JOINER

JOURNAL OF INCLUSIVE EDUCATIONAL RESEARCH

Vol. 5, No. 1 · JUNE 2025

ISSN: 2980-3047

OPEN ACCESS

joinetr.com

JOURNAL OF INCLUSIVE EDUCATIONAL RESEARCH

Volume 5, Issue 1, 2025

Editor-in-Chief: Prof. Dr. Hasan KARAL, Prof. Dr. Fahriye ALTINAY, Assoc. Prof. Dr. Ali Kürşat ERÜMİT
Editor: Prof. Dr. Hasan KARAL, Prof. Dr. Fahriye ALTINAY, Assoc. Prof. Dr. Ali Kürşat ERÜMİT
Publisher Editor: Prof. Dr. Hasan KARAL, Prof. Dr. Fahriye ALTINAY, Assoc. Prof. Dr. Ali Kürşat ERÜMİT
Layout Editor: Dr. Gülbahar Merve ŞILBIR
Redaction: Dr. Gülbahar Merve ŞILBIR
Typographic: Dr. Gülbahar Merve ŞILBIR
Cover and Page Design: Dr. Gülbahar Merve ŞILBIR
Contact: Assoc. Prof. Dr. Ali Kürşat ERÜMİT

JOINER is published regularly twice a year since 2021.

Contact Information

Web: http://joinetr.com/
E-Mail: journal.joiner@gmail.com
Adress: Trabzon/Turkey

Table of Contents

Building Academic Confidence through Inclusive Practices: The Role of Family, Teachers, and Peers in Chemistry Learning

Faiz Novita Isti Amalia[1], Jamil Suprihatiningrum[2]

Article History
Received: 04.06.2025
Received in revised form: 26.06.2025
Accepted: 27.06.2025

Abstract

This study investigates how students with disabilities (SWD) build confidence in learning chemistry within an inclusive vocational school context in Yogyakarta, Indonesia. Employing a qualitative case study approach, data were collected from eight participants through interviews, classroom observations, and document analysis. The findings reveal that SWD confidence emerges through the intersection of three key factors: sustained parental support, responsive instructional strategies, and emotionally safe peer interactions. Parents provided emotional reinforcement and digital learning resources tailored to their children's needs, aligning with Universal Design for Learning (UDL) principles. The chemistry teacher adapted pedagogical practices through multimodal explanations and personalized pacing, despite limited institutional training. Peer support, when present, reinforced SWD self-esteem and resilience, while a lack of social integration posed risks of psychological exclusion. The study concludes that meaningful inclusion requires systemic collaboration across family, school, and social atmosphere and must extend beyond administrative placement to promote academic identity, autonomy, and belonging. Implications for inclusive pedagogy, teacher development, and school policy are discussed.

Keywords: Self-confidence, students with disabilities, parental engagement, chemistry pedagogy, peer support

1. Introduction

Students with disabilities (SWD) often face substantial barriers in accessing and succeeding in science education, particularly in subjects like chemistry that demand high levels of abstraction, symbolic reasoning, and language-based comprehension (Boyle et al., 2020). These challenges are not solely cognitive or curricular in nature; they are deeply embedded in the relational and emotional dynamics of the classroom, including how SWD perceive their own capacity to learn and be recognized as competent learners (Pirker et al., 2023). Central to these dynamics is the construct of self-confidence, which plays a crucial role in enabling students to participate actively, take academic risks, and persevere through difficult content (Akbari & Sahibzada, 2020).

In the context of Indonesia, although Law No. 8 of 2016 on Persons with Disabilities and national inclusive education policies have laid important foundations, practical implementation remains limited and uneven across regions. Many inclusive schools operate without adequate teacher preparation, assistive infrastructure, or intersectoral collaboration. This situation is especially pronounced in vocational schools, such as those in Yogyakarta, where the present study is situated (Pratiwi & Mangunsong, 2020; Rais, 2022). In these contexts, students with disabilities often struggle to access complex subjects like chemistry in ways that are both cognitively and socially meaningful.

This study defines self-confidence as a relational and context-dependent capacity. Rather than being a fixed personality trait, it reflects students' perceived ability to engage meaningfully with academic tasks, shaped by their everyday interactions with family, teachers, and peers (Martínez-López et al., 2023; Shao & Kang, 2022; Butler et al., 2022).

Chemistry classrooms, especially at the secondary and vocational levels, remain poorly adapted to the diverse needs of SWD (King-Sears & Johnson, 2020). Despite policies advocating for inclusive education, many SWD still encounter pedagogical environments that marginalize their participation. Lack of differentiation in teaching methods, inaccessible learning materials, and low teacher preparedness contribute to reduced engagement and a diminished sense of academic self-efficacy (Scarparolo & and Subban, 2021). For many SWD, this leads to a

[1]State Islamic University, Sunan Kalijaga Yogyakarta, Indonesia, faizniamania12@gmail.com

[2]State Islamic University, Sunan Kalijaga Yogyakarta, Indonesia, jamil.suprihatiningrum@uin-suka.ac.id

cycle of withdrawal, underachievement, and internalized stigma (Pirker et al., 2023; Pratiwi & Mangunsong, 2020; Rais, 2022).

Research indicates that self-confidence is not an isolated psychological trait but a construct that emerges from supportive interactions within the student's ecosystem (Martínez-López et al., 2023; Shao & Kang, 2022). Family support, teacher responsiveness, and peer relationships are pivotal in shaping how SWD experience their learning environments (Butler et al., 2022; Perez-Salas et al., 2021). Parents are often SWD's first and most consistent source of emotional, informational, and instrumental support (Gaspar et al., 2022; Malecki & Demaray, 2003). Their involvement in school decision-making, provision of home-based learning tools, and advocacy for inclusive practices have been linked to improved academic outcomes and emotional well-being (Agarwal et al., 2021; Ambert, 2020; Chaidi & Drigas, 2020).

In parallel, teachers serve as key mediators of inclusion. Their ability to adapt instruction, utilize multimodal strategies, and build relational trust with SWD can mitigate or exacerbate barriers to confidence-building in science learning. When teachers lack the training or mindset to engage with disability as a dimension of learner diversity, students are often excluded from meaningful participation, even within inclusive settings (Kennedy et al., 2022).

Peer interactions also significantly influence the confidence of SWD. Peers can be allies, interpreters, or co-learners, offering both academic and emotional scaffolding (van der Meulen et al., 2021; Williams et al., 2024; Woreta et al., 2025). Alternatively, peers can be sources of stigma, exclusion, or indifference, undermining the school community's inclusive intentions (Carter et al., 2015; Yuan et al., 2023). Social acceptance and belonging are especially critical during adolescence, when peer validation shapes identity formation and classroom confidence.

While considerable literature addresses inclusive education in general, few studies explore the intersections of parental, pedagogical, and peer-based support in the specific context of chemistry learning for SWD. Much of the existing work either focuses broadly on access and policy or narrowly on cognitive outcomes, overlooking the social-emotional processes, like confidence-building, that mediate meaningful inclusion in complex subjects. For example, while King-Sears & Johnson (2020) focus on instructional adaptation, and Pratiwi & Mangunsong (2020) explore psychological support, these strands rarely intersect. As such, the social-emotional processes, like confidence-building, that mediate meaningful inclusion in complex subjects are often underexamined.

To address this gap, the present study is guided by the following research questions:

1.1. How do parents support the development of confidence in chemistry learning among SWD?
1.2. In what ways do chemistry teachers adapt their instructional practices to foster confidence in SWD?
1.3. What role do peer interactions play in shaping the confidence of SWD in inclusive chemistry classrooms?

Theoretically, this study contributes to the field of inclusive education by conceptualizing confidence as a relational and pedagogical construct, emergent from daily interactions rather than being solely rooted in individual psychological traits. It critiques the prevailing assumption that mere physical placement in inclusive settings ensures equity, and instead emphasizes the significance of the quality, consistency, and responsiveness of interpersonal dynamics within those environments.

Practically, the study offers contextually grounded insights for schools, particularly in low to middle-income contexts, on how teachers, parents, and peers can collaboratively cultivate inclusive learning spaces that support academic performance and emotional resilience for SWD. The findings are particularly relevant for chemistry education, where inclusive strategies remain underdeveloped.

2. Method

This study employed a qualitative approach to gain an in-depth, contextualized, and naturalistic understanding of the phenomenon under investigation (Denzin, 2005). A case study design was selected to explore, in depth, the behaviors, perspectives, and lived experiences of the participants. The research was conducted at Mentari, a vocational high school in Yogyakarta.

2.1. Participant Criteria and Sampling Technique

Participants were selected using purposive sampling based on predefined inclusion and exclusion criteria. The inclusion criteria were:

- students with disabilities (SWD) who were actively enrolled in chemistry instruction at Mentari;
- biological parents or guardians who played an active role in supporting their child's learning;
- a chemistry teacher who supports the SWD;
- TOP (talent of Program) coordinator;
- peers who maintained close social relationships with the SWD.

