development Programme for Teachers' Pre- and In-service Education, TEDP）。該論壇的任務是確定改善師資培育的關鍵能力和行動，並透過補助試辦計畫和組織工作坊和研討會來支持實施。

從傳達國家的師資培育目標的觀點來看，TEDP 類似於教師專業標準、教師標準和師資培育標準。他們都強調師資培育品質和教師專業化的提升（Panda, 2019）。在芬蘭地方分權的教育體系中，教師在大學接受教育，大學在規劃師資培育計畫方面擁有高度自主權。學生教師或教師沒有認證機制或省級的評估。因此，由自主大學來實施國家層級策略具有挑戰性。本章重點在於此一試辦計畫的成果和特點，以及他們如何引導師資培育工作者進行與新策略目標相關的地方層級發展工作和專業學習。

TEDP 與各種專業和教師標準一樣，傳達了提高師資培育品質和專業精神的國家目標（Panda, 2019）。在芬蘭的分權體制下，大學自主設計師資培育課程，無需國家認證或評估，這給國家層級策略的實施帶來了挑戰。

本章分析了 TEDP 的規劃過程、透過試辦計畫實施 TEDP 及其對地方層級發展和師資培育工作者專業學習的影響。但我們將首先對相關策略含實施的師資培育背景和理論背景進行分析。師資培育策略的實施和採用在這裡被視為師資培育者的專業學習（Nonaka et al., 2006; Maier & Schmidt, 2015）。

師資培育策略規劃與實施研究

實施像 TEDP 這樣的國家師資培育策略具有挑戰性（Russel & Martin, 2010）。透過與策略一致的績效評估或認證來評估即將畢業的教師是很常見的（Call, 2018）。然而，師資培育工作者透過專業學習採用此策略常常被忽略（Bourke et al., 2018）。研究人員建議將協作專案、活動或實踐社群作為有效的實施方法（Kitchen & Figg, 2011；Patton & Parker, 2017）。這種合作促進師資培育者、利害關係人和學校之間的對話，有助於了解必要的教師能力（Révai, 2018）。文獻分析中描述和討論了策略工作的特點，包括實施的部分，如 Darling-Hammond（1999）強調師資培育工作者參與師資培育政策目標的規劃和實施（參見 Pedaste et al., 2019）。

在內在學習慾望的驅動下，師資培育工作者通常與同事和實習教師一起參與正式和非正式的學習（Ping et al., 2020）。Czerniawski 等（Czerniawski et al., 2018）發現，在歐洲，師資培育工作者重視研究活動、個人閱讀、非正式討論和發展教學法的機會。Ping 等（Ping et al., 2020）顯示，師資培育工作者更喜歡

透過學術研究、傳統學術活動、協作努力、專業發展計畫和反思實踐來學習。透過解決現實生活中的問題進行情境學習也至關重要，因為它強調了專業知識的特定情境性質（Rasku-Puttonen et al., 2004）。更詳細地說，支持專業學習的活動通常是有情境背景的，涉及師資培育工作者之間的正式和非正式合作（Ping et al., 2020; Czerniawski et al., 2018 ）。這些活動涉及與同事一起計劃、工作和反思。師資培育者透過設定目標、自我評估和反思來積極規範自己的學習。協作增強了他們對教學和學習的理解（Luft & Hewson, 2014；Kitchen & Figg, 2011）。合作期間的反思促進了從經驗中分享學習（Hiebert et al., 2002）。Garet 等 (Garet et al., 2001) 強調專業學習應與計畫目標保持一致並與當地情況保持一致。研究計畫或發展課程等正式活動都是目標導向的，旨在取得具體成果。

芬蘭教育背景

自 1990 年代以來，芬蘭地方分權教育體系的品質是透過長期規劃和逐步變革得到提升。此外，在課程架構和教育策略等國家指導方針的設計中也強調了合作（Holappa, 2007）。芬蘭教師品質關注中小學校層級、文化和政策等因素，而不僅僅是個人能力（Müller et al., 2010）。

芬蘭小學師資培育課程設置在碩士層級已有 45 年歷史，中學部分更已有 100 多年歷史。碩士論文有助於連結理論和實踐，加強教學和課程規劃。芬蘭師資培育工作者必須擁有博士學位，

並將一半的工時用於研究（Eklund, 2018）。

芬蘭教師職前與在職教育發展計畫（TEDP）

芬蘭政府（2016-2020 年）啟動了 TEDP，作為其教育關鍵行動的一部分（MEC, 2016）。 TEDP 由大學、MEC 和合作夥伴協會的 70 名專家設計，TEDP 旨在協作規劃和實施，類似於愛沙尼亞的作法（Pedaste et al., 2019）。在該計畫實施的第一年，對師資培育研究進行了分析，並舉行了全國腦力激盪會議以及多個地區性和全國性會議（Lavonen et al., 2020）。 TEDP 為教師的職前和在職教育以及專業學習制定了三個策略能力目標，適用於從幼兒期到高中的所有教師級別（Torrance & Forde, 2017）。根據 TEDP 的說法，芬蘭教師應該：

1.「擁有專業知識基礎，例如對主題和教學法的深入了解；關於學習者的學習、參與和多樣性的知識；協作和互動以及數位和研究技能；
2. 能夠在建構當地課程和規劃包容性教育時產生新穎的想法和教育創新；
3. 具有專業學習以及學校運作和環境方面發展所需的意願和能力」（Lavonen et al., 2020）。

此外，TEDP 還引入了六項策略行動指南，其中強調了教師能力累積發展的合作等。培訓課程和教學實踐應根據研究成果進行規劃，實習教師也應學習研究技能（Lavonen et al., 2020）。

TEDP 是透過 2017 年至 2020 年以研究為導向的試辦計畫、國家層級研討會、工作坊和地方會議實施的，資金為 2700 萬歐元（MEC, 2016）。第一次徵集提案於 2016 年底，第二次徵集於 2017 年，重點關注 TEDP 的目標、職前和在職師資培育合作以及研究導向。試辦計畫主管和專家小組成員每季舉行一次會議，介紹專案進度並分享回饋。每所大學至少協調一個試辦計畫，其中兩所應用科技大學負責兩個計畫。456 個的城市中最終有 129 個成為合作夥伴參與此一計畫。因此，試辦計畫在策略目標背景下，將個人學習與共同實踐和協作學習連結起來。

TEDP 實施評估

試辦計畫負責人和參與者被要求透過調查來評估試辦計畫的特點，包括開放式和封閉式問題（詳細資訊見 Lavonen et al., 2021）。問卷根據試辦計畫的內容和師資培育工作者專業學習相關文獻回顧，於 2018 年春季設計的。首先，李克特型工具（1 = TEDP 的目標根本沒有實現…4 = 目標已經很好地實現）要求試辦計畫領導者評估 TEDP 的目標在具體情況下的實現情況試辦計畫已取得階段性成果。總共有 24 個不同的目標可供評估，但受訪者被要求僅評估與試辦計畫相關的目標。第二組問題要求試辦計畫負責人和計畫參與者評估試辦計畫中的活動特點如何支持使用李克特量表工具實現 TEDP 目標（1 = 完全不成功…4 = 非常成功地支持師資培育者達成 TEDP 目標）。這些項目是根據師資培育工作者專業學習的文獻綜述而設計的。開放式問題引導計畫

負責人分析計畫目標以及計畫活動如何支持師資培育工作者實現 TEDP 目標或支持師資培育工作者的專業學習。

本研究的資料蒐集是在 2018 年夏季。因此，資料蒐集是在 TEDP 發布和試辦計畫啟動後的一年半進行的。與開放回答相關的數據總共有 125 頁，即 36,267 個單字。使用理論導向的內容分析對開放回答進行了分析。此方法根據共享意義將單位分類（Elo & Kyngäs, 2008）。主要類別源自師資培育者專業學習的研究，重點在於目標導向、主動和協作的學習過程以及評估和反思。該分析還考慮了實際教育脈絡和支持學習的研究導向，並強調地方和中央合作。定義主要類別後，進行了前導編碼過程以進行細化。總共辨識出 2097 個編碼單元，其中有些句子與專業學習無關。然後根據專案負責人的回答將這些單元分為 20 個子類別（Schwarz, 2015）。

根據問卷調查數據，認為實施是透過師資培育工作者的專業學習來實現的。試辦計畫負責人評估了他們的計畫實現 TEDP 目標的程度。他們發現 24 個目標中有 20 個目標實現得很好，四分制的平均數超過 2.5。這些計畫在培養教學能力方面取得了重大進展；提升實習教師的研究技能；產生教學想法；選擇學生接受師資培育；促進協作和關係網絡；支持以學生為中心的方法；和改善學習環境。

計畫負責人對計畫的研究導向和互動性質給予正面評價（平均數超過 3 分）。與師資培育結構、課程描述、數位工具和教學領導相關的四個目標被評為 2 至 2.5 之間的「僅令人滿意」。總

體而言，這些計畫有效地支持了 TEDP 的目標和師資培育工作者的學習。表 1 總結了計畫負責人（N=31）和合夥人（N=500-670）對專案特點的評估。

表 1. 合作夥伴 (N=500–670) 和計畫負責人 (N=31) 對試辦計畫活動特點的評估。

支持實現 TEDP 目標的試辦計畫活動的特點 專案成員之間進行了互動	夥伴		計畫負責人			
	M	*S.D.*	*M*	*S.D.*	*U*	*p*
我們一直在合作	3.52	.73	3.72	.46	9973	.231
合作夥伴之前的知識和技能已被考慮在內	3.46	.75	3.72	.46	9336	.081
我們的工作以研究為基礎	3.35	.83	3.33	.71	9709	.581
我們一直在真實的情況下工作	3.29	.87	3.78	.42	7335	.001
合作夥伴積極參與試辦計畫	3.17	.94	3.17	.89	9178	.879
合作夥伴一直在自己的機構中建立聯繫	3.08	.95	3.31	.73	9541	.269
指導夥伴反思試辦計畫期間的學習狀況	2.96	1.07	3.23	.72	8553	.360
合作夥伴與專家交流	2.95	.98	3.21	.68	7563	.286
合作夥伴一直在積極評估進展	2.86	1.03	2.92	.71	9112	.964
合作夥伴積極設定目標	2.36	1.18	3.03	0.82	5707	.002
支持實現 TEDP 目標的試辦計畫活動的特點	2.23	1.28	3.19	0.79	4648	0.00

對於第三種觀點，考慮到支持實施的試辦計畫活動的特點，我們使用上面介紹的主要類別分析了計畫負責人 (NDirector = 31) 對五個開放問題的回答，如前所述。表 2 列出了歸納編碼中確定的子類別及其頻率。

表 2. 試辦計畫負責人 (NDirector = 31) 答案歸納編碼中使用的子類別和原始答案範例 (TE = 師資培育者)

主類別	子類別	*f*
目標導向	- 設定試辦計畫目標	84
	- 按照最初目標取得進展	53
	- 根據新目標取得進展	19
積極工作與學習	- 積極的共同規劃	73
	- 主動學習	93
	- 會議參與	40
協同合作	- 國際協同合作	53
	- 國家層級協同合作	90
	- 地方層級協同合作	40
	- 透過數位工具進行協作	153
反思	- 自我評價	12
	- 反思	8
	- 基於數據的反思	32
	- 優質工作	2
脈絡化	- 設計結果	165
	- 設計學習材料	35
	- 設計課程	31
研究導向	- 澄清需求	48
	- 研究本位的設計	128
	- 國際研究合作	19

討論

本章探討了試辦計畫的特點以及它們如何支持 TEDP 的目標和師資培育工作者的專業學習，因為該策略的實施是透過專業學習和實踐來實現的，也正是 Bourke et al. (2018)、Nonaka et al.,（2006）以及 Maier & Schmidt（2015）持有的觀點。一般來說，實施師資培育策略並讓師資培育工作者參與此過程具有挑戰性

（Beach et al., 2014 ; Révai, 2018 ）。然而，根據試辦計畫負責人報告，24 個 TEDP 目標中有 20 個目標達成得很好或非常好，在互動、研究本位的活動和策略行動方面獲得了高分。然而，將成果應用於師資培育課程方面存在挑戰，由於仍在實施初期階段，三個目標僅被評為令人滿意。

計畫負責人和合作夥伴認為，試辦計畫的 11 個特點中有 8 個非常有利於實現 TEDP 目標，在 1-4 等第中平均數超過 2.9（表 2）。這項工作被視為是有背景的，以基於研究、互動和反思的實踐為指導，與專業學習的建議保持一致（Rasku-Puttonen et al., 2004 ; Czerniawski et al., 2018 ）。兩個小組就研究導向和關係網絡方面達成了一致，儘管計畫負責人對這些的評價高於合作夥伴。這些試辦計畫因其實際應用和成功實現 TEDP 目標而受到讚揚。整體而言，試辦計畫的特點支持師資培育工作者學習和實施新實踐，平均數評估在 2.9 至 3.8 之間（Czerniawski et al., 2018 ; Kitchen & Figg, 2011 ）。試辦計畫中專業學習的兩個關鍵支援特點被合作夥伴評為滿意（平均數 2.2 至 2.4）。合作夥伴感到被排除在設定專案目標和評估進度之外，強調需要更好地參與未來的專案。

表 2 顯示，試辦計畫領導者經常提到在國家層級（90 次）、國際層級（53 次）和地方層級（40 次）的合作（336 次），特別是透過數位工具（153 次）、社群媒體、學習管理系統和協作數位媒體 (61 次) 比傳統電子郵件 (11 次) 更受歡迎。各計畫負責人和合作夥伴一致認為該方案具有互動性和協作性（平均數 >3，表

1）。各計畫負責人透過模型設計 (165 次)、學習材料 (35 次) 和專案更新 (31 次) 強調情境化 (231 次)，合作夥伴也認為這至關重要。研究導向（128 次）、主動學習（93 次）、共同規劃（73 次）和參與（40 次）是各計畫負責人和合夥人的重要特點。領導者討論了設定或重置目標 156 次，但合作夥伴感到被排除在這個過程之外。合作夥伴也報告說，他們對自我評估的參與度較低，這與領導者很少提及自我評估（12 次）一致。儘管如此，調查顯示，對學習的反思得到了充分支持。這反映了與 Czerniawski 等（Czerniawski et al., 2018）和 Ping 等（Ping et al., 2020）類似發現，他們強調透過協作活動和反思實踐進行學習。

計畫負責人認為研究導向是試辦計畫的重大成功，而合作夥伴則認為研究導向一般。Czerniawski 等（Czerniawski et al., 2018）和 Ping 等（Ping et al., 2020）也發現，研究參與對於師資培育工作者的專業學習至關重要。研究和會議等傳統學術活動支持這種學習（Cao et al., 2021；Diery et al., 2020）。調查和公開答案表明，TEPD 試辦計畫為師資培育工作者的自主學習和策略合作提供了支持性環境（Kitchen & Figg, 2011）。大學之間以及與教育利害關係人的有效合作支持專業發展（Maier & Schmidt, 2015）。然而，與計畫負責人不同，專案合作夥伴感到被排除在目標設定和進度評估之外。未來的計畫應強調聯合目標設定和評估，以獲得更好的專業學習成果。

我們可以歸納出，支持師資培育工作者的專業學習，而不是使用管控措施，對於實施 TEDP 是有效的，特別是在地方分權的

教育系統中。權力下放允許地方的合作和調適，但也為策略實施帶來了挑戰。我們的研究表明，TEDP 的方法——透過中央和地方層級會議並補助試辦計畫——支持師資培育工作者的專業學習。然而，我們的研究結果僅限於計畫負責人的自我評估，還需要對學習成果和計畫變化進行進一步的研究。這項研究強調了在地方分權的教育系統中讓師資培育工作者參與專業學習的重要性。

在制定國家師資培育策略的過程中，我們發現凝聚共識需要時間和龐大的專家小組。我們的策略涵蓋來自所有大學的 70 名專家，並納入各種利害關係人，包括教育機構和教師工會（Lavonen et al., 2020）。根據我們的實施經驗，我們建議如下：

- 讓教育機構等利害關係人參與策略的實施。
- 提供永續資源並補助試辦計畫。 2017 年至 2019 年，我們為 45 個計畫提供了 2,700 萬歐元的資助。
- 組織以研究導向的試辦計畫，以支持專業學習、協作和成果推廣。關鍵要素包括目標導向、主動學習和反思（見表 1）。
- 鼓勵大學和教育機構參與的大型合作提案。我們的方案包括所有大學和 25% 的城市。

我們的方法符合 OECD 的建議（Burns & Köster, 2016），並透過合作和國家層級會議支持持續的品質保證。試辦對於師資培育工作者的專業學習和策略推廣至關重要（Kitchen & Figg, 2011; Maier & Schmidt, 2015）。

參考文獻

Beach, D., Bagley, C., Eriksson, A., & Player-Koro, C. (2016). Changing teacher education in Sweden: Using meta-ethnographic analysis to understand and describe policy making and educational changes. *Teaching and Teacher Education, 44*, 160–167. https://doi.org/10.1016/j.tate.2014.08.011

Bourke, T., Ryan, M., & Ould, P. (2018). How do teacher educators use professional standards in their practice? *Teaching and Teacher Education, 75*, 83–92. https://doi.org/10.1016/j.tate.2018.06.005.

Burns, T., & Köster, F. (Eds.) (2016). *Governing education in a complex world: Educational Research and Innovation*. OECD Publishing. http://dx.doi.org/10.1787/9789264255364-en

Call, K. (2018). Professional teaching standards: A comparative analysis of their history, implementation and efficacy. *Australian Journal of Teacher Education, 43*(3). http://dx.doi.org/10.14221/ajte.2018v43n3.6

Cao, Y., Postareff, L., Lindblom-Ylänne, S., & Toom, A. (2021). A survey research on Finnish teacher educators' research-teaching integration and its relationship with their approaches to teaching. *European Journal of Teacher Education*. https://doi.org/10.1080/02619768.2021.1900111

Czerniawski, G., Gray, D., MacPhail, A., Bain, Y., Conway, P., & Guberman, A. (2018). The professional learning needs and priorities of higher-education-based teacher educators in England, Ireland and Scotland. *Journal of Education for Teaching, 44*(2), 133–148. https://doi.org/10.1080/02607476.2017.1422590

Darling-Hammond, L. (1999) Reshaping teaching policy, preparation and practice: Influences on the National Board for Teaching Professional Standards. AACTE Publications. https://files.eric.ed.gov/fulltext/ED432570.pdf

Diery, A, Vogel, F., Knogler, M., & Seidel, T. (2020). Evidence-based practice in higher education: Teacher educators' attitudes, challenges, and uses. *Frontiers in Education, 5*. https://doi.org/10.3389/feduc.2020.00062

Eklund, G. (2018). Master's thesis as part of research-based teacher education: A Finnish case. *Journal of Teacher Education and Educators, 8*(1), 5–20.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing, 62*(1), 107–115. http://dx.doi.org/10.1111/j.1365-2648.2007.04569.x

Garet. M., Porter. A., Desimone, L., Birman, B. &Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Education Research Journal, 38*(4), 915–945. https://doi.org/10.3102/00028312038004915

Hiebert, J., Gallimore, R., & Stigler, J. (2002). A knowledge base for the teaching profession: What would it look like and how can we get one? *Educational Researcher, 31*(5), 3–15. https://doi.org/10.3102/0013189X031005003

Holappa, A.-S. (2007). *Perusopetuksen opetussuunnitelma 2000-luvulla – Uudistus paikallisina prosesseina kahdessa kaupungissa* [*The renewal of the basic education curriculum: Case study in two cities*]. Acta Universitatis Ouluensis. Series E 94. Oulun yliopisto. Kasvatustieteiden tiedekunta.

Kitchen, J., & Figg, C. (2011). Establishing and sustaining teacher educator professional development in a self-study community of practice: Pre-tenure teacher educators developing professionally. *Teaching and Teacher Education, 27*(5), 880–890. https://doi.org/10.1016/j.tate.2011.02.003

Lavonen, J., Mahlamäki-kultanen, S., Vahtıvuori-Hännınen, S., & Mikkola, A. (2020). A collaborative design for a Finnish teacher education development programme. *Journal of Teacher Education and Educators, 9*(2), 241–262. https://dergipark.org.tr/en/pub/jtee/issue/56618/728673

Lavonen, J., Mahlamäki-kultanen, S., Vahtıvuori-Hännınen, S., & Mikkola, A. (2021). Implementation of a National Teacher Education Strategy in Finland through Pilot Projects. *Australian Journal of Teacher Education, 46*(10), 21 – 42. https://doi.org/10.14221/ajte.2021v46n10.2

Loughran, J. (2014). Professionally developing as a teacher educator. *Journal of Teacher Education, 65*(4), 271–283. https://doi.10.1177/0022487114533386

Luft, J. A., & Hewson, P. W. (2014). Research on teacher professional development programs in science. In S. K. Abell & N. Lederman (Eds.), *Handbook of research in science education* (2nd ed., pp. 889–909). Taylor and Francis.

Maier, R., & Schmidt, A. (2015). Explaining organizational knowledge creation with a knowledge maturing model. *Knowledge Management Research & Practice, 13*(4), 361–381. https://doi.org/10.1057/kmrp.2013.56.

Ministry of Education and Culture (MEC). (2016). *Opettajankoulutuksen*

kehittämisohjelma [Development Programme for Teachers' Pre- and In-service Education]. https://minedu.fi/artikkeli/-/asset_publisher/opettajankoulutuksen-kehittamisohjelma-julkistettiin-opettajien-osaamista-kehitettava-suunnitelmallisesti-lapi-tyouran

Müller, J., Norrie. C., Hernández. F., & Goodson. I. (2010). Restructuring teachers' work-lives and knowledge in England and Spain. *Compare, 40*(3), 265–277. http://dx.doi.org/10.1080/03057920902830061

Nonaka. I., von Krogh, G., & Voelpel, S. (2006). Organizational knowledge creation theory: Evolutionary paths and future advances. *Organization Studies, 27*(8), 1179–1208. https://doi.10.1177/0170840606066312

Panda, P. (2019). International perspectives on standards and benchmarking in teacher education. *Oxford Research Encyclopedia of Education.* https://doi.org/10.1093/acrefore/9780190264093.013.497

Patton, K., & Parker, M. (2017). Teacher education communities of practice: More than a culture of collaboration. *Teaching and Teacher Education 67*, 351–360. https://doi.org/10.1016/j.tate.2017.06.013

Pedaste, M., Leijen, Ä., Poom-Valickis, K., & Eisenschmidt, E. (2019). Teacher professional standards to support teacher quality and learning in Estonia. *European Journal of Education, Research, Development and Policy, 54*, 389– 399. https://doi.org/10.1111/ejed.12346

Ping, C., Schellings, G., Beijaard, D., & Ye, J. (2020). Teacher educators' professional learning: perceptions of Dutch and Chinese teacher educators. *Asia-Pacific Journal of Teacher Education*. http://dx.doi.org/10.1080/1359866X.2020.1725808

Rasku-Puttonen, H., Eteläpelto, A., Lehtonen, O., Nummila, L., & Häkkinen, P. (2004). Developing teachers' professional expertise

through collaboration in an innovative ICT-based learning environment. *European Journal of Teacher Education, 27*(1), 47–60. https://doi.org/10.1080/0261976042000211829

Révai, N. (2018). What difference do standards make to educating teachers? A review with case studies on Australia, Estonia and Singapore. OECD Education Working Paper No. 174. OECD. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2018)10&docLanguage=En

Russel, T., & Martin, A. K. (2010). Learning to teach science. In S. K. Abell. & N. G. Lederman (Eds.), *Handbook of research on science education* (pp. 1174–1175). Routledge.

Schwarz, B. (2015). A study on professional competence of future teacher students as an example of a study using qualitative content analysis. In A. Bikner-Ahsbahs, C. Knipping & N. Presmeg (Eds.), *Qualitative research in mathematics education* (pp. 381–399). Springer.

Torrance, D., & Forde, C. (2017). Redefining what it means to be a teacher through professional standards: Implications for continuing teacher education. *European Journal of Teacher Education, 40*(1), 110–126. https://doi.org/10.1080/02619768.2016.1246527

Williams, J. (2014). Teacher educator professional learning in the third space: Implications for identity and practice. *Journal of Teacher Education, 65*(4) 315–326. https://doi.10.1177/0022487114533128

Young, J. C., Hall. C., & Clarke, A. (2007). Challenges to university autonomy in initial teacher education programmes: The cases of England, Manitoba, and British Columbia. *Teaching and Teacher Education, 23*, 81–93. https://doi.https://doi.org/10.1016/j.tate.2006.04.008

在多模態世界中蓬勃發展：多元識讀在賦予每個孩子權力的重要角色

Dr. Alexius Chia Ti Yong
Nanyang Technological University, Singapore

黃昆輝教授教育基金會董事長黃昆輝教授，各位主辦單位委員，各位會議發表人及與會者，女士們，先生們。

我深感榮幸和感激，能夠在此一知名的會議上受邀發表演說並與大家分享我的想法。感謝各位的熱情和慷慨。

緒論

我的演講主題為「在多模態世界中蓬勃發展：多元識讀在增強每個孩子權能中的重要角色」。因應大會主題「因材施教，成就每個孩子 -- 台灣優質教育的願景與對策 」，我很榮幸今天在這裡討論一個在教育中變得越來越重要的主題：多元識讀和多模態世界以及他們如何影響 21 世紀教學和學習。

我們生活在一個深刻變革的時代，這世界在很大程度上是由科技進步所推動的。我們與世界溝通、學習、玩耍和互動的方式正在迅速演變。身為教育工作者，我們有責任讓學生為這種動態的環境做好準備。但我們該怎麼做呢？如何確保學生有能力在一個與我們多數人成長的世界截然不同的世界中茁壯成長？

部分答案在於多元識讀能力的概念。讀寫能力不再侷限於在書頁上閱讀和書寫的能力（Cope & Kalantzis, 2005）。現今的讀寫能力涵蓋了廣泛的技能和能力，包括透過多種模式來理解、創造和溝通的能力——無論是語言、視覺、空間、手勢或聽覺模式（Anstey & Bull, 2018; Chia & Chan, 2017）。這種對識讀能力的廣泛理解就是我們所說的多元識讀能力，它對於賦予每個孩子在 21 世紀取得成功至關重要。

在本次演講中，我將解釋多元識讀和多模態的概念，探討它們對教育的影響，並提供將這些想法融入我們的教學實踐的實用策略。在這個過程中，我也會考慮 Z 世代和 2010 年後出生的 Alpha 世代學習者的獨特特徵，以及我們如何調整我們的教育方法來符合他們的需求。

理解多元識讀與多模態

讓我們先定義兩個關鍵概念：多元識讀和多模態。

「多元識讀」(multiliteracies) 一詞是由新倫敦小組 (New London Group) 於 1996 年引入的，該小組的學者們認識到傳統的讀寫能力概念在快速變化的世界中已不再足夠。他們認為，讀寫能力 (literacy) 不應只包括閱讀和書寫印刷文本的能力。相反，讀寫能力應該包括參與各種溝通形式的能力——融合不同語言、文化背景和多種溝通模式的文本。 Freebody 與 Luke (1990) 將多元識讀定義為：

透過口語、印刷品和多媒體，靈活、永續地掌握傳統和新通訊科技文本的一系列實踐。

讓我為您進一步解釋這個定義。

- 靈活彈性：積極且策略性地回應不斷變化的讀寫能力
- 持續精熟：能夠維持精熟，也就是具有重新表述當前知識，或獲取和學習新讀寫實務 (literate practices) 的能力
- 實務技能掌握：擁有一系列知識、技能和策略，以便在適當的時候使用
- 傳統通訊科技：能夠使用傳統通訊技術：紙本和現場（面對面的交流）
- 新的通訊科技：能夠使用新的通訊技術：數位電子（使用多種模式，通常同時使用）

(Freebody & Luke, 1990)

多元識讀的概念包括：

- 多模態識讀：理解和使用多種溝通模式，例如文字、圖像、聲音和手勢。
- 多語言識讀：用多種語言和方言溝通的能力。
- 多元文化素養：理解和應對不同的文化背景和觀點。
- 批判素養：分析和批判溝通中的權力關係和社會不平等。
- 數位素養：能駕馭數位環境中並創造意義。。

(Stordy, 2015)

在當今的數位時代，多元識讀的概念不僅具有相關性，而且至關重要。我們的溝通方式已經遠遠超越了傳統的印刷方式。我們現在使用的文字融合了文字、圖像、聲音和手勢，創造了豐富的多模態體驗。無論是應對多語言環境、解釋文化差異或批判性地分析數位內容，這些多樣化的溝通形式都要求我們運用一套複雜的識讀能力。從創建多媒體演示到理解迷因 (meme) 的文化脈絡或批判性地評估社群媒體上的資訊，當今所需的識讀能力是廣泛且相互關聯的。這種轉變要求我們作為教育工作者拓展識讀教學方法，確保我們的學生有能力在一個溝通充滿活力、多樣化和多面向的世界中茁壯成長。

這給我們帶來了「多模態」的概念。多模態是指使用多種模式或管道進行溝通。在多模態文本中，不同的模式（例如文字、圖像、聲音和手勢）共同創造意義。例如，新聞網站可能會將書面文章與影片、資訊圖表和超連結結合起來來傳達訊息。這些元素中的每一個都增加了一層意義，而理解訊息需要具備將所有這些元素結合起來解釋的能力。

多模態世界的轉變對教育有深遠的影響。如果我們繼續只專注於傳統的讀寫技能，我們的學生有可能無法滿足現代生活的需求。我們需要擴大我們的教學方法，將多模態文本納入其中，並教導學生如何有效地創建和解釋這些文本（Anstey & Bull, 2018; Chia & Chan, 2017）。

多模態對學習的影響

現在我們對多元識讀和多模態有了更清晰的了解，讓我們探討它們對學習的影響。當我們將多種模式融入教學時，我們吸引了不同程度的學生——有些人可能會說，我們正在讓學習變得更有意義，並且對於可能以不同方式學習的學習者來說更容易理解。

首先，多模態增強參與度。傳統的教學方法嚴重依賴文本材料，有時無法吸引學生的注意力。然而，當我們結合使用文字、圖像、影片和互動元素時，我們創造了更動態的學習體驗。例如，關於太陽系的課程不僅包括書面描述，還包括影片、圖表和互動式模擬，可能會更吸引學生。這種多模態方法有助於保持學生的興趣並激勵他們學習。

其次，多式聯運促進可達性。並非所有學生都以相同的方式學習。有些人可能在閱讀方面遇到困難，但在視覺或聽覺處理方面表現出色。透過整合多種溝通模式，我們可以讓更廣泛的學習者（包括殘障人士或不同學習偏好的學習者）更容易存取內容。例如，如果學生發現僅透過文字很難理解複雜的科學概念，那麼透過視訊演示或動手實驗可能會更容易掌握它。

第三，參與多模態文本有助於培養批判性思考能力。多模態文字很複雜；它們要求學生分析不同的模式如何協同工作來傳達意義。這種分析透過鼓勵學生不僅考慮文本所說的內容，而且考慮文本的表達方式來培養批判性思考。例如，在分析新聞報導時，學生可能會考慮書面文字、圖像和影片剪輯的組合如何影響觀眾對事件的理解和感知。

最後，多模態學習可以培養創造力。當學生有機會使用不同的模式表達他們的想法時——無論是透過數位故事講述、影片製作還是平面設計——他們就會被鼓勵進行創意思考。他們學習嘗試不同形式的溝通，並尋找新的和創新的方式來表達他們的想法。這不僅可以幫助他們發展廣泛的技能，還可以增強他們作為學習者和創造者的信心。

學習者側寫：Z 世代與 Alpha 世代

為了有效地將多元文化和多模態融入我們的教學實踐中，了解我們今天所教育的學習者（即 Z 世代和 Alpha 世代）至關重要。

Z 世代，也被稱為“數位原住民”，出生於 1997 年至 2012 年之間。 Z 世代從未體驗過沒有網路、智慧型手機和社群媒體的世界。他們習慣於快速存取資訊並輕鬆瀏覽數位空間。對 Z 世代來說，視覺和互動內容是他們日常生活的自然組成部分。他們更喜歡個人化、協作和科技驅動的學習體驗。他們也非常精通多工處理，經常同時處理多種資訊模式（Dolot，2018；Seemiller & Grace，2015、2017；Schwieger & Ladwig，2018）。

Alpha世代是指2013年後出生的人。這些將是我們的小學生。這一代人是第一代完全出生在 21 世紀的人，他們所處的世界比 Z 世代的前輩更充滿科技。 Gen Alpha 學生在人工智慧、虛擬實境和其他先進科技的陪伴下成長，成為他們日常生活的一部分。他們是高度視覺化的學習者，更喜歡互動和實踐學習體驗。就像 Z 世代一樣，他們能夠輕鬆地應對多種溝通方式，並期望他們的學

習經驗具有吸引力並與他們的生活相關（Fernando & Premadasa，2024；McCrindle，2021）。

了解這些代際特徵對於設計與學生產生共鳴的教育體驗至關重要。 Z 世代和 Alpha 世代都習慣於每天與多模態文本進行交互，不幸的是，許多學校和大學卻追趕不上。因此，他們被迫生活在兩個現實中——學校的現實和校外的現實。我們應該努力彌合這一差距，讓學校的更多方面反映他們數位生活的現實。如果我們想有效地吸引這些學習者，我們應該考慮結合他們熟悉的工具、科技和溝通方式。

將多模態和多元識讀融入教育

那麼，我們如何將多模態和多元識讀融入我們的教學實踐中呢？以下是一些策略，可以幫助我們為學生創造更具吸引力、相關性和有效的學習體驗。

首先，考慮將數位工具納入我們的課堂。有無數的數位平台和工具可讓學生創建和分析多模態文本。這些可能包括影片編輯軟體、圖形設計工具，甚至是社群媒體平台。例如，我們可以讓學生創建一個包含文字、圖像和聲音的數位故事。或者我們可能會要求他們設計一個資訊圖表來直觀地表示一個複雜的概念。透過使用這些工具，學生可以培養廣泛的讀寫能力，同時表達他們的創造力。

其次，採用以專案為基礎的學習方法，鼓勵學生參與多種溝通方式。基於專案的學習允許學生完成需要他們使用不同模式來

創建最終產品的擴展任務。例如，學生可以分組製作一部關於他們在課堂上學習的主題的紀錄短片。這個項目需要他們編寫劇本、拍攝和編輯影片、添加聲音和音樂以及創建視覺效果——所有這些都涉及不同的識讀能力。以專案為基礎的學習不僅可以幫助學生發展多元識讀能力，還可以促進協作、解決問題和批判性思考。

第三，設計融合多種溝通方式的互動課程。這可能涉及在我們的教材中將文字與圖像、影片和互動活動相結合。例如，您可以建立一個包含簡短影片介紹的課程，然後是閱讀作業，然後是互動式測驗或討論活動，而不是簡單地指派閱讀內容。透過多種模式提供內容，我們可以幫助學生從不同的角度更深入地理解材料。

最後，重要的是要考慮我們如何評估學生的多模態識讀能力。傳統的評估通常只關注閱讀和寫作技能，但要真正擁抱多元識讀，我們需要製定評估策略，認可和重視學生透過多種模式進行溝通的能力。這可能涉及評估學生創建和解釋多模態文本的能力，或使用數位作品集展示他們在不同模式下的作品。例如，您可以要求學生建立一個結合文字、圖像和影片的數位簡報，而不是讓學生寫傳統的論文。透過評估學生的多模態作品，我們可以更全面地了解他們的能力，並支持他們在多模態世界中作為一文化個體的發展。

教師專業發展

實施這些策略需要教師本身精通多元識讀和多模態。這就是專業發展的用武之地。這包括學習如何使用新的數位工具、了解如何創建和分析多模態文本以及製定將這些概念融入教學的策略。

專業發展也應該是協同合作的。教師可以透過與同學分享經驗和策略來學到很多東西。這可以採取研討會、同儕指導或線上專業學習社群的形式。透過共同努力，教師可以形成對多元文化和多模態的共同理解，並相互支持在課堂上實施這些想法。

最後，應鼓勵教師進行反思性實踐。這包括定期反思他們的教學實踐，考慮他們整合多元識讀和多模態的程度，並確定需要改進的領域。反思實踐有助於教師跟上最佳實踐，並不斷完善他們在多模態世界中的教學方法。

結論

總之，要在多模態世界中蓬勃發展，我們需要擴大對讀寫能力的理解，將多種溝通模式納入其中。透過擁抱多元識讀並將多模態融入我們的教學實踐，我們才能幫助每個孩子在 21 世紀取得成功。

我們探討了了解學習者（尤其是 Z 世代和 Alpha 世代）的重要性，以及他們的特徵如何影響我們的教育策略。我們也研究了將多模態和多元識讀融入課堂的實用方法，並討論了教師專業發展的重要性。

在我們前進的過程中，讓我們都致力於創造包容性、參與性

和反映學生所居住的多元化和動態世界的學習環境。我們有責任幫助學生做好生存準備，並在這個日益複雜和不可預測的世界中茁壯成長。

感謝聆聽。

參考文獻

Anstey, M., & Bull, G. (2018). *Foundations of multiliteracies*: Reading, writing and talking in the 21st century. Routledge.

Chia, A., & Chan, C. (2017). Re-defining 'reading' in the 21st century: Accessing multimodal texts. *Beyond words, 5*(2), 98-105.

Cope, B., & Kalantzis, M. (2005). Introduction: Multiliteracies: The beginnings of an idea. In *Multiliteracies: Lit Learning. Routledge*.

Dolot, A. (2018). The characteristics of Generation Z. *E-mentor, 74*(2), 44-50.

Fernando, P. A., & Premadasa, H. S. (2024). Use of gamification and game-based learning in educating Generation Alpha. *Educational Technology & Society, 27*(2), 114-132.

Freebody, P., & Luke, A. (1990). 'Literacies' programmes: Debates and demands in cultural context. *Prospect, 11*, 7–16.

McCrindle, M. (2021). *Generation alpha*. Hachette UK.

Seemiller, C., & Grace, M. (2015). *Generation Z goes to college*. John Wiley & Sons.

Seemiller, C., & Grace, M. (2017). Generation Z: Educating and engaging the next generation of students. *About campus, 22*(3), 21-26.

Schwieger, D., & Ladwig, C. (2018). Reaching and retaining the next generation: Adapting to the expectations of Gen Z in the classroom. *Information Systems Education Journal, 16*(3), 45.

Stordy, P. (2015). Taxonomy of literacies. *Journal of documentation, 71*(3), 456-476.

The New London Group. (1996). A pedagogy of multiliteracies: *Designing social futures*. Harvard Educational Review, 66(1), 60-92.

Unsworth, L. (2001). *Teaching multiliteracies across the curriculum* (pp. 7-20). Buckingham: Open University Press.

教導學生主導自己的學習

Dr. Douglas Fisher
San Diego State University, USA

當 John Hattie 於 2009 年推出「可見的學習」(Visible Learning) 資料庫時，教育領域取得了重大進展。他開發了一種創新方法來檢驗數千個元分析中的效果量，這些元分析是研究產生影響的共同測量標準的研究，稱為效果量 (effect size)。透過比較整體效果量，Hattie 可以自信地分享最適合加速學生學習的方法。Hattie 指出，如果預期成長為零，教師所做的 95% 都是有效的。沒錯，教師在課堂上採取的任何行動都能將學生的學習提高到零以上。

但這不是我們的目標。我們的目標是確保學生在課堂上的每一年都能取得全年的進步。將「學校一年，成長一年」的標準應用於資料庫中的大多數影響因素會改變相關討論。事實上，能夠產生我們所尋求的影響的行動和策略不多，但有些行動與策略確實會有影響。事實證明，家訪不會真正影響學生的學習，但課堂討論之類的活動會。Hattie 列出了對成就的影響因素清單，我們可以藉由這清單來做出明智決定。如果效果量超過 0.40，研究證據顯示它的影響高於平均水準，並且可能會加速學習。

隨著新的後設分析被添加到資料庫中，該資料庫不斷增長（www.visiblelearningmetax.com）。 此刻來自全球 3 億 5 千萬名

學生提供了超過 2100 個元 (meta) 的資料，告訴我們關於這 400 多種影響的知識。「可見的學習」最令人興奮的面向之一是學生在自己的學習中發揮的巨大影響力。這是教育中長期強調的概念：學生的學習自主權有著促進劑的作用。「可見的學習」毫無疑問地證明了我們的努力正是為了實現此一目標。

學生的學習自主權通常被稱為自我調節。這些是一系列習慣和性格，包括認知和情緒技能。Hattie 最初將這些學生稱為「有評量能力的可見學習者」（assessment-capable visible learners, ACVL），因為他們能評量自己（而不是被動地等待別人給他們回饋）。因為他們可以這樣做，所以能夠衡量自己的進步，根據他們的需要尋求幫助，並教導他人。我們與 John Hattie 的合作得出了學習者的六種傾向，這些傾向構成了評量能力的核心（Fisher et al., 2023）：

- 了解他們目前的理解水準
- 了解他們的目標並有信心接受挑戰
- 選擇指導他們學習的工具
- 尋求回饋並認識到錯誤是學習的機會
- 監測進度並調整他們的學習
- 認同他們的學習並教導他人

我們相信學生可以而且應該成為自己的老師。我們相信，教師在幫助學生實現這一目標方面發揮著深遠的作用。當學生擁有自己的學習並開始自學時，我們說他們是可見的學習者或驅動自己學習的學生。

當然，學生不會在進教室前就已經知道如何推動自己的學習。使學習對學生可見的條件是教師有意創造的。這些教室與其他教室明顯不同，因為有一個關鍵因素：目標設定。

一個目標設定的環境

目標驅動著我們每天所做的大部分事情，從早上的例行公事到家務工作，再到完成職場任務。但學生常常依賴老師來確定他們的目標。然而證據顯示目標設定對學習有很大影響，效果量為 0.50。學習目標可以是每日、每週或每單元層級的。和成績較無關（「我想在代數中獲得 A 的成績」），而是對學習更關注（「我想學習如何使用代數思維。」）。考慮他們需要知道什麼來為自己設定有用的目標——了解他們目前的表現水準，以及對目標的清晰願景。課堂上應該透過討論成功標準來豐富目標設定，然後詢問學生如何知道自己是成功的。他們的答案是目標設定過程的開始。

也就是說，個人記錄 (personal records, PR) 可以是偉大的目標，而且還具有激勵作用。邀請您的學生針對閱讀流暢性評量、寫作作業或問題解決任務設定新的 PR。挑戰他們在一周內閱讀的頁數達到新的個人最佳成績。 提出學生在限時寫作練習中每分鐘可寫的新字數。然後鼓勵學生追蹤自己的進步，以便他們看到自己所取得的進步。與學生單獨會面，共同了解他們在實現更大目標方面的進展，並與他們討論如何實現這一目標。

一旦學生被目標環繞，他們相信透過一些努力和老師的支持

就可以實現目標，剩下的六個因素將幫助學生推動他們的學習。透過這樣做，學生可調節自己的學習並發展能動性。

學生能動性

學生能動性是多面向的，透過教學方法、任務設計、動機、評量和學習習慣的發展來培養。這些也是學習遷移的關鍵，即在新條件下應用知識和策略的能力（國家研究委員會，2012）。學校學生能動性的研究確定了八個面向：自我效能、追求興趣、堅持努力、控制信念、掌握導向、後設認知、自我調節和未來取向（Zeiser et al., 2018）。

自我效能。相信一個人能夠實現目標是學生能動性的基礎，就像成年人一樣。自我效能的四個來源是掌握經驗、看見模型、受益於社會說服和鼓勵、知道如何管理生理反應（Bandura, 1982）。自我效能感較高的孩子相信自己能夠達成目標。自我效能感的效果量為 0.71，確實具有加速學習的潛力。

追求興趣。將此視為對某個主題的持續熱情。我們看到學生決心學習所有引起他們興趣的知識：編碼、泰坦尼克號災難、尋寶、滑冰。他們透過閱讀書籍、與他人討論、練習和尋找新的挑戰來培養自己的技能來追求自己的興趣。其中一個重要的方面是，他們會在一段時間內堅持某些興趣，並且不會很快失去興趣（Peña & Duckworth, 2018）。

堅持不懈的努力。與興趣並存的是，當事情變得更加困難時，願意繼續下去。學生堅持不懈並專注於完成任務有可能加速學習，效果量為 0.54。 具有較高毅力的學生明白挫折可能會發生，但願意將方案或任務堅持到底。重要的是，當任務沒有挑戰性時，就無法培養堅持不懈的努力。不幸的是，這種情況經常發生在一些高年級學生身上，他們在學校度過了多年的時光，卻發現當他們進入大學時，他們沒有足夠的資金或彈性來應對挑戰。

控制信念。關鍵字是「控制」——學習者在多大程度上認為自己是成功完成任務的影響者？控制的位置或軌跡顯示了他們將成功和失敗歸因於何處。具有強大內部控制信念的人更重視自己的技能和努力，而具有外部控制信念的人則專注於方案的難度或其他人的技能水準。事實上，控制信念是一個連續體，而不是內部 / 外部二元體。學習者在解釋他們的成功時也可以歸因於運氣或權威，例如老師。一個學習者說：「老師不喜歡我，這就是我成績不好的原因」，他將失敗歸咎於外部權威人物。「我在那次考試中很幸運，所以這就是為什麼取得了好成績」將成功歸因於運氣。內部控制信念與較高的成就水準相關（Shepherd et al., 2006）。

掌握方向。目標驅動我們所有人，但這些目標也有動力。我們對目標的信念引導我們走上一條道路。學生的目標大致可分為兩條路徑：掌握導向或表現導向（Pintrich, 2003）。具有精通傾向的學生明白他們正在學習的東西對他們有益。他們明白，在一

堂課上學習主題將使他們在另一堂課中受益。同樣，根據所學來判斷自己的表現，而不是與其他人比較。一位精通方向的學生說：「我想學習英語，這樣我就可以和其他國家的人交談。」以表現為導向的學生也有目標，但他們可能與所需的努力程度和他們在他人中的地位更緊密地聯繫在一起。以表現為導向的學生可能會說，「我想通過英語課」或「我想在這門課上獲得 A，這樣我就可以在班級排名中上升」。具有深厚動機和方法的學生會尋求精通並願意投入更高程度的努力。這種動機的效果量為 0.57，可以加速學習。

元認知。元認知通常被描述為「思考思考」(thinking about thinking)，它在學校教育的最初幾年中發展起來，並持續一生。你會注意到這種情況發生在五歲的孩子身上，他檢視拼圖盒蓋上的圖片來完成它。後設認知策略嵌入在教學中。我們教導早期讀者監測他們的理解，這樣當他們在文本中失去意義時，他們就會回去重新閱讀。我們教年齡較大的學生做筆記並將其作為學習的一部分。元認知程度較高的學生會注意到令人困惑的內容，提出問題，並在心裡總結他們所學的內容。

自我調節。 與後設認知密切相關的是學習所需的自我調節。自我調節程度較高的學生在課堂上發現自己在想電玩遊戲時可以重新集中注意力。自我調節在實踐和學習中起著重要作用。例如，有組織性、追蹤作業以及留出時間學習都是基本技能。

未來取向。 未來的組成為何的看法肯定會隨著年齡的增長而

改變。年幼的孩子可能認為未來是午餐時間。但學校教育的一個目標是幫助學生認識到他們今天所做的學習不僅基於當下背景，而且還基於他們對自己未來願望的投資。低年級的社會科課程涵蓋對不同職業和社群角色的研究，許多學校都會舉辦職業日，以便孩子們可以詢問消防員如何決定該專業領域。國中和高中的努力包括幫助學生製作履歷，並介紹學術和課外活動，以有利於他們的大學入學申請。具有未來取向的學生能夠將他們在學校的努力和經歷視為成人抱負的基礎。

教導學生主導他們的學習

為了培養自我調節的學習者和具有高能動性的學生，教師需要問自己幾個問題來決定下一步的步驟。 在過程中，他們可以調整學生的課堂經驗，以確保學生有機會練習和發展推動自己學習的技能。

學生知道他們目前的理解程度嗎？

學生需要很多機會進行自我評量，以了解他們目前的學習進度。在教學單元開始時，教師可以為學生提供不評分的預評並討論結果。將日常學習意圖和成功標準與自我評量的機會聯繫起來，例如在課程結束時使用退出卷。透過要求他們預測完成任務所需的時間來培養他們準確估計任務難度的能力。

不幸的是，某些課堂上，一些本意良好的老師避免告知學生

他們目前的理解水準，因為他們認為學生將會感到尷尬。 我們並不是說教師應該用播音系統播送學生的表現水準，而是他們應該與學生協商並確保學生了解他們目前的掌握水準與目標之間的差異。

但如果學生不能將錯誤視為學習機會，上面的作法就行不通。 當學生因犯錯而感到尷尬、羞恥或羞辱時，他們會隱藏自己的誤解或放棄學習。 因此，重要的是要清楚地傳達我們都會犯錯誤，而當我們犯錯時，這是一個學習的機會。

學生是否知道自己的方向，有信心接受學習的挑戰嗎？

如果學生想要了解他們目前的表現以及他們在學習過程中的進展，他們的老師必須提供清晰的資訊。每天，每節課，學生都應該知道他們應該學習什麼以及學習是什麼樣子。 學生不應該推斷他們正在學習什麼；應該告訴他們。 應該邀請他們與老師合作確定自己的學習目標。 教師的清晰度是學生學習的加速器，其效果量為 0.85，我們在創造學生學習環境時應該考慮這一點。作為教師清晰度的一部分，重要的是讓學生知道他們正在學習什麼（學習意圖）以及成功是什麼樣的（成功標準）（Fisher et al., 2024）。

動機是學習的關鍵面向。當我們對學習某件事感興趣時，你能夠做到這一點的可能性就會大大增加。一個自主學習的學生明白，在通往精通的道路上，挑戰是必要的。當他們遇到暫時的挫

折時，他們仍然能夠堅強地應對。關於成長心態，人們已經說了很多。但 Dweck（2016）警告，傳播「錯誤的成長心態」是危險的。這不是一種存在狀態，而是一種應對技巧。很少面對挑戰的孩子缺乏失敗感，因此不會發展出應對技巧。問他們：「我怎麼能讓這對你來說更具挑戰性？」當面臨挑戰時，問陷入困境的學生：「接下來你可以嘗試什麼？」當他們對自己的結果不滿意時，問他們「你可以練習什麼來變得更好？」我們的正向回應建立了一種將挑戰等同於成長的心態。

動機需要學生接受學習是困難的事實。學習對我們所有人來說都是具有挑戰性的。但如果太具挑戰性，我們就會感到沮喪並放棄。 如果不夠具有挑戰性，我們就會感到無聊並放棄。 正如 Hattie 指出的那樣，有一個最佳點，他稱之為「金髮姑娘挑戰」；不太難也不太無聊！「金髮姑娘挑戰」的效果量為 0.74。

重要的是，挑戰不僅僅意味著困難。 複雜任務和困難任務之間是有區別的。 困難的任務需要額外的時間和工作，而複雜的任務涉及思考、背景知識、許多步驟，也許還包括行動。顯然，多出 9 題並不會自動增加複雜性，但確實會增加難度。 精心選擇的九個數學問題可能會增加複雜性。學生是在尋找更具挑戰性的任務，而不是更多的功課。

在某種程度上，當學生取得成功時，他們會接受學習的挑戰。簡單地說，成功就是激勵。當學生取得成功時，他們更有可能接受額外學習的挑戰。 想想人們玩的所有電玩遊戲。我們不會在 50 級開始遊戲。玩家在早期經歷了一些成功，然後遊戲變得更加

困難。 我們接受挑戰並堅持下去，直到我們再次取得成功。因為這樣，許多人發現電玩遊戲非常有趣。

學生會選擇學習工具嗎？

沒有屋主會去車庫，拿起一把錘子，然後在房子裡走來走去，尋找可以用錘子修理的東西。但我們常常提供學生工具，然後要求他們用工具來解決問題。自主學習的學生根據他們尋求解決的問題來選擇工具。將選擇納入課堂實踐，以便學生學會如何學習。這意謂著教導他們學習和練習策略，然後讓他們選擇最適合自己的策略。作為這些選擇的一部分，要求學生反思他們的選擇。

教與學之間應該要有連結。當然，我們認識到有時這種連結會被破壞。 但理想情況下，用於教學的工具會影響學生的學習。如果我們希望學生成為自己的老師，我們需要讓他們有機會選擇適合他們的工具。我們並不是說教師應該提供無窮無盡的工具清單，而是教師可以為學生提供一些選擇，以選擇有助於他們學習的工具。

讓我們以圖像組織圖為例。 在年初，教師可能會向學生介紹一系列類型的視覺圖形工具。 例如，可以有多種方式來直觀地表示比較和對比。 當學生接受了這些方法後，他們就可以在時機成熟時有機會從這些工具中進行選擇。 當然他們可能會做出錯誤的選擇，然後有機會更多地了解學習工具的策略選擇。

學習技能是另一個選擇很多的領域。 有很多正確的學習方法，可能也有一些錯誤的。 學習技能的效果量為 0.59。 事實上，

學習技能由三個部分組成，這三個部分結合在一起產生了上述的效果。

- 認知技能。 有許多有效的學習方法，包括做筆記和複習筆記、總結資訊、複習詞彙術語和註釋文本。
- 後設認知技能。除了認知技能之外，還應該教導學生規劃和監測自己的學習、設定目標、進行自我質疑，並認識到何時應該使用特定的認知技能。
- 情緒技能。 除了後設認知技能之外，如果學生要將學習技能整合為一種習慣，他們還需要培養動機、能動性和自我概念。

一旦學生了解了現有的選項，就可以根據他們的學習習慣為他們提供選擇。 當學生做出選擇時，他們正在發展自己的技能，並成為有評量能力、可見的學習者。 因此，他們將來更有可能自學。

學生如何尋求回饋？

回饋有三個來源：老師、同儕和自我。遺憾的是，第一個來源常使用的過於頻繁。排除其他兩類。希望學生自主學習的老師會定期舉辦同儕回應會議，以便學生可以就彼此的作業提出問題。我們不期望學生互相編輯彼此的作業，而是提出相關問題。這些同儕回饋會議也培養了他們批判性分析自己作業的能力。這就是自我回饋的發生。

學生收到回饋後，回饋就會發揮作用。這是合理的，對吧？您是否曾經向某人提供過回饋，但從他們的表情來看，回饋沒有被接收到？ 當這種情況發生時，事情就不太可能產生太大變化。我們的學習者也一樣。如果要發揮作用，就必須收到回饋。回饋被接收時，學生學習就會有好事發生。

那麼問題是如何確保收到回饋。當學習者提出要求時，收到回饋的可能性就會增加。 您是否曾向某人尋求過回饋？ 如果你是真誠的，並且回饋是建設性的，你可能會從這次經歷中學到東西。 這兩個條件都很重要。首先，請求必須是真實的，其次，回饋必須是建設性的。

因此，教導學生如何尋求回饋而不是被動等待回饋是自我調節和學生能動性的重要面向。 在一些教室裡，學生只需翻開一張卡片即可。 卡片的一面寫著「努力中」，另一面寫著「需要回饋」。此外，我們需要教導學生提出問題以獲得他們需要的回饋。這不僅僅是「你能幫我嗎」或「我不明白這個」。 相反，學生學會提出正確的問題將推動學習的發展。

學生如何監測自己的進度？

監測一個人的進步可以提供做更多事情和嘗試新事物的動力。幫助學生為自己設定增量學習目標，以便他們看到自己的進步，而不僅僅是看到結果。「我想在生物科中獲得 A 的成績」的目標比「我希望在學習時能夠正確回答第 7 章的所有問題」的目標更有用。 目標設定過程應包括漸進階段，以實現更大的目標，

例如課程成績。確保為學生提供設定和監測目標的機會。

有各式各樣的系統可以幫助學生監測自己的進度。成功標準傳達了最終目的地。但學生如何知道沿途的停靠站呢？ 換句話說，他們如何知道自己是否走在通往精熟的正確道路上？ 如果共有的成功標準為「我可以」的陳述，例如「我可以識別月相」，則可以要求學生通過將「我可以」陳述更改為「我可以嗎？」來提供他們的學習證據，例如：「我可以識別月相嗎？」 這個例子相當直白，但請考慮如果成功標準是「當學習變得困難時，我可以監測自己的情緒反應」，學生如何監測自己是否成功達到標準？

自我評量工具對於幫助學生監測自己的進步非常有用。 此外，自我評量工具為學生提供了反思自己學習的機會，並在過程中建立一些後設認知技能。 您可能想要為學生需要完成的每一部分學習添加一個自我評量工具。 隨著學習的進展，他們甚至可以將其用作清單。

學生是否彼此教導？

有句話說：「教別人等於讓自己學習兩次」。學生有機會教其他的學生可以從這種經驗中受益匪淺。了解自我調節、學生能動性以及教導學生自主學習的價值的教師會在課堂上創建一個強大的同儕學習系統，以便學生可以互相教學。同儕輔導對於提高學業成績有強有力的證據基礎，特別是在閱讀和數學方面（例如 Bowman-Perrott et al., 2013）。學生二人一組或三人一組聚集在一

起掌握學科內容。但證據顯示對社會化結果同樣有效（Bowman-Perrott et al., 2014）。透過同儕輔導可以提升溝通技巧、正向行為和社交技能。跨年齡和班內同儕輔導對學生的學習都有顯著影響，效果量為 0.58。 同儕輔導的模式有很多種，我們將研究其中的一些模式。

同齡同儕輔導。表現較高的同學與表現較低的同學配對，學習學生尚未掌握的內容。這種安排不需要以全班模式進行，事實上有時是在小組輪調的過程中完成的，其他學生則與老師會面或獨立學習。同齡輔導的一個流行模式是結對閱讀。書籍的選擇是基於擴展學生的閱讀技能。導師以範本朗讀一段文章，然後由學生再次朗讀。然後兩人利用老師準備的問題來討論課文的意思。

互惠同儕輔導。 學生是異質配對的，每個成員同時擔任導師和學生，以支持他們的共同成功。這項協作學習任務要求他們綜合內容、準備任務以及提出問題以得出答案和解釋。例如，學生閱讀課本上的一段話。導師向學生詢問有關段落的問題，學生必須找到資訊。導師寫下問題和答案。然後兩人以相反的角色閱讀下一段。一旦閱讀和討論了指定的段落，他們就會回顧自己編寫的問題以供進一步練習。

全班性同儕輔導（Class-wide Peer Tutoring, CWPT）。 全班同時參與這種競爭性的同儕輔導。學生兩人一組練習所學的技能或概念。團隊中的每個成員輪流擔任導師和學生。導師提出老師預先準備的問題，並評量夥伴答案的準確性。正確答案可獲得

兩分。在口頭和書面重複正確答案三次後，部分回答或錯誤答案可得一分。然後角色互換並提出新問題。各組計算的分數來決定當天的獲勝團隊。

回覆示教。 學生會被分配一項之前教授過的技能或概念，並開發一個簡短的課程將其傳授給同儕。這些課程可以以數位方式記錄和查看，也可以即時進行。舉個例子，學生被分配了一系列數學任務來示範分數如何以不同的方式表示。學生製作圖表來解釋他們選擇的表示形式（例如，物件群組、數軸、七巧板中的形狀），然後展示他們的圖表來教導合作夥伴。

跨年齡同儕輔導。 年長的學生擔任導師，並與年幼的學生配對。所教的內容適合學生的發展。導師解釋概念或技能，示範積極的行為，並提出問題來鼓勵年輕學生的思考。閱讀、寫作和學習技能。

結論

儘管我們致力於學生的教育，但如果學生離開我們時沒有具備自主學習所需的素質，那麼我們就是在傷害他們。教育和學校教育的目標不僅僅是讓他們的心靈充滿事實和技能，而是培養素質。目標是讓學生自主學習、教導自己並對自己的發展負責。 當你與學生交談時，傾聽這些素質的證據。

- 「我知道我要去哪裡。」

- 「我有我需要的工具。」
- 「我衡量自己的進步。」
- 「我知道接下來會發生什麼。」
- 「當我不知道該做什麼時，我知道該做什麼。」

參考文獻

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*(2), 122–147.

Bowman-Perrott, L., Davis, H., Vannest, K., Williams, L., Greenwood, C., & Parker, R. (2013). Academic benefits of peer tutoring: A meta-analytic review of single-case research. *School Psychology Review, 42*(1), 39–55.

Dweck, C. (2016). Praise the effort, not the outcome? Think *again. TES: Times Educational Supplement*, (5182), 38-39.

Fisher, D., Frey, N., Almarode, J., Barbee, K., Amador, O., & Assof, J. (2024). *The teacher clarity playbook: A hands-on guide to creating learning intentions and success criteria for organized, effective instruction* (2nd ed.). Corwin.

Fisher, D., Frey, N., Ortega, S., & Hattie, J. (2023). *Teaching students to drive their learning: A Playbook on engagement and self-regulation.* Corwin.

Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* Routledge.

National Research Council. (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. The National Academies Press.

Peña, P. A., & Duckworth, A. L. (2018). The effects of relative and absolute age in the measurement of grit from 9th to 12th grade. *Economics of Education Review, 66*, 183–190.

Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology, 95*, 667-686.

Shepherd, S., Owen, D., & Fitch, T. J. (2006). Locus of control and academic achievement in high school students. *Psychological Reports, 98*(2), 318–322.

Zeiser, K., Scholz, C., & Cirks, V. (2018). *Maximizing student agency: Implementing and measuring student-centered learning practices*. American Institutes of Research. Retrieved at https://files.eric.ed.gov/fulltext/ED592084.pdf