



## The evolution of the peer learning model Supplemental Instruction in Europe and its impact on the student first year experience

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### ABSTRACT

Supplemental Instruction / Peer Assisted Study Sessions (SI-PASS) has been adopted across Europe as a structured model of peer learning to support student transition, retention, academic confidence and success in higher education. This article examines six European case studies from Sweden, the United Kingdom, Ireland, Belgium, Portugal and Estonia, representing longstanding, established and emerging implementations. Rather than presenting SI-PASS as a uniform intervention, the article analyses how institutions have adapted the model in response to local priorities, including first-year transition, high-risk courses, student belonging, leader development, staff learning and institutional strategy. A synthesis of the Case Studies shows how SI-PASS has been adopted, adapted and sustained across different institutional contexts and identifies key conditions that support implementation and sustainability: clear coordination, disciplinary ownership, trained student leaders, institutional legitimacy, and purposeful evaluation. The article concludes by outlining lessons for institutions considering SI-PASS, including the need to balance alignment to the model with contextual adaptation, to evaluate more than attendance and attainment, and to acknowledge the challenges of scaling peer learning beyond initial enthusiasm.

**Keywords:** Peer Assisted Study Sessions (PASS), collaborative learning, academic belonging, student transitions, co-curricular

### Introduction

Supplemental Instruction (SI) is an internationally well-established model for collaborative peer learning that was developed in the USA in the 1970's, as an intervention to support the changing student demographic and widening access at the University of Missouri-Kansas City (UMKC) (Arendale, 1994). This changing demographic was not limited to UMKC's campuses and as the success of SI grew, other US HEIs sought to adopt the model, applying its core principles and approaches into their own contexts (Arendale, 2022). Other countries were starting to explore how they responded to similar changing demographics and

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were experiencing their own challenges with retention, which resulted in the adoption of the SI model into other national contexts. To ensure appropriate application into these culturally and structurally different Higher Education settings, National Centres/Regional Centres were established, which connected into the International Center for SI (based at UMKC). This resulted in adaptations to the name of the model to suit the different settings, including Peer Assisted Study Sessions (PASS), Peer Assisted Learning (PAL), Supported Learning Groups (SLGs), and CÉIM, to mention a few. SI-PASS will be used throughout the remainder of this article to refer to the general model, while individual case studies will use the language of the institution.

#### The core model of SI-PASS

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At its core, SI-PASS provides a space for students from the same course or module to meet to work through questions and discussions of key course content in a small group setting with the support of a trained SI-PASS Leader (in some cases, a pair of Leaders). It is particularly relevant to the first-year experience because it brings together academic transition and social integration. Groups typically meet once a week for the period SI-PASS is offered, which is generally over one semester/term or the academic year to discuss content that previous students have found challenging (Martin & Arendale, 1992). Leaders do not teach but ensure productive discussions through active learning, encouraging students to learn from each other developing disciplinary study skills and strategies (Ody & Carey, 2009; Malm et al., 2012a; Bayram, 2025). Training of Leaders and ongoing monitoring are undertaken by SI Supervisors, who are themselves trained through one of the SI-PASS Centres (Arendale, 1994).

A significant factor of the model's success in student outcomes - and its appeal to institutions (and consequently, international growth) - is a clear framework for implementation, development and evaluation, which assists in assuring the quality of an SI-PASS programme. Central to the quality assurance is the role of a Certified Trainer (CT), which in parallel with the national SI-PASS Centres, are responsible for the training of new SI Supervisors and providing support to institutions to establish, embed and sustain their SI-PASS programmes (Wilson, 2005; Zerger, 2006; Ody & Carey, 2013; Canadian National Centre for Supplemental Instruction, 2014; Arendale, 2022; Bayram, 2025).

Originally, the model was established to improve learning, increase continued enrollment/retention, and improve student performance (Arendale, 2002; Arendale, 2022) with a focus on first year students. Studies evaluating the effect of the model (for example, Blanc et al., 1983; Bowles et al., 2008; Dawson et al., 2014; Malm et al., 2015; Bengesai et al., 2023; Dekker et al., 2023) indicate that these aims are being met. In particular, the systematic review of 29 SI-PASS studies between 2001-2010 (Dawson et al., 2014) noted a positive impact on academic success and influence on students' wellbeing, and Bengesai et al.'s (2023) meta-analysis of 21 SI-PASS studies demonstrated a moderate impact of the programme through a comparative analysis of participant/non-participant groups in quasi-experimental designs. However, both articles noted the need for better experimental design and control of the measured variables, including a 'gold standard study involving random assignment to groups...and the SI intervention in practice' (Dawson et al., 2014, p. 635). A live data set from the International Center for SI consistently shows that students who attend SI on a regular basis do substantially better than students who scarcely attend or don't attend at all. (University of Missouri-Kansas City, n.d.).

### Developing SI-PASS across Europe

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As the model has embedded over the last 50 years, evidence to support additional impacts beyond academic performance have been identified, including developing the transferable / transversal skills of SI-PASS Leaders (Malm et al., 2022), and extending SI-PASS into higher years of HE study (Ody & Carey, 2013) and high schools (Malm et al., 2012b), supporting national or institutional strategic agendas. As the model moved to Europe, a core set of principles were developed by the first UK CT, Jenni Wallace, to provide a common core (Fostier & Carey, 2007), which form part of the training and quality assurance processes.

In-line with the international model, the role of CT and associated National Centres became part of the growth in Europe; initially Lund University, Sweden, became the Scandinavian Centre in 2001 and The University of Manchester became the UK Centre in 2009. Both Centres had worked in partnership for many years, including Leader exchanges and staff development activity, with CTs holding a shared vision of expansion of SI-PASS into other European countries. In 2016, changes at Manchester led to a natural opportunity to merge the Centres into the European Centre for SI-PASS, based at Lund University.

In a European context, to date, over 1135 staff have been trained to implement an SI-PASS programme from more than 150 institutions. Given approaches to implementation vary across institutions (e.g. some have a small number of trained SI Supervisors, others train larger numbers of staff, and some use the training as wider professional development for their staff (Walsh, 2026) or structural changes (e.g. staff turnover or SI-PASS operating for a period of time), these figures represent total numbers of staff and institutions trained in SI-PASS rather than active programmes. Based on institutions sharing their activity for inclusion in the European Centre Status Report (Malm et al., 2023) there are about 75 SI-PASS programmes presently in Europe in some 14 countries from Portugal in the South to Norway in the north. This equates to approximately 7,600 SI-PASS Leaders offering SI-PASS to more than ~138,000 students. Consolidating the aims submitted by institutions in the Status Report identified four core themes, which extend the original aims of the model to include:

- Academic. To provide support in challenging courses and improve student performance, progression, retention and ultimately their success through higher education.
- Socially. To get to know fellow students in a study environment and get to learn how to work collaboratively in a constructive and efficient way, providing a sense of belonging in HE.
- Study skills and strategies. Developing their study skills and strategies through discussion and brainstorming using each other as learning resources. First-years are empowered to explore different ways of learning so that they can personalise their education and become independent learners.
- Improving generic skills. Communication, teamwork, problem solving and critical thinking are normal components in SI-PASS and provide a good training arena for graduate attributes.

Consequently, as SI-PASS is implemented in different countries, aspects including student expectations, leader and staff training, and evaluation practices need to be considered. These are central to the adoption in a local / national context so the model can be sustained and adapted without losing its core principles.

This article therefore has two connected purposes. First, it explores how SI-PASS has evolved across selected European higher education contexts, from early adoption in longstanding programmes to current implementation in emerging settings. Second, it examines what these examples reveal about the conditions that support implementation, adaptation and sustainability. The article is guided by core questions:

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1. What institutional, disciplinary or student experience challenges prompted the adoption of SI-PASS?
2. How have the purposes and practices of SI-PASS changed over time in different European contexts?
3. What lessons can be drawn for institutions seeking to implement, scale or evaluate SI-PASS as part of their first-year experience and student success work?

### Case studies

The six case studies were selected to provide variation in maturity, geography, institutional context and stage of implementation. Lund University and The University of Manchester represent longstanding European implementations that have influenced wider SI-PASS development. Technological University of the Shannon and Université de Liège are established programmes operating within distinct national and institutional systems. Universidade do Minho and the University of Tartu provide insight into emerging programmes where SI-PASS is being introduced in relation to current institutional or national priorities. They are not intended to represent all European SI-PASS activity but provide contrasting examples exploring the original goals (or aims) and examine how the model has been adapted and sustained across contexts, whilst aligning to the common core of SI-PASS.

### Supplemental Instruction at Lund University, Sweden

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Supplemental Instruction (SI) started as a pilot project in 1994 at the Faculties of Science and Engineering after a delegation from Lund University encountered the SI method during a study trip to the United States in the early 1990s. The first results were promising regarding the students' performance in the SI-supported courses (Bruzell-Nilsson & Bryngfors, 1996; Bryngfors & Bruzell-Nilsson, 1997). However, student throughput was not a priority issue at this time. To continue and develop the SI programme at Lund University, qualitative benefits of SI were marketed – such as helping new students with their transition to higher education and adopting appropriate study strategies. These goals of SI were well received by the faculty managements and laid the foundation for permanent SI programmes.

Since then, SI has grown continuously at Lund University. In 2001, SI was introduced at the Humanities & Theology Faculty with the aim of increasing the number of students who passed basic courses and continued with courses at advanced level. The Faculty of Social Sciences introduced SI in 2007 with the aim of helping new students in the transition to university studies. A re-introduction to the Faculty of Science in 2013, requested by the Vice-Dean, sought to improve learning, performance and academic support for new students. In 2014, a central initiative was taken by the management at Lund University, to disseminate information about SI internally at the University and to train more staff in the SI model, to implement in new subjects across the University. This resulted in SI being introduced with the same objective to complement new courses in two more faculties – Medicine, Economics and Management.

An evaluation report by SI at Lund University from the academic year 2022/23 (Malm et al., 2023) showed that SI has become an extensive operation with

- ~270 employed SI Leaders each year
- ~200 course sessions supported by SI

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- ~5200 students who participated in SI sessions during the academic year

Almost all the SI-supported courses are for first-year students, either on bachelor level (primarily) or master level.

The impact on students participating in the SI programme at Lund University is substantial. Student performance and retention are on average higher (Malm, et al., 2012; Malm et al., 2015; Malm, et al., 2018). Participants develop transferable skills like communication, teamwork, problem solving and critical thinking (Malm, 2021; Dekker et al., 2025). SI goes often believe that their study strategies and self-confidence improve through the intervention. Furthermore, significant portions think that SI helps them to integrate into university life and to find new friends to study with (Malm, et al., 2015; Malm et al., 2023). However, the big winners appear to be the SI Leaders, who substantially improve skills in communication, group management and leadership, to mention a few (Malm et al., 2022).

The main challenge for the SI programme at Lund University is that it is an add-on to regular education activities. In times of budget cuts, it is a post that is easy to cut. To counteract this, the SI-programme needs to be continuously anchored to all stakeholders at the university. However, this takes time and resources (human and economic) are usually already pressed to the limit. Volunteering students might be part of the solution but needs to be supported by SI staff.

### Peer Assisted Study Sessions (PASS) at University of Manchester, United Kingdom

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PASS at The University of Manchester started in 1995 in Chemistry and evolved into an institution-wide, strategically-embedded model of student-led academic and pastoral support.

An academic initiated PASS following a Chemistry education conference acknowledging it as an approach to address a 'high-risk' module. He had observed an early 'confidence shock' amongst incoming students, who were all high achievers, surprised by the shift of level to undergraduate study. Rather than lowering academic standards, he sought to scaffold their transition by promoting collaborative problem solving, facilitated by trained higher year students, the PASS Leaders.

Initial expansion was in STEM subjects adhering to the original aims and principles. The rationale for schemes extended to include:

- socialisation in subjects where limited interaction took place between students (e.g. Computer Science),
- more structured peer time where contact hours were lower (e.g. Arts and Humanities schemes), and
- influencing delivery style of the curriculum.

These developments enabled PASS to remain applicable and meaningful in a local disciplinary context.

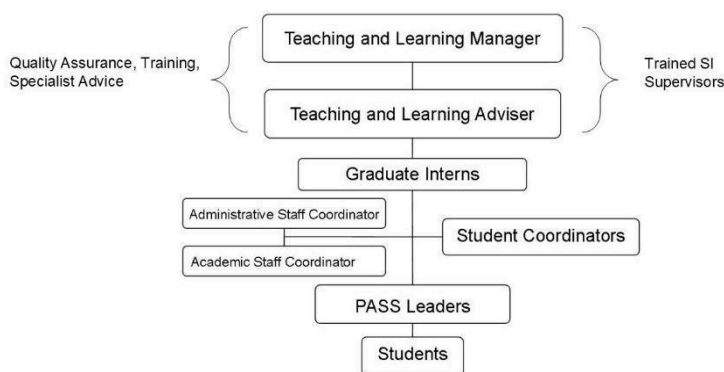
Despite PASS attendance matching international averages (20–30%), it was not reaching desired levels of engagement, a common challenge. An internal 2001 evaluation found that many students avoided sessions due to stigma, a belief they didn't need support, or didn't have any problems to discuss. It found that 'opt-in' sessions meant fewer engaged. In 2002, Manchester flipped to an 'opt-out' model, automatically allocating all students to timetabled groups, resulting in attendances significantly increasing (50 - 70%) – an

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approach subsequently adopted by many other HEIs. Further attendance challenges were addressed by the ‘lecture-trap’ solution – sandwiching PASS between core modules, made easier by facilitating a deeper understanding of PASS with central and School timetabling teams.

Partnership and quality assurance have always been critical; quality assurance through training and ongoing support of Leaders by trained SI Supervisors, and partnership that drew on the expertise of students and staff within the discipline, and staff from the Institution's pedagogic centre (Ody & Carey, 2013).

Over a period of ~10 years, the structures and governance supporting continued growth of activity evolved from a part-time central role, working with individual academics, to a central team, including full-time staff, Graduate Interns, and administrative support. The central team worked with schemes across all Faculties providing strategic oversight, Quality Assurance, leader/staff training, resource production, evaluation, recognition, and links to services (e.g., Careers) and external partners (e.g. PricewaterhouseCoopers who sponsored the programme). Figure 1 highlights the ‘Centrally-coordinated, Discipline-owned, and Student-led’ approach pioneered at Manchester ensuring PASS is applied consistently and coherently.



**Figure 1** The University of Manchester’s model for PASS – ‘Centrally-coordinated, Discipline-owned, and Student-led’

For years, PASS operated on small project funding. An external review and the Review of Undergraduate Education (2009), established a Peer Support Strategy Group, ensuring governance, benchmarking, and sustainable development. This shift from periphery to mainstream led to core funding and integration within institutional strategy and quality processes.

By 2016, Peer Support was offered to all incoming first year students (circa 8000 students) and operated in other settings (e.g. higher-year journal discussion clubs, and post-graduate research student orientation (Ody & Carey, 2013). Each year approximately 2000 student volunteers are trained as Mentors or PASS Leaders. Interestingly, whilst offering multiple models of Peer Support activity provides choice, it can lead to confusion from students and staff, so clarity of purpose and reducing potential duplication is important.

Over the years, the programme was bold in aligning the benefits of PASS to current and emerging strategic drivers of the institution and sector, including Widening Participation, Retention, Personalised Learning, Students as Partners, Student Engagement, Graduate Attributes and Employability. PASS and wider Peer

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Support continues to thrive across all Faculties with over 30 schemes, including higher-year PASS (University of Manchester, 2025).

### **Peer Assisted Student Support at Technological University of the Shannon, Ireland**

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The rationale for the introduction of PASS was to help ease the transition for first-year students into higher education. PASS was initially piloted on the Athlone campus in 2009 with six PASS Leaders (Ginty & Harding, 2014). Since then, 472 PASS Leaders have volunteered and facilitated PASS sessions across the university. On average Leaders complete six sessions during semester one. For example, in 2024/25, 21 Leaders facilitated 47 sessions.

TUS is a new university, established in 2021, with seven geographically dispersed campuses. PASS is coordinated through the Centre for Pedagogical Innovation and Development (CPID) which supports innovation, diversity and excellence in learning, teaching and assessment. This includes a commitment to a full-time academic role within CPID, to support the development and implementation of PASS at TUS.

PASS Leaders are awarded a TUS digital badge for completing the requisite training. They may also complete the PASS Leadership module (5 European Credit and Accumulation Transfer System (ECTS) at Level 6) which is based on their practice and reflection on the Leader role. This module aims to develop students' leadership, communication and professional development skills (Walsh, 2021). Over 250 PASS Leaders have chosen to complete the module since its introduction in 2010, i.e. approximately 40% of Leaders didn't complete the module.

PASS is exemplary of student partnership. First-year students are encouraged to select the topics for discussion each week. Leaders work together and with academic staff during debriefs to identify and brainstorm suitable activities and techniques for use during sessions. First-year students and Leaders are consulted using surveys to improve the initiative. PASS is constantly evolving to reflect ongoing technological and pedagogical advances. Experienced Senior PASS Leaders assist staff during training: organising icebreakers, modelling leadership qualities and answering questions about the role. First-years identified the importance of PASS as it reassures them that the workload is manageable, that their efforts will be rewarded, and helps alleviate their fears. They also valued having a fun space during the initial weeks of the academic year that helped ease them into the TUS community.

The benefits for PASS Leaders include development of their personal and professional skills such as leadership, team working, organising, time management, listening, interpersonal communication, facilitation and presentation skills; increased confidence; and provides valuable experience to enhance their CVs. PASS Leaders are supported by PASS Supervisors who act as liaison and mentor at weekly debrief sessions. Leaders give regular feedback to PASS Supervisors which feeds back to other academic staff and department/faculty management. Thus, Leaders can become key partners in college initiatives by sharing their experiences. Academic staff benefit from a reduction in the number of minor requests and queries from first year students, as PASS Leaders can act as a first point of contact for specific information/queries on settling into college life.

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However, efforts to grow the initiative while maintaining quality have proven difficult. TUS is currently focused on developing a sustainable approach to embedding PASS in partnership with academic staff, professional support staff and most importantly with students as partners.

#### SI-PASS at Université de Liège, Belgium

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The first regular SI-PASS scheme implemented in a French-speaking university was launched at the University of Liège in the first semester of the 2019–2020 academic year (Verpoorten et al., 2021). Its primary objective was to support academic integration (Tinto, 1975) by providing additional peer-led support in high-risk courses, and – secondarily – to contribute to social integration, the other pillar in Tinto’s later framework for first-year success (Tinto, 2000). This rationale proved persuasive: over time, four faculties (Bioengineering, Applied Sciences, Sciences, and Psychology) adopted the programme. The reception of each SI-PASS iteration during the first three years was assessed using the “3P” framework (Parlascino et al., 2017, p. 39):

- Participation: 1,926 students out of 3,695 potential beneficiaries attended at least one SI-PASS session.
- Perception: participants’ feedback broadly aligns with SI-PASS goals. Self-reported motives for attendance centre on “enhanced understanding of course material” and “improved social relationships,” with the former reported four times as often as the latter.
- Performance: quasi-experimental analyses indicate a statistically significant exam-mark advantage for SI-PASS participants in 10 of 16 schemes.

Despite these encouraging indicators, several implementation challenges remain. First, the above evidence appears sufficient to justify continuation across the four faculties, yet insufficient to trigger expansion across additional courses. So far, the targeted high-risk courses remain limited to one per faculty/semester and mostly those originally selected. Second, a randomized controlled trial conducted in the Faculty of Psychology did not replicate the quasi-experimental performance advantage (Puttaert et al., 2025). Third, SI-PASS coexists with another peer-led program implemented in six faculties, raising an important and underexplored issue: how different student-success initiatives complement—or potentially compete with—one another. Operationally, sustaining attendance remains a never-ending fight and a source of stress for the supervisor. Leaders’ continuous training, support and quality control over the semester can also give him cold sweats, all the more so that he can only allocate one quarter of a full-time workload to managing eight to ten SI-PASS schemes each year.

Notwithstanding these constraints, key stakeholders (central and faculty leadership, as well as instructors responsible for the targeted courses) have been renewing their SI-PASS programmes for a mix of reasons. Some of the main ones are:

- supporting first-year ‘academic integration’,
- no cost for subject areas and very low work investment for teachers,
- central coordination of programme providing established routines,
- consistently positive feedback from leaders and participants (including feeling of learning) (Puttaert & Verpoorten, 2023),

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- credibility of SI-PASS as an established, international, highly structured, and certified peer-learning model.

These past drivers remain the most plausible levers for continuation or future developments, if funding continues to be secured.

Last year, another subject area (Law) ran a small-scale SI-PASS pilot (3 leaders), and this year Architecture approached the instructor of a high-risk course. In both cases, the chief motivation is SI-PASS' promise to help curb failure in the targeted courses.

### The vision for SI-PASS at Universidade do Minho, Portugal

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University of Minho has a range of support programs centred around mentoring, tutoring, and onboarding. However, integrating SI-PASS would add a new dimension focused on peer engagement and collaborative problem-solving, which aligns with the university's broader goals of building a cohesive and supportive student community. The institution is interested in the fact that, at its core, SI-PASS is collaborative, and supported by peer-led learning. Unlike traditional tutoring, SI-PASS sessions are led by experienced student leaders who have previously succeeded in the course. This approach empowers students to take ownership of their education and to engage in the institution beyond the offer that we already have. To enhance student success across diverse contexts, with a large student body of over 20,000 students at the university spread across multiple campuses and workplaces, SI-PASS offers an innovative, evidence-based approach to foster active learning and peer engagement.

#### *Why SI-PASS?*

More specific reasons why University of Minho has decided to implement SI-PASS compared to other peer learning models are:

- It is critical for the university to see research consistently demonstrating that SI-PASS significantly improves academic outcomes, helping students better grasp complex subjects such as mathematics, physics, and statistics, which are areas that often pose persistent challenges.
- Its application addresses long-standing issues by providing students with a structured forum to learn actively and support each other.
- Moreover, this approach has the potential to increase student motivation, participation, and self-confidence, leading to higher success rates and reduced dropout figures.
- At the same time, it offers students a sense of belonging and ownership over their learning experience, which is particularly valuable in large, diverse institutions like ours.
- Implementing SI-PASS expands the support network available to students and creates extra pathways for academic achievement and engagement.
- Another benefit of adopting SI-PASS is that it aligns well with the university's recent "Sou UMinho" success program, aimed at fostering institutional transformation and success through the engagement of students as change agents.
- Working from Portugal, it is also quite important to join a vibrant international community dedicated to students' success, enabling our institution to learn from and contribute to a global network of universities operating similar initiatives.

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- Through this community, the university can exchange best practices, gather insight into effective peer-led models, and continuously refine its approach to student support.

The university will implement SI-PASS in 2026. In order to do this the University hosted an SI-PASS Supervisor training in December 2025 to train staff in the model. Furthermore, funds have been allocated to have personnel from the European Centre for SI-PASS to assist in the implementation process as well as in the development of a monitoring and evaluation framework.

### University of Tartu, Estonia

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In Estonia, it is quite common for students on the same curriculum to organise voluntary study groups. These closed study groups are informal and not accessible to all students, particularly those who lack acquaintances within their programme. These voluntary study groups are particularly popular in the STEM field in the Estonian context, as some subjects/courses are challenging for students and the dropout rate from some STEM curricula exceeds 30% after the first year. Therefore, organising more inclusive, university-supported study groups is one way to support students' learning.

There has been an earlier attempt with organized peer-assisted study groups in 2019 at the University of Tartu. The initiative was organized in physics to provide academic support for students since there were issues with high drop-out rates. The general aim of these supplemental study groups was to provide academic support for first-year students. However, the groups convened primarily before mid-term and final exams and followed a more traditional teaching format. Discussions with the study group leaders revealed that the sessions lacked structured opportunities for discussion or support in developing learning strategies. Due to the absence of institutional support, the initiative was not sustained, despite a clear need for such support among first-year students.

In Spring 2025, program leaders from STEM fields at the University of Tartu visited colleagues at the University of Uppsala, where the SI-PASS approach was introduced. This provided new perspectives for the University of Tartu, offering insights into the evolution of the SI-PASS model in Europe and beyond. Considering the university's ongoing efforts to enhance its understanding of the first-year STEM learning experience and the challenges posed by certain courses, the decision was made to conduct a more thorough exploration of the SI-PASS system.

#### *Why SI-PASS?*

SI-PASS was interesting due to its clear and coherent structure, which includes a well-defined system for recruiting, training and supporting student leaders, as well as pedagogical practices that foster student learning. Furthermore, the European Centre for SI-PASS provides valuable support for institutions implementing the system.

Currently, the University of Tartu has established peer-assisted study groups for two first-semester courses in 2025 (Chemistry and Mathematics) with six trained student leaders. One staff member is responsible for coordinating the implementation of the SI-PASS system within the STEM field. Student leaders have shared that a particularly compelling aspect is the creation of a learning environment in which students feel comfortable asking what they might perceive as 'stupid' questions. This short-term ambition appears to be being fulfilled, as students are increasingly showing trust when participating in SI-PASS sessions. The long-term ambition is to shift the teaching and learning culture towards being more student- and learning-centred. This involves encouraging meaningful discussions on challenging topics and teaching and

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learning strategies. Based on conversations with leaders and instructors, it is evident that the first small steps towards achieving the long-term goals have already been taken.

### Discussion

The case studies highlight SI-PASS as a structured peer learning model that continues to adapt across European HE settings; not simply that SI-PASS has been implemented in different settings, but how the original purposes have been sustained, extended and re-prioritised. Academic performance, retention and transition remain important drivers, but newer drivers emerge around belonging, community-building, study strategies, Leader development, staff learning and wider student success agendas.

#### From intervention to infrastructure

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Gradual growth is visible in the movement from disciplinary interventions to embedded provision, often beginning in STEM or challenging courses before extending into other subjects, higher years or supporting wider peer learning ecosystems (Keenan, 2014; Lochtie & McConnell, 2024). Three features appear to support sustainability: central coordination to support quality assurance, discipline ownership to ensure local relevance, and student leadership to maintain the peer-led character of the model (Ody & Carey, 2013). Where these features are balanced, SI-PASS is more likely to be understood as part of the core experience, not as an add-on.

Attendance cannot be assumed as Manchester and Liège demonstrate; it must be designed through timetabling and staff endorsement to reduce stigma. Scaling also creates resourcing challenges as Lund highlights the vulnerability of SI-PASS when viewed as an add-on during financial pressure, while TUS shows the difficulty of growing provision while maintaining quality.

#### Adaptation without dilution

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The terminology and strategic rationale may differ across countries, yet the core features of the quality assured model remain recognisable: trained student facilitators, not tutors; regular timetabled sessions; active learning principles supporting challenging course content; and structured supervision within a discipline setting. In Tartu, SI-PASS will offer an inclusive alternative to informal study groups. In Minho