Exclusion criteria included SWD not involved in chemistry learning or those who did not receive consistent support from either home or school. Recruitment was conducted through formal correspondence with the school and parents, including a signed informed consent form, before data collection commenced.

Eight participants voluntarily agreed to be involved in this study. These included two (Sasa and Azka) of the total five students with disabilities, who were purposefully selected as contrasting cases to reflect different types of disabilities and educational placements, Sasa in an inclusive classroom and Azka in a segregated learning environment. The selection was also informed by accessibility, consent, and the presence of supporting adults in their school context. Additional participants included two parents (Dewi and Zulies), one chemistry teacher (Rani), one talent program coordinator (Arin), and two close peers (Feni and Rika).

2.2. Data Collection Techniques

Data were gathered through in-depth interviews, classroom observations, and document analysis. The interview guide was developed around dimensions of parental support and the social learning environment, focusing on emotional, instrumental, and informational support. Each interview lasted between 90 to 120 minutes, audio-recorded, translated, and transcribed verbatim for analysis.

Sample interview questions were tailored to each participant group. For students, questions focused on their learning experiences, feelings of confidence, and interactions with peers and teachers (e.g., *"Can you describe a time when you felt confident or unsure in chemistry class?"*). For parents, questions addressed support strategies at home and their involvement in school decisions (e.g., *"How do you support your child's learning in chemistry at home?"*). For the teacher, questions explored instructional adaptation and perceptions of student participation (e.g., *"What adjustments have you made in teaching chemistry to accommodate students with disabilities?"*).

Classroom observations were conducted four times during two weeks, each lasting approximately 90 minutes. Observations focused on:

- teacher responsiveness to the learning needs of SWD;
- SWD participation in chemistry learning activities;
- interactions between SWD, teachers, and peers;
- accessibility of learning materials and pedagogical strategies employed.

Documents analyzed included student liaison books, school–parent consultation records, and notes from special education support staff. Triangulation across these sources was used to enhance data credibility and reduce bias, ensuring a comprehensive understanding of the learning environment.

2.3. Data Analysis Procedures

Data were analyzed using thematic analysis, following an inductive approach to identify emerging patterns, themes, and categories. The process involved three stages: open coding, axial coding, and selective coding,(Braun & Clarke, 2006). Thematic codes were manually organized to maintain closeness to the data. Credibility was ensured through member checking with participants and peer debriefing among researchers to validate interpretations and increase analytical rigor (Denzin & Lincoln, 2011).

3. Findings

Thematic analysis of interviews, observations, and supporting documents revealed four core themes influencing the development of self-confidence among students with disabilities (SWD) in inclusive chemistry learning: 1) educational placement and its psychological consequences, 2) parental agency and adaptive digital engagement, 3) instructional flexibility and pedagogical empathy, and 4) peer relations as a site of both affirmation and exclusion. Each theme is detailed below, grounded in rich qualitative evidence and participants' voices.

3.1. Educational Placement and Its Psychosocial Consequences

The study found a fundamental difference in the experiences of Sasa and Azka, shaped by their educational placements. Sasa, a student with hearing loss, was included in the mainstream classroom and participated alongside her peers without disabilities. Azka, a student on the autism spectrum, was placed in a pull-out program and studied in a separate space.

Although the school promoted itself as inclusive, in practice, two contrasting models coexisted: mainstreaming with minimal modifications and integration through segregation.

"We have a psychological test for all children, including those with disabilities. Azka didn't go to regular class because he is autistic. It's difficult for him to mingle with others, so he is placed in a private classroom without peers," (Arin, inclusion program coordinator)

While this decision was made in consultation with his parents and tailored to Azka's specific needs, the segregated arrangement significantly limited his exposure to peer learning and social interaction. As a result, his learning became solitary, and his social confidence remained underdeveloped. Unlike Sasa, who described moments of collective engagement, Azka's daily learning was isolated from the broader school community.

These contrasting experiences highlight that physical placement within educational settings is not simply an administrative or logistical decision; rather, it carries significant psychosocial implications. While Sasa's inclusion in the mainstream classroom facilitated opportunities for academic engagement, peer interaction, and the development of a positive learner identity, Azka's segregated arrangement, despite being well-intentioned, limited his access to meaningful social and academic participation. This divergence underscores the imperative that inclusive education must extend beyond mere placement. It necessitates the creation of learning environments that are relationally attuned, emotionally secure, and affirming of the diverse identities and needs of students with disabilities.

Sasa's inclusion in the general classroom allowed for regular peer engagement and affirmation, positively influencing her self-esteem. Her classroom participation, despite communication challenges, offered her daily validation.

"I enjoy chemistry, especially when the teacher uses diagrams. I don't always catch everything, but my friends help me and I try to keep up" (Sasa, student with hearing impairment)

Sasa's ability to remain engaged in the learning process, through visual aids and peer assistance, fostered a sense of normalcy and competence. This environment, while not without barriers, validated her participation and contributed to the development of academic confidence.

3.2. Parental Agency and Adaptive Digital Engagement

The findings indicate that both Sasa and Azka received various forms of parental support, emotional, instrumental, and informational, which were critical to their participation in chemistry learning at Mentari.

Dewi, Sasa's mother, described how she sought medical and educational support following her daughter's diagnosis of hearing loss. She explained the effort she made during Sasa's early development:

"When I was expecting Sasa, I was sick for months… Sasa was not like her older siblings. I took Sasa to the doctor for screening. Her ears were examined, and we found that her right ear was 80 decibels and the left was 20 decibels. She lost her hearing. I gave her many treatments at any cost." (Dewi)

Dewi also elaborated on her decision-making process in choosing an inclusive school for Sasa:

"I didn't want to be reckless. I consulted with a psychologist and a doctor to determine which school was best for Sasa… She went to inclusive primary and secondary schools. I want to provide an environment that has high empathy." (Dewi)

To assist Sasa in learning chemistry, Dewi provided digital learning tools, such as interactive videos and visual materials, particularly to help her understand abstract topics like atomic structure. This media was selected based on Sasa's visual learning style and her difficulty with auditory materials.

"Through digital media, Sasa can access atomic structure material through educational videos, visual graphics, and infographics... The media is designed to simplify difficult concepts in chemistry and is easy to follow." (Dewi)

In Azka's case, Zulies expressed concerns during the school selection process and described early intervention through therapy:

"I found Azka was autistic when he was 2 years old. I was shocked but kept positive... He must be going to school; then he could learn to socialize. I provided him with a shadow teacher." (Zulies)

Zulies explained the considerations in choosing Mentari:

"Due to his limited cognitive abilities, I was uncertain whether Azka could manage high school… Fortunately, they accepted him. This environment allows him to interact with others, feel connected rather than isolated." (Zulies)

She also explained her involvement in Azka's daily learning routine, especially in balancing support and independence:

"He loves screens, but he gets too focused and blocks out everything else. I give him short videos and use apps that let him answer questions at his own pace." (Zulies)

Both Dewi and Zulies acknowledged the challenge of balancing work with parenting. They maintained their presence at school events and remained in close communication with teachers and the TOP coordinator to ensure their children's needs were met:

"Sasa's journey of 0–5 years was truly extraordinary… Because of these, I was able to grow a sense of trust in my child's development… I did my best for Sasa." (Dewi)

"The challenge is that I cannot be with him 24 hours a day because I have to work, but I will always be present at school when my support is needed." (Zulies)

Both parents consistently offered encouragement and validation to help their children remain motivated in learning. Dewi explained her approach when Sasa experienced difficulties:

"I ask about her day, her feelings, her lessons. Even if her grades are not great, I never diminish her abilities. I keep giving her confidence and praise for every effort." (Dewi)

"As long as Azka wants to go to school, he could do something." (Zulies)

3.3. Instructional Flexibility and Pedagogical Empathy

Rani, the chemistry teacher at Mentari, has more than five years of experience teaching in inclusive classrooms. She stated that although the school declared itself inclusive, practical challenges remained, especially in adjusting teaching strategies to meet the needs of SWD. Rani explained her initial difficulty:

"Teaching chemistry to students with disabilities is very challenging. At first, I didn't understand how to teach them because I didn't have any experience. But I am grateful that I've had the chance to learn and grow through teaching them." (Rani, chemistry teacher)

For Sasa, a student with hearing loss, Rani used various approaches to support comprehension. She modified her pronunciation, used body language, and repeated key concepts multiple times:

"I slow down my speech and use clear articulation. I repeat important terms and point to pictures or gestures. I know she watches my lips carefully." (Rani)

Sasa did not have a shadow teacher in class, so Rani paid extra attention to her engagement during the lesson:

"After I explain, I let all students raise their hands. I often check on Sasa to ask whether she understands or if she has difficulties." (Rani)

To help maintain her classroom participation, Rani provided digital materials, including PowerPoint slides and printed handouts. These materials contained both visual and verbal elements to suit Sasa's learning preferences.

In Azka's case, Rani implemented individualized instruction in a separate room. She shared that this arrangement was necessary due to Azka's limited focus in larger classroom settings:

"Azka's focus level is different. That's why I teach him separately. It allows me to give full attention to his needs. Sometimes he throws tantrums when frustrated, so I must be very patient." (Rani)

Repetition and simplified content structure were used consistently during Azka's learning sessions. Rani stated that Azka required a specific pace and instructional flow:

"I break everything into small parts. One formula per session. If it's too much, he shuts down. I repeat things gently and check his mood before continuing." (Rani)

Rani also maintained communication with the homeroom teacher and the TOP coordinator regarding the progress of SWD:

"The homeroom teacher informs the TOP coordinator, and then I get updated. We also write in the student's liaison book. I usually include a summary of the lesson and homework there." (Rani)

She emphasized the importance of emotional neutrality and flexibility during teaching:

"As a teacher, I have to put aside my emotions. If I'm enthusiastic, they feel it too. I motivate them and offer support both during and after class." (Rani)

Through daily interaction, Rani gradually developed her confidence in teaching SWD, making her more attentive to individual student needs and open to collaborative problem-solving with parents and colleagues.

3.4. Peer relations as a site of both affirmation and exclusion

Interpersonal relationships with peers played a substantial role in shaping the confidence of SWD, particularly in the case of Sasa. According to her friends, Sasa was perceived as cheerful, kind, humorous, and active in school activities such as athletics.

Feni and Rika, two of Sasa's close friends, often assisted her during chemistry learning. When Sasa encountered difficulties, they explained the material again using their own words, which helped Sasa understand it more easily:

"If someone is having trouble, we let each other know. The teacher often asks friends to guide her directly. Sometimes, when the teacher is right in front of Sasa, she still doesn't fully understand, so she goes over it again herself." (Rika)

Although Sasa did not rely on her friends for everyday assistance, she shared moments of social engagement with them, chatting, joking, and participating in casual conversation. Communication remained a key challenge. Feni described how they adjusted their communication approach to meet Sasa's needs:

"We talk in low tones and use lip movements. If needed, we write things down on paper or text through the phone. But sometimes it's confusing. Standard language doesn't always make sense, and the sentence order can be misunderstood. I mean one thing, but she understands it differently." (Feni)

This difficulty in communication sometimes affected Sasa's confidence. She reportedly felt insecure about her speech fluency compared to her peers. Nevertheless, when she felt discouraged, her friends provided emotional reassurance and encouraged her to use writing as an alternative mode of communication:

"When she feels down, we remind her that it's okay. She can write her saying, and we still understand her." (Feni)

Instances of bullying were also mentioned. Some classmates mocked Sasa's voice or pressured her to perform activities such as singing despite knowing her limitations. Her close friends actively intervened in such situations:

"If someone mocks her, I step in and tell them to stop. I even reported one case to the school." (Feni)

Rika noted that while Sasa is confident and eager to participate in various school activities, her confidence fluctuates depending on her academic and social experiences:

"She's usually confident, maybe around 80 percent. When she gets something right, she smiles and feels proud. But if she fails, she gets quiet and withdrawn." (Rika)

In contrast, Azka had limited social engagement. He attended private classes daily and had fewer opportunities to interact with peers. Although he lacked close friendships, his classmates occasionally greeted him. Most of Azka's communication occurred with his assistant or teacher rather than with peers.

4. Discussion

4.1. Educational Placement and the Psychosocial Realities of Inclusion

The findings show that the distinction between mainstreaming and integration models affects not only access to learning but also the academic identity and psychosocial well-being of SWD. Sasa, who participated in a regular classroom, experienced greater social affirmation and a stronger sense of belonging than Azka, who received instruction in a segregated setting. This underscores the argument that inclusion cannot be assessed merely through the physical presence of SWD in mainstream schools (Ainscow et al., 2012; Schwab et al., 2018).

Pull-out models like Azka's are often criticized for perpetuating hidden exclusion by isolating students from social environments that are essential for developing confidence and peer relationships (Florian, 2014; Hornby, 2015). This is consistent with Crea et al. (2022) what was stated that segregated educational arrangements often exacerbate social alienation, even when intended to offer specialized support.

Critiques from the field of critical disability studies emphasize that such practices reinforce deficit-based thinking and marginalize epistemic diversity in classrooms (Allan, 2008; Freedman, 2016). In contrast, research by Lindner et al. (2022) suggests that presence in the regular classroom, when accompanied by the right structural support, can strengthen both academic and social self-efficacy among SWD.

Although school-based psychological assessments, such as those used at Mentari, may justify individual placement decisions administratively, their long-term consequences on full participation and learner autonomy must be critically examined. Inclusive literacy must be embedded not only in teacher practice but also in the school's structural decision-making processes (Booth, 2011; Slee, 2018; UNESCO, 2020).

4.2. Parental Engagement and Digital Mediation of Learning

Parents in this study emerged as critical agents in bridging the gap between their children's learning needs and the school's limitations, particularly through the use of digital media. Dewi and Zulies not only provided emotional support but also actively curated and adapted educational resources to support their children's chemistry learning. These findings align with Tan et al. (2020) those of who showed that middle-to-upper-class families are more capable of accessing supplemental educational resources not offered in school.

In a subject like chemistry, which is conceptually abstract, Dewi's use of interactive videos and infographics reflects the application of Universal Design for Learning (UDL), specifically the principle of *multiple means of representation* (Meyer et al., 2014). Similar findings are reported by King-Sears and Johnson (2020) and Kennedy et al. (2022), who demonstrate that digital visualization in science education enhances conceptual understanding for students with diverse learning needs.

Meanwhile, Zulies' structured approach, minimizing overstimulation for Azka, resonates with the tenets of Cognitive Load Theory (Sweller, 1994) and neurodiversity-based instructional design (Tomlinson & Tomlinson, 2017). Zulie's involvement reflects broader findings by Syaputri and Afriza (2022) those who argue that family-led strategies and therapeutic consistency play a significant role in the educational adaptation of autistic children.

The parents' decisions to adopt technology in home learning can also be understood through the Technology Acceptance Model (Tsuei & Hsu, 2019), which highlights perceived usefulness and ease of use as key predictors of engagement with digital tools. In this study, digital literacy among parents became a determining factor in establishing a home environment that supports inclusive learning (Agarwal et al., 2021; Holster, 2023).

4.3. Teacher Adaptation and the Ethics of Pedagogical Responsiveness

The findings underscore the essential role of teachers, particularly in inclusive classrooms where specialized support staff may be absent. Rani's instructional adaptations, though not formally grounded in special education training, reflected a high degree of pedagogical empathy and responsive teaching. Her strategies for Sasa and Azka, ranging from visual reinforcement to segmented instruction, demonstrated how inclusive practices often emerge from situated reflection and improvisation.

In line with Florian and Black-Hawkins (2011) concept of "inclusive pedagogy," the teacher positioned herself as a co-learner, adjusting to student needs rather than expecting learners to conform to rigid instructional norms. Research affirms that when teachers perceive inclusion as a pedagogical responsibility rather than a procedural obligation, student engagement and self-efficacy improve significantly (Sharma et al., 2013).

Rani's differentiated support, such as slowing down speech, emphasizing visual materials, and giving individualized feedback, resonates with Tomlinson's (2017) model of Differentiated Instruction, as well as with findings by King-Sears (2009), who highlights the importance of strategic lesson design for learners with varying cognitive and communicative needs.

Despite limited institutional training, Rani intuitively aligned with the UDL principles, particularly multiple means of engagement and representation (Cast, 2018). Her willingness to adjust pacing and tone for Azka, for instance, aligns with Sweller's Cognitive Load Theory, which recommends reducing extraneous load for students with processing difficulties.

Research by Lindner et al. (2022) and Lindsay (2012) also highlights how informal teacher collaboration with parents and inclusion coordinators can substitute for formal IEP mechanisms in resource-limited settings, reinforcing the value of relationship-driven inclusion.

Nonetheless, this form of teacher-led inclusion is not without risk. When systemic support is lacking, the burden of inclusion falls heavily on individual teachers, potentially leading to fatigue, inconsistency, or informal exclusion practices (Florian, 2014; Slee, 2018).

4.4. Peer Relationships and the Fragility of Social Inclusion

Peer support in this study emerged as a decisive but complex factor in shaping SWD confidence and participation in the classroom. Sasa's positive interactions with friends like Feni and Rika demonstrate the potential of peer-mediated learning and emotional support in inclusive settings. These findings echo those of Pratiwi and Mangunsong (2020) and Yuan et al. (2023), who argue that peer relationships can strengthen academic self-concept and emotional well-being among students with special needs.

Sasa's friends adopted intentional strategies, such as writing notes, using simplified language, and defending her from bullying, which aligns with research on peer-facilitated inclusion (Carter et al., 2016). However, their accounts also revealed challenges, such as misunderstandings in communication and social fatigue, which reflect broader issues of emotional labor and peer training (McCarty & Light, 2022; Owen-DeSchryver et al., 2024; Schwab et al., 2021; Song et al., 2024)

Azka's limited interaction with classmates, in contrast, illustrates the isolating effects of individualized placement. While he was not excluded in overt ways, the absence of reciprocal friendships signals a gap in the school's inclusion strategy. Studies by Lindsay and McPherson (2012) and Koster et al. (2009) affirm that physical presence alone does not guarantee social integration, particularly for students on the autism spectrum who require explicit scaffolding for peer engagement.

The vulnerability of inclusive education becomes apparent in the accounts of microaggressions and subtle bullying experienced by Sasa's peers. These incidents illustrate that exclusionary dynamics may continue to operate beneath the surface of formal inclusion frameworks. Research has shown that students with disabilities often face indirect forms of marginalization, such as social distancing, dismissive attitudes, or insensitivity in communication, that are not always acknowledged within institutional policies but have significant implications for psychological safety and belonging (Ručman & Šulc, 2025; Yılmaz et al., 2024).

The findings suggest that peer support is not merely an organic outcome but a relational capacity that must be intentionally cultivated through structured classroom activities, empathy-building programs, and adult-facilitated social mediation.

This study has several limitations. *First,* the small number of participants and the single-site design limit the generalizability of the findings. The focus on only two student cases, while rich in depth, means that the conclusions drawn may not represent the experiences of all SWD in inclusive chemistry classrooms. *Second,*

data collection relied heavily on self-reports and observations within a limited time frame, which may not fully capture fluctuations in student confidence across the academic year. *Finally*, while efforts were made to triangulate data sources, future studies may benefit from incorporating broader stakeholder perspectives, such as school administrators or special education policymakers.

5. Conclusion

This study explored how confidence in learning chemistry is fostered among students with disabilities (SWD) through the convergence of four key dimensions: educational placement, parental engagement, teacher adaptation, and peer support. The findings demonstrate that confidence is not an inherent trait but an emergent property shaped by relational, structural, and pedagogical conditions. *First*, the contrasting educational experiences of Sasa and Azka illustrate the unequal consequences of mainstreaming versus pull-out integration. While both were situated within an inclusive school, only one was socially and academically embedded. This highlights the critical distinction between physical inclusion and participatory inclusion, reaffirming that placement alone does not constitute equity. *Second*, parental involvement proved indispensable, not only as a source of emotional and instrumental support but also as a conduit for pedagogical continuity at home. Through their digital mediation and individualized strategies, parents in this study played the role of co-educators, compensating for institutional gaps in inclusive provision. *Third*, teacher responsiveness, though unsupported by formal inclusive training, revealed the potential of practitioner-based inclusion, grounded in empathy, flexibility, and communication. These insights challenge models that privilege formal expertise over relational competence and emphasize the urgent need to reframe inclusion as a shared pedagogical ethic. *Finally*, peer interactions emerged as a fragile but powerful determinant of confidence and belonging. When nurtured intentionally, peer support served as a bridge to participation, affirmation, and academic resilience. When left unstructured, however, it opened the door to microaggressions and social withdrawal. These four findings suggest that fostering confidence in SWD requires an ecosystemic approach, one that links micro-level practices with meso-level school structures and macro-level policy frameworks.

6. Recommendations

To advance inclusive chemistry education, coordinated efforts are needed across multiple stakeholders. Schools and school leaders should establish interdisciplinary inclusion teams that routinely assess student placement decisions, instructional modifications, and patterns of social participation. Creating dedicated time for collaborative planning among chemistry teachers, special educators, and parents is essential, alongside institutionalizing tools such as liaison journals, reflection logs, and student feedback mechanisms to monitor both academic and emotional development. Furthermore, inclusive values must be embedded into school orientations, classroom norms, and co-curricular programs. For chemistry educators, instructional design should prioritize visual learning tools such as simulations, interactive diagrams, and scaffolded experiments to accommodate diverse cognitive and sensory needs. Formative assessments should be integrated throughout instruction to track student understanding and confidence, especially among SWD. Educators are also encouraged to adopt a “pedagogy of invitation,” actively eliciting student preferences and reflections, and to normalize varied communication styles, including lip-reading, written responses, and one-on-one dialogue. At home, parents and families play a pivotal role by establishing structured learning environments equipped with accessible media aligned with classroom content, maintaining regular teacher communication, engaging in school decision-making bodies, and documenting learning through journals or digital portfolios. Policymakers and ministries of education must ensure that inclusion policies extend beyond enrollment by mandating both physical access and pedagogical adaptation. They should also allocate funding for inclusive curriculum development, implement systems for tracking non-academic outcomes such as student well-being and belonging, and support school-level innovations through pilot programs and scalability mechanisms. Finally, researchers and academic institutions are called to explore the long-term impact of inclusive pedagogy on chemistry engagement, promote participatory research involving SWD, investigate digital inclusion strategies, and translate findings into open-access resources for teacher development and educational reform.

References

Agarwal, R., Heron, L., & Burke, S. L. (2021). Evaluating a postsecondary education program for students with intellectual disabilities: Leveraging the parent perspective. *Journal of Autism and Developmental Disorders*, *51*, 2229-2240. https://doi.org/10.1007/s10803-020-04676-0

Ainscow, M., Dyson, A., Goldrick, S., & West, M. (2012). Making schools effective for all: Rethinking the task. *School Leadership & Management*, *32*(3), 197-213. https://doi.org/10.1080/13632434.2012.669648

Akbari, O., & Sahibzada, J. (2020). Students' self-confidence and its impacts on their learning process. *American International Journal of Social Science Research, 5*, 1-15. https://doi.org/10.46281/aijssr.v5i1.462

Allan, J. (2008). *Rethinking Inclusive Education: The Philosophers of Difference in Practice*. Springer.

Ambert, A.-M. (2020). *Parents, Children, and Adolescents*. Routledge. https://doi.org/10.4324/9781315786681

Booth, T. (2011). *Index for inclusion: Developing learning and participation in schools*. CSIE.

Boyle, S., Rizzo, K. L., & Taylor, J. C. (2020). Reducing Language Barriers in Science for Students with Special Educational Needs. *Asia-Pacific Science Education, 6*(2), 364-387. https://doi.org/10.1163/23641177-bja10006

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Butler, N., Quigg, Z., Bates, R., Jones, L., Ashworth, E., Gowland, S., & Jones, M. (2022). The Contributing Role of Family, School, and Peer Supportive Relationships in Protecting the Mental Wellbeing of Children and Adolescents. *School Ment Health, 14*(3), 776-788. https://doi.org/10.1007/s12310-022-09502-9

Carter, E. W., Gustafson, J. R., Sreckovic, M. A., Dykstra Steinbrenner, J. R., Pierce, N. P., Bord, A., Stabel, A., Rogers, S., Czerw, A., & Mullins, T. (2016). Efficacy of peer support interventions in general education classrooms for high school students with autism spectrum disorder. *Remedial and Special Education, 38*(4), 207-221. https://doi.org/10.1177/0741932516672067

Carter, E. W., Moss, C. K., Asmus, J., Fesperman, E., Cooney, M., Brock, M. E., Lyons, G., Huber, H. B., & Vincent, L. B. (2015). Promoting Inclusion, Social Connections, and Learning Through Peer Support Arrangements. *TEACHING Exceptional Children, 48*(1), 9-18. https://doi.org/10.1177/0040059915594784

Cast. (2018). Universal Design for Learning Guidelines version 2.2.

Chaidi, I., & Drigas, A. (2020). Parents' involvement in the education of their children with autism: Related research and its results. *International Journal of Emerging Technologies in Learning (iJET), 15*, 194. https://doi.org/10.3991/ijet.v15i14.12509

Crea, T. M., Klein, E. K., Okunoren, O., Jimenez, M. P., Arnold, G. S., Kirior, T., Velandria, E., & Bruni, D. (2022). Inclusive education in a refugee camp for children with disabilities: How are school setting and children's behavioral functioning related? *Conflict and Health, 16*(1), 53. https://doi.org/10.1186/s13031-022-00486-6

Denzin, N. K., & Lincoln, Y. S. (2005). *The SAGE Handbook of Qualitative Research* (3rd ed.). Sage.

Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research (4th ed.)*. Sage Publication.

Florian, L. (2014). What counts as evidence of inclusive education? *European Journal of Special Needs Education, 29*(3), 286–294. https://doi.org/10.1080/08856257.2014.933551

Florian, L., & Black-Hawkins, K. (2011). Exploring inclusive pedagogy. *British Educational Research Journal, 37*(5), 813–828. https://doi.org/10.1080/01411926.2010.501096

Freedman, J. E. (2016). Disability Studies in Education (DSE) and the Epistemology of Special Education. In M. A. Peters (Ed.), *Encyclopedia of Educational Philosophy and Theory* (pp. 1-7). Springer Singapore. https://doi.org/10.1007/978-981-287-532-7_451-1

Gaspar, T., Cerqueira, A., Guedes, F. B., & de Matos, M. G. (2022). Parental Emotional Support, Family Functioning and Children's Quality of Life. *Psychological Studies, 67*(2), 189-199. https://doi.org/10.1007/s12646-022-00652-z

Holster, J. D. (2023). The influence of socioeconomic status, parents, peers, psychological needs, and task values on middle school student motivation for school music ensemble participation. *Psychology of Music, 51*, 447-462. https://doi.org/10.1177/03057356221098095

Hornby, G. (2015). Inclusive special education: Development of a new theory. *British Journal of Special Education, 42*(3), 234–250. https://doi.org/10.1111/1467-8578.12101

Kennedy, S. A., Balija, A. M., Bibeau, C., Fuhrer, T. J., Huston, L. A., Jackson, M. S., Lane, K. T., Lau, J. K., Liss, S., Monceaux, C. J., Stefaniak, K. R., & Phelps-Durr, T. (2022). Faculty professional development on inclusive pedagogy yields chemistry curriculum transformation, equity awareness, and community. *Journal of Chemical Education, 99*, 291-300. https://doi.org/10.1021/acs.jchemed.1c00414

King-Sears, M. (2009). Universal design for learning: Technology and pedagogy. *Learning Disability Quarterly, 32*(4), 199-201.

King-Sears, M. E., & Johnson, T. M. (2020). Universal design for learning chemistry instruction for students with and without learning disabilities. *Remedial and Special Education, 41*, 207-218. https://doi.org/10.1177/0741932519862608

Koster, M., Han, N., Jan, P. S., & and van Houten, E. (2009). Being part of the peer group: a literature study focusing on the social dimension of inclusion in education. *International Journal of Inclusive Education, 13*(2), 117-140. https://doi.org/10.1080/13603110701284680

Lindner, K.-T., Hassani, S., Schwab, S., Gerdenitsch, C., Kopp-Sixt, S., & Holzinger, A. (2022). Promoting factors of social inclusion of students with special educational needs: Perspectives of parents, teachers, and students. *Frontiers in Education*, *7*. https://doi.org/10.3389/feduc.2022.773230

Lindsay, G. (2012). The experiences of teachers and pupils in school. *British Journal of Special Education*, *39*(3), 139–148.

Lindsay, S., & McPherson, A. C. (2012). Experiences of social exclusion and bullying at school among children and youth with cerebral palsy. *Disability and Rehabilitation*, *34*(2), 101-109. https://doi.org/10.3109/09638288.2011.587086

Malecki, C. K., & Demaray, M. K. (2003). What Type of Support Do They Need? Investigating Student Adjustment as Related to Emotional, Informational, Appraisal, and Instrumental Support. *School Psychology Quarterly*, *18*, 231-252. https://doi.org/10.1521/scpq.18.3.231.22576

Martínez-López, Z., Moran, V. E., Mayo, M. E., Villar, E., & Tinajero, C. (2023). Perceived social support and its relationship with self-regulated learning, goal orientation self-management, and academic achievement. *European Journal of Psychology of Education*, *39*(2), 813-835. https://doi.org/10.1007/s10212-023-00752-y

McCarty, T. V., & Light, J. C. (2022). Supporting Peer Interactions for Students with Complex Communication Needs in Inclusive Settings: Paraeducator Roles. *Perspect ASHA Spec Interest Groups*, *7*(1), 229-244. https://doi.org/10.1044/2021_persp-21-00141

Meyer, A., Rose, D. H., & Gordon, D. (2014). *Universal design for learning: Theory and practice* CAST Professional Publishing.

Owen-DeSchryver, J., Maureen, Z., Amy, M., Marjorie, M., & and Carter, E. (2024). The Reciprocity of Peer-Mediated Interventions: Examining Outcomes for Peers. *School Psychology Review*, *53*(3), 223-235. https://doi.org/10.1080/2372966X.2022.2039959

Perez-Salas, C. P., Parra, V., Saez-Delgado, F., & Olivares, H. (2021). Influence of Teacher-Student Relationships and Special Educational Needs on Student Engagement and Disengagement: A Correlational study. *Front Psychol*, *12*, 708157. https://doi.org/10.3389/fpsyg.2021.708157

Pirker, A., Hafenscher, J., & Lindner, K.-T. (2023). Investigating the Self-Perception of Social, Emotional, and Academic Inclusion of Students with and without Special Educational Needs through Photovoice. *Education Sciences*, *13*(4). https://doi.org/10.3390/educsci13040423

Pratiwi, F. D., & Mangunsong, F. M. (2020). Social support impact on academic self-concept of students with special needs. *Electronic Journal of Research in Education Psychology*, *18*, 143-158. https://doi.org/10.25115/ejrep.v18i50.2404

Rais, M. R. (2022). Kepercayaan diri (self confidence) dan perkembangannya pada remaja. *AL-IRSYAD*, *12*, 40. https://doi.org/10.30829/al-irsyad.v12i1.11935

Ručman, A. B., & Šulc, A. (2025). Bullying of Students with Disabilities in Inclusive Educational Settings. *International Journal of Bullying Prevention*. https://doi.org/10.1007/s42380-025-00298-1

Scarparolo, G., & and Subban, P. (2021). A systematic review of pre-service teachers' self-efficacy beliefs for differentiated instruction. *Teachers and Teaching*, *27*(8), 753-766. https://doi.org/10.1080/13540602.2021.2007371

Schwab, S., Lehofer, M., & Tanzer, N. (2021). The Impact of Social Behavior and Peers' Attitudes Toward Students With Special Educational Needs on Self-Reported Peer Interactions. *Frontiers in Education*, *6*. https://doi.org/10.3389/feduc.2021.561662

Schwab, S., Sharma, U., & Loreman, T. (2018). Are we included? Secondary students' perception of inclusion climate in their schools. *Teaching and Teacher Education*, *75*, 31-39. https://doi.org/https://doi.org/10.1016/j.tate.2018.05.016

Shao, Y., & Kang, S. (2022). The association between peer relationship and learning engagement among adolescents: The chain mediating roles of self-efficacy and academic resilience. *Front Psychol*, *13*, 938756. https://doi.org/10.3389/fpsyg.2022.938756

Sharma, U., Forlin, C., Deppeler, J., & Yang, G. (2013). Reforming teacher education for inclusion in developing countries in the Asia Pacific region. *Asian Journal of Inclusive Education*, *1*(1), 3-16.

Slee, R. (2018). *Inclusive Education Isn't Dead, It Just Smells Funny*. Routledge.

Song, H., Shin, M., Chu, H., Hong, J., Lee, J., Eun, J., & Lim, H. (2024). *EmoBridge: Bridging the communication gap between students with disabilities and peer note-takers utilizing emojis and real-time sharing* Proceedings of the 26th International ACM SIGACCESS Conference on Computers and Accessibility, St. John's, NL, Canada. https://doi.org/10.1145/3663548.3675629

Sweller, J. (1994). Cognitive load theory, learning difficulty, and instructional design. *Learning and Instruction*, *4*(4), 295-312. https://doi.org/https://doi.org/10.1016/0959-4752(94)90003-5

Syaputri, E., & Afriza, R. (2022). Peran orang tua dalam tumbuh kembang anak berkebutuhan khusus (autisme). *Educativo: Jurnal Pendidikan*, *1*, 559-564. https://doi.org/10.56248/educativo.v1i2.78

Tan, C. Y., Lyu, M., & Peng, B. (2020). Academic benefits from parental involvement are stratified by parental socioeconomic status: A meta-analysis. *Parenting*, *20*, 241-287. https://doi.org/10.1080/15295192.2019.1694836

Tomlinson, C. A., & Tomlinson, C. A. (2017). *How to differentiate instruction in academically diverse classrooms* (3rd ed.). ASCD.

Tsuei, M., & Hsu, Y.-Y. (2019). Parents' Acceptance of Participation in the Integration of Technology into Children's Instruction. *The Asia-Pacific Education Researcher*, *28*(5), 457-467. https://doi.org/10.1007/s40299-019-00447-3

UNESCO. (2020). *Inclusion and education: All means all – Global Education Monitoring Report 2020*.

van der Meulen, K., Granizo, L., & Del Barrio, C. (2021). Emotional Peer Support Interventions for Students With SEND: A Systematic Review. *Front Psychol*, *12*, 797913. https://doi.org/10.3389/fpsyg.2021.797913

Williams, C. J., Chen, J. M., Quirion, A., & Hoeft, F. (2024). Peer mentoring for students with learning disabilities: The importance of shared experience on students' social and emotional development. *Frontiers in Education*, *9*(1292717). https://doi.org/10.3389/feduc.2024.1292717

Woreta, G. T., Zewude, G. T., & Jozsa, K. (2025). The Mediating Role of Self-Efficacy and Outcome Expectations in the Relationship Between Peer Context and Academic Engagement: A Social Cognitive Theory Perspective. *Behav Sci (Basel)*, *15*(5). https://doi.org/10.3390/bs15050681

Yılmaz, O., Sart, Z. H., Sakız, H., & Albayrak-Kaymak, D. (2024). School counselors' microaggressions towards students with disabilities in inclusive schools. *Current Psychology*, *43*(11), 9583-9597. https://doi.org/10.1007/s12144-023-05124-9

Yuan, W., Xie, Z., Dong, P., & Yang, Y. (2023). Linking perceived social support to self-esteem and social integration among adolescents with visual impairment: A cross-lagged study. *Frontiers in Psychology*, *13*(1054857). https://doi.org/10.3389/fpsyg.2022.1054857

The Untold Story: Visualising Barriers to Inclusive Teaching Practices of English for Academic Purposes (EAP) in Higher Education (HE)

Angelos Bakogiannis[1]

Article History
Received: 21.08.2024
Received in revised form: 26.12.2024
Accepted: 11.03.2025

Abstract

This photo essay visualizes the barriers to inclusive teaching practices in English for Academic Purposes (EAP) within Higher Education (HE), as identified through a wide-scale research project funded by BALEAP - The Global Forum for EAP Practitioners. It highlights key obstacles such as inadequate training and awareness among educators, time constraints, and resource shortages. The essay also addresses the lack of diversity among teaching staff and the over-reliance on prescriptive teaching methods. By illustrating these challenges, the essay underscores the critical need for institutions to adopt comprehensive and ongoing support structures, diverse teaching strategies, and inclusive assessment methods to create a more equitable educational environment for all students.

Keywords: Inclusive teaching practices, English for academic purposes, higher education, barriers to inclusion

1. Introduction

Inclusive teaching practices in higher education are fundamental to creating an academic environment where all students, regardless of their diverse backgrounds, can thrive. These practices aim to eliminate barriers and foster equity, ensuring that students of all cultural, linguistic, and socio-economic backgrounds have the opportunity to engage fully with curricula, participate actively in classrooms, and achieve their academic goals (García & Ortiz, 2020). This is especially critical in the context of English for Academic Purposes (EAP), a field that serves a highly diverse student body, including international students, non-native English speakers, and those transitioning from varied educational systems (Hyland, 2006). Students in EAP courses often grapple with challenges such as language barriers, cultural differences, and unfamiliar academic expectations in English-speaking contexts (Evans & Morrison, 2011). Addressing these challenges through inclusive teaching practices is not just beneficial-it is essential to ensure equitable academic success.

The importance of inclusivity in EAP education extends beyond individual achievement to address broader institutional goals and societal equity. As a key component of higher education, EAP plays a pivotal role in equipping students with the academic language skills necessary to navigate and succeed in their programs. However, the traditional focus on prescriptive teaching and assessment can hinder inclusivity by failing to accommodate diverse student needs (Carroll & Ryan, 2005). Inclusive EAP practices, such as differentiated instruction, culturally responsive teaching, and integrating diverse perspectives into curricula, are vital in creating a more equitable educational landscape (Banks & Banks, 2019; Moore & Morton, 2017).

This photo essay contextualizes and visualizes findings from a comprehensive, BALEAP-funded research project that explored barriers to inclusive EAP education. The project employed an online qualitative survey with key stakeholders, including EAP tutors, program leads, and academic advisors, to identify barriers such as lack of awareness, prescriptive delivery, and financial constraints. It also highlighted approaches like differentiated instruction and reflective practice as effective strategies for promoting inclusivity. The findings align with a broader conceptual shift in inclusive education, where the focus moves from addressing deficiencies to scaling effective practices that promote equity and active participation for all students (Messiou, 2017; Schuelka & Johnstone, 2012).

The choice of a photo essay as the medium for this research dissemination is both intentional and strategic. As a genre, photo essays offer a powerful multimodal approach that complements qualitative findings by synthesizing textual and visual elements to create accessible, impactful narratives. This approach is particularly suited to

[1]Teesside University, Middlesbrough, United Kingdom, a.bakogiannis@tees.ac.uk, orcid: https://orcid.org/0000-0001-8440-9820.

visualizing barriers to inclusive EAP education, allowing for a nuanced portrayal that transcends the limitations of traditional academic formats. The images, created using Generative Artificial Intelligence (AI) tools, were carefully designed to reflect identified themes, ensuring cultural readability and alignment with the findings. Textual elements accompany the visuals to bridge potential cultural variances in interpretation, broadening the accessibility of the study for diverse audiences.

Unlike conventional literature reviews or analytical papers, this photo essay represents a methodological innovation aimed at amplifying research findings through visual storytelling. The generative process involved identifying thematic barriers, translating them into visual concepts, and iteratively refining the images for clarity and cultural sensitivity. This approach not only enhances the dissemination of findings but also aligns with the goals of the wider research project to advocate for more inclusive EAP education practices. The multimodal presentation bridges academic and non-academic audiences, making the findings relatable, engaging, and actionable.

As part of a larger effort to understand and address barriers to inclusivity in EAP, this photo essay underscores the urgency of continued institutional and pedagogical reforms. By highlighting both challenges and actionable strategies, it contributes to a growing body of research advocating for systemic change to support diverse learners in higher education. Through this innovative visual representation, the essay aims to inspire educators, policymakers, and institutions to reflect on their practices and adopt more inclusive approaches.

2. Lack of Training and Awareness

Despite the growing recognition of the importance of inclusive teaching in higher education, the lack of adequate training and awareness among educators remains a significant barrier (see Figure 1). Many instructors, even those with the best intentions, are often not equipped with the necessary knowledge and skills to support the diverse needs of their students (Gay, 2018). This deficiency can lead to the unintentional exclusion of marginalized groups, including students with disabilities, those from different cultural backgrounds, and first-generation college students (Ladson-Billings, 2014). Without the appropriate training, educators may default to traditional teaching practices that do not consider the varied learning styles and challenges faced by these students, resulting in their struggle to engage with the course material, participate in class activities, or achieve their full academic potential (Hockings, 2010).

Figure 1. Untrained and unaware: The critical need for inclusive education training in higher education

To address this issue, there is a critical need for comprehensive and continuous professional development in inclusive teaching practices (Schuck et al., 2018). Educators must be provided with ongoing opportunities to learn about and implement strategies that accommodate diverse learners (Gay, 2018). Training programs should cover a range of topics, including cultural competency, differentiated instruction, and the use of inclusive language (Nieto, 2017). Additionally, educators should be encouraged to engage in self-reflection and peer collaboration to continually improve their teaching practices (Brookfield, 2017). Empirical research has confirmed the impact of such training suggesting that faculty members who participated in inclusive pedagogy training were more likely to adopt teaching methods that enhanced the participation and success of underrepresented students (Dewsbury et al, 2022). This highlights the importance of institutional commitment to professional development in fostering an equitable and inclusive learning environment (Killpack & Melón, 2016).

3. Time Constraints

Another significant barrier to inclusive teaching in higher education is the time constraints faced by educators (see Figure 2). Instructors in academia are often required to balance a wide array of responsibilities, including teaching, conducting research, and fulfilling various administrative duties (Moss-Racusin et al., 2018). This heavy workload leaves limited time for faculty to focus on developing and implementing inclusive curricula (Neumann et al., 2002). The pressure to meet academic and administrative demands can lead educators to default to traditional teaching methods, which may not effectively address the diverse needs of their students (Hochschild, 2021).

Figure 2. Ticking time bomb: The invisible barrier to effective inclusive education

The issue of time constraints is further compounded by the lack of institutional support for professional development focused on inclusivity (Pallas, 2020). According to the American Council on Education (2021), the absence of allocated time for faculty to engage in training and development on inclusive teaching practices is a major obstacle to their widespread adoption (ACE, 2021). Universities must recognize this challenge and take proactive measures to address it, such as reallocating resources to ensure that faculty members have dedicated time to participate in professional development, collaborate with colleagues on inclusive teaching strategies, and revise their curricula to better serve all students (Aragón et al., 2017).

4. Resource Shortages

Resource shortages represent yet another significant obstacle to the effective implementation of inclusive teaching practices (see Figure 3). In many educational institutions, limited access to essential technologies, such as up-to-date computers and adaptive software, severely hampers educators' ability to accommodate the diverse needs of their students (UNESCO, 2020). For instance, students with disabilities often rely on specialized software to access and engage with course content, but when schools lack the necessary funding to provide these tools, these students are left at a disadvantage (Seale, 2013).

Figure 3. Outdated resources, outdates promises: the resource gap in inclusive teaching

Beyond technological and material limitations, the scarcity of support services, such as special education resources or mental health support, exacerbates the difficulties in creating an equitable learning environment (Krause, 2022). According to UNESCO (2020), the lack of investment in educational resources disproportionately affects students with disabilities and those from marginalized backgrounds, deepening existing educational disparities (UNESCO, 2020). For example, when schools lack adequate funding for special education professionals or mental health counsellors, students who need individualized support are often overlooked or underserved (Schwartz, 2019). Therefore, institutions must prioritize the allocation of resources to provide diverse teaching aids, accessible materials, and robust support services.

5. Lack of Diversity

The homogeneity of teaching staff also poses a considerable barrier to the promotion of inclusive teaching practices (see Figure 4). When educators predominantly come from similar cultural, socioeconomic, and educational backgrounds, their perspectives may be limited, potentially failing to address or even acknowledge the diverse experiences and needs of the student body (Taylor & Ladson-Billings, 2017). This narrow perspective can inadvertently lead to a curriculum and teaching style that is not inclusive or representative of all students, particularly those from underrepresented groups (Howard, 2020).

Figure 4. Uniform classrooms: The challenge of achieving true diversity in higher education

Furthermore, the lack of diversity among teaching staff can impede the development of a truly inclusive educational environment (Gorski & Dalton, 2019). A diverse faculty brings a variety of perspectives, experiences, and teaching approaches that can enrich the learning environment for all students (NCES, 2022). When educators from diverse backgrounds are present, they are more likely to introduce inclusive teaching practices that reflect a broader range of cultural and social experiences. To address this barrier, institutions must adopt hiring practices that actively promote diversity among educators (Robinson et al., 2019). This could involve broadening recruitment efforts, implementing diversity training for hiring committees, and creating supportive environments that attract and retain faculty from diverse backgrounds.

6. Prescriptive Delivery

Another key barrier to creating an inclusive educational environment is the reliance on one-size-fits-all teaching methods (see Figure 5). These traditional approaches often marginalize students with diverse learning needs, including those with disabilities, different cultural backgrounds, or varying levels of academic preparedness (Ginsberg & Wlodkowski, 2009). A one-size-fits-all methodology assumes that all students learn in the same way, ignoring the fact that students have unique cognitive styles, abilities, and preferences.

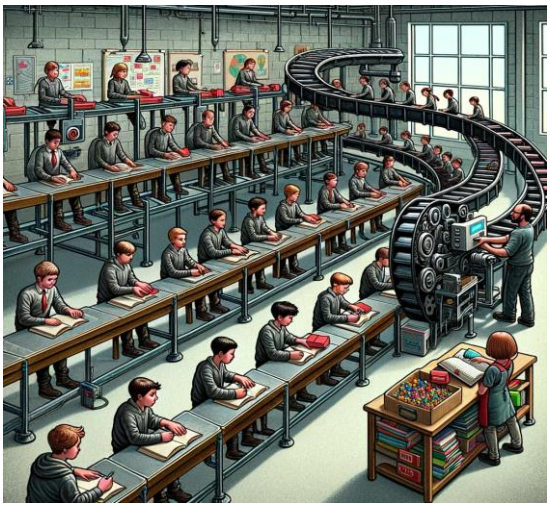

Figure 5. One-Size-Fits-All: The limitation of prescriptive teaching methods

Educators must be trained in flexible, student-cantered teaching strategies that recognize and cater to these diverse learning needs (Rose & Meyer, 2002). This can include adopting Universal Design for Learning (UDL) principles, which provide multiple means of representation, engagement, and expression, allowing students to access and engage with content in ways that best suit their individual needs (Meyer et al., 2014). Research shows that when teachers employ diverse instructional strategies, such as project-based learning, flipped classrooms, or adaptive technologies, students are more likely to succeed academically and feel included in the learning process (Blaschke, 2012).

7. Lack of Embedded Support

The lack of ongoing institutional support for inclusive teaching practices is also a significant barrier to fostering an inclusive learning environment (see Figure 6). While individual educators can make efforts to adopt more inclusive teaching methods, without institutional backing, these efforts may be unsustainable and inconsistent (Hockings, 2010). Many universities still lack comprehensive academic support programs, such as tutoring, counselling, or mentoring services, that are crucial for supporting students from diverse backgrounds (Museus et al., 2017).

Institutions must prioritize embedding comprehensive support structures to create an inclusive learning environment (Salazar, 2020). This includes providing professional development opportunities for educators to learn about inclusive teaching practices, ensuring that academic support services are accessible to all students, and developing policies that promote inclusivity at all levels of the institution (Hart et al., 2017). Research has shown that when universities invest in these areas, there is a marked improvement in student retention and success rates, particularly among traditionally marginalized groups (Museus & Chang, 2009).

Figure 6. Alone in the crowd: The impact of missing support systems in education

8. Lack of Multimodal Assessments

Another critical barrier to inclusive teaching practices is the lack of multimodal assessments (see Figure 7). Traditional exams and written assignments are the most common forms of assessment in many educational institutions; however, these methods often fail to accommodate the diverse learning styles and abilities of students

(Shepard, 2000). For instance, students with learning disabilities, language barriers, or different cognitive processing speeds may struggle to demonstrate their understanding through conventional written exams (Black & William, 1998; Brookhart, 2013).

To address this barrier, institutions must implement a variety of assessment methods, such as projects, presentations, and practical evaluations (McTighe & Wiggins, 2012). These alternative forms of assessment can cater to different strengths and learning preferences, allowing students to demonstrate their skills, and understanding in ways that align with their capabilities (Tomlinson & McTighe, 2006). By diversifying assessment methods, educators can create a more inclusive environment that acknowledges and values the varied ways in which students learn and express their knowledge (Gardner, 2011).

Figure 7. One test fits none: The need for varied assessment methods

9. Financial Constraints

Financial constraints present another critical challenge to promoting inclusive education (see Figure 8). Adequate funding is essential to provide the necessary resources, training, and support services that enable inclusive teaching practices (Doyle & Gough, 2018). Schools and universities require funds to develop and maintain assistive technologies, hire specialized staff, and offer professional development programs for educators (Daly & Regan, 2019). Without sufficient financial resources, institutions may struggle to implement these essential components, thereby limiting their ability to support all students effectively (Hancock & Scherff, 2010).

Figure 8. Pennies for progress: The financial barrier to inclusive teaching

Advocacy for increased funding is crucial to overcoming this barrier (Bray et al., 2017). Policymakers, educational leaders, and stakeholders must prioritize budget allocations that support inclusive education initiatives (Fullan, 2015). For instance, securing grants, lobbying for government funding, and fostering partnerships with private organizations can help generate the financial resources needed to sustain these programs (Cahill & Freeman, 2007). By addressing the financial challenges associated with inclusive education, institutions can ensure that all students have access to the tools and support they need to succeed.

9. Addressing Stereotypes and Biases

Finally, stereotypes and biases in higher education represent a pervasive barrier that can undermine the effectiveness of inclusive teaching practices (see Figure 9). Educators, often unconsciously, may hold biases or

adhere to stereotypes that affect their expectations of students' abilities, leading to unequal treatment in the classroom (Gutiérrez & Rogoff, 2003). For instance, implicit biases might cause teachers to underestimate the capabilities of students from certain ethnic backgrounds or to favour students who share similar cultural or socioeconomic backgrounds to their own (Banaji & Greenwald, 2016).

To address this issue, educators need ongoing training to recognize and counteract their biases (Sensoy & DiAngelo, 2017). Professional development programs that focus on diversity, equity, and inclusion can equip teachers with the tools and strategies necessary to create a more equitable learning environment (Howard, 2019). Additionally, institutions should implement policies that actively promote inclusivity, such as diverse hiring practices and inclusive curriculum development (Banks & Banks, 2019). By proactively addressing stereotypes and biases, educators can contribute to a more inclusive educational environment where every student has the potential to succeed.

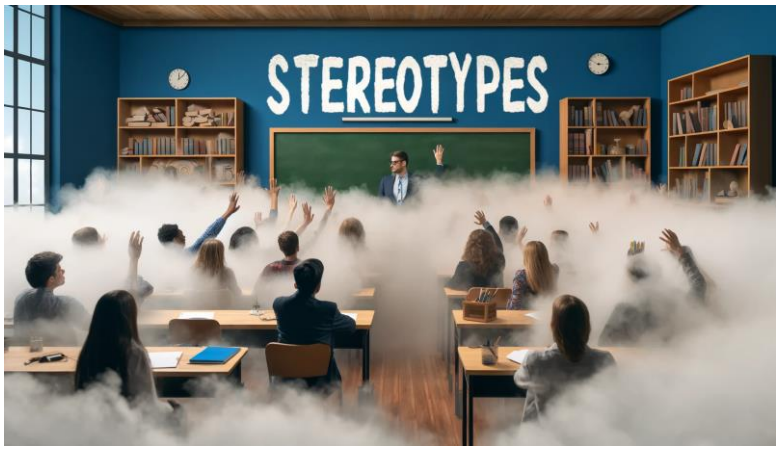

Figure 9. Breaking the mold: The essential fight against classroom stereotypes

10. Conclusion

hinder inclusive practices in English for Academic Purposes (EAP) classrooms in higher education. Using AI-generated images to vividly depict these barriers, the essay communicates the need for inclusivity more effectively to a broader audience. Visualising these issues underscores the urgency of addressing them and can be used in awareness campaigns and professional development programs. By illustrating these barriers, the essay seeks to inspire actionable recommendations and institutional changes that improve student engagement and learning outcomes. Ultimately, it aims to spark conversations, inspire empathy, and mobilize support for policy reforms and more inclusive educational environments.

The exploration of barriers to inclusive teaching practices in English for Academic Purposes (EAP) within higher education reveals several critical challenges that hinder the creation of equitable learning environments. Key issues, such as the lack of training and awareness among educators, time constraints, resource shortages, the homogeneity of teaching staff, and reliance on traditional one-size-fits-all teaching methods, significantly impact the ability of institutions to fully support a diverse student body (Ginsberg & Wlodkowski, 2009; Kendall & Tannenbaum, 2021; Wilkerson & Elkins, 2016; Tomlinson, 2017). These barriers not only perpetuate inequities but also contribute to a learning environment where students from underrepresented backgrounds may feel marginalized and unsupported (Ladson-Billings, 2014; Howard, 2020).

Moving forward, it is imperative that higher education institutions commit to systematic changes that promote inclusivity at all levels (Hockings, 2010). This includes providing comprehensive professional development for educators, ensuring adequate funding for inclusive resources and support services, and adopting hiring practices that increase faculty diversity (Meyer et al., 2014; Bray et al., 2017). Additionally, institutions must embrace innovative teaching methods that cater to diverse learning styles and actively work to dismantle stereotypes and biases within the classroom (Blaschke, 2012; Sensoy & Di Angelo, 2017). By prioritizing these efforts, universities can create a more inclusive, supportive, and effective educational environment, empowering all students to achieve their full academic potential.

References

American Council on Education (ACE). (2021). The Pulse Point Survey of College and University Presidents on the Covid-19 Crisis. American Council on Education.

Aragón, A., Dovidio, J. F., & Graham, M. J. (2017). Understanding Faculty Attitudes Toward Diversity and Inclusion. Journal of Higher Education, 88(6), 801–828.

Banks, J. A., & Banks, C. A. M. (2019). Multicultural Education: Issues and Perspectives (10th ed.). Wiley.

Banaji, M. R., & Greenwald, A. G. (2016). Blindspot: Hidden Biases of Good People. Bantam.
Blaschke, L. M. (2012). Heutagogy and Lifelong Learning: A Review of Heutagogical Practice and Self-Determined Learning. The International Review of Research in Open and Distributed Learning, 13(1), 56–71.
Black, P., & William, D. (1998). Assessment and Classroom Learning. Assessment in Education: Principles, Policy & Practice, 5(1), 7–74.
Brookfield, S. D. (2017). Becoming a Critically Reflective Teacher (2nd ed.). Jossey-Bass.
Brookhart, S. M. (2013). How to Create and Use Rubrics for Formative Assessment and Grading. ASCD.
Cahill, L., & Freeman, R. (2007). Understanding Pathways to Higher Education: Gender and Inequity. Springer.
Carroll, J., & Ryan, J. (2005). Teaching International Students: Improving Learning for All. Routledge.
Daly, A. J., & Regan, E. (2019). Networked by Design: Interventions for Teachers to Develop Social Capital. Teachers College Press.
Dewsbury B. M., Swanson H. J., Moseman-Valtierra S., Caulkins J. (2022). Inclusive and active pedagogies reduce academic outcome gaps and improve long-term performance. PLoS One, 15;17(6): e0268620. doi: 10.1371/journal.pone.0268620.
Doyle, M. W., & Gough, N. (2018). The Role of Universities in Promoting Social Inclusion. Palgrave Macmillan.
Evans, S., & Morrison, B. (2011). Meeting the Challenges of English-Medium Higher Education: The First-Year Experience in Hong Kong. English for Specific Purposes, 30(3), 198–208.
Fullan, M. (2015). The New Meaning of Educational Change (5th ed.). Teachers College Press.
Gardner, H. (2011). Frames of Mind: The Theory of Multiple Intelligences. Basic Books.
Gay, G. (2018). Culturally Responsive Teaching: Theory, Research, and Practice (3rd ed.). Teachers College Press.
Ginsberg, M. B., & Wlodkowski, R. J. (2009). Diversity and Motivation: Culturally Responsive Teaching in College. Jossey-Bass.
Gorski, P. C., & Dalton, J. (2019). Reaching and Teaching Students in Poverty: Strategies for Erasing the Opportunity Gap (2nd ed.). Teachers College Press.
Gutiérrez, K. D., & Rogoff, B. (2003). Cultural Ways of Learning: Individual Traits or Repertoires of Practice? Educational Researcher, 32(5), 19–25.
Hancock, S. D., & Scherff, L. (Eds.). (2010). Young Gifted and Black: Promoting High Achievement Among African-American Students. Teachers College Press.
Hart, C. S., Coates, J., & Howlett, E. (2017). Promoting Equity and Inclusion through Teaching and Learning at University. Palgrave Macmillan.
Hockings, C. (2010). Inclusive Learning and Teaching in Higher Education: A Synthesis of Research. Higher Education Academy.
Hochschild, A. R. (2021). The Time Bind: When Work Becomes Home and Home Becomes Work. Holt Paperbacks.
Howard, T. C. (2019). Why Race and Culture Matter in Schools: Closing the Achievement Gap in America's Classrooms (2nd ed.). Teachers College Press.
Howard, T. C. (2020). Why Race and Culture Matter in Schools: Closing the Achievement Gap in America's Classrooms (2nd ed.). Teachers College Press.
Hyland, K. (2006). English for Academic Purposes: An Advanced Resource Book. Routledge.
Kendall, D., & Tannenbaum, S. C. (2021). Social Problems in a Diverse Society (7th ed.). Pearson.
Killpack, T. L., & Melón, L. C. (2016). Toward Inclusive STEM Classrooms: What Personal Role Do Faculty Play? CBE—Life Sciences Education, 15(3), 1–10.
Krause, M. (2022). Inclusive Teaching: A Guide for Teachers and Administrators. Jossey-Bass.
Ladson-Billings, G. (2014). The Dreamkeepers: Successful Teachers of African American Children (2nd ed.). Jossey-Bass.
McTighe, J., & Wiggins, G. (2012). Understanding by Design Framework. ASCD.
Meyer, A., Rose, D. H., & Gordon, D. (2014). Universal Design for Learning: Theory and Practice. CAST Professional Publishing.
Moore, T., & Morton, J. (2017). The Myth of English as an International Language in Higher Education: Beyond the Anglo-American Orbit. Palgrave Macmillan.
Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., & Handelsman, J. (2018). Science Faculty's Subtle Gender Biases Favor Male Students. Proceedings of the National Academy of Sciences, 109(41), 16474–16479.
Museus, S. D., & Chang, M. J. (2009). Rising to the Challenge of Conducting Research on Asian Americans in Higher Education. New Directions for Institutional Research, 2009(142), 95–105.
Museus, S. D., Yi, V., & Saelua, N. (2017). The Impact of Culturally Engaging Campus Environments on Sense of Belonging. The Review of Higher Education, 40(2), 187–215.
Neumann, R., Parry, S., & Becher, T. (2002). Teaching and Learning in Their Disciplinary Contexts: A Conceptual Analysis. Studies in Higher Education, 27(4), 405–417.

Nieto, S. (2017). Language, Culture, and Teaching: Critical Perspectives (2nd ed.). Routledge.
Pallas, A. M. (2020). Reconceptualizing Faculty Workload: Higher Education at a Crossroads. The Journal of Higher Education, 91(1), 18–40.
Robinson, O. C., Peskin, J., & Starr, M. (2019). Hiring and Retaining Faculty of Color in Academia: Challenges and Strategies. Journal of Diversity in Higher Education, 12(3), 190–200.
Rose, D. H., & Meyer, A. (2002). Teaching Every Student in the Digital Age: Universal Design for Learning. ASCD.
Salazar, M. (2020). An Inclusive Academy: Achieving Diversity and Excellence. MIT Press.
Schuck, S., Brady, L., & Griffin, D. (2018). Valuing Teacher Research: A New Look at Qualitative Inquiry in Education. Routledge.
Seale, J. (2013). E-learning and Disability in Higher Education: Accessibility Research and Practice. Routledge.
Sensoy, Ö., & DiAngelo, R. (2017). Is Everyone Really Equal? An Introduction to Key Concepts in Social Justice Education (2nd ed.). Teachers College Press.
Shepard, L. A. (2000). The Role of Assessment in a Learning Culture. Educational Researcher, 29(7), 4–14.
Taylor, E., & Ladson-Billings, G. (2017). Foundations of Critical Race Theory in Education (2nd ed.). Routledge.
Tomlinson, C. A. (2017). How to Differentiate Instruction in Academically Diverse Classrooms (3rd ed.). ASCD.
Tomlinson, C. A., & McTighe, J. (2006). Integrating Differentiated Instruction and Understanding by Design: Connecting Content and Kids. ASCD.
UNESCO. (2020). Global Education Monitoring Report 2020: Inclusion and Education. UNESCO.
Wilkerson, M., & Elkins, J. (2016). Teaching with Compassion: An Educator's Oath to Teach from the Heart. Rowman & Littlefield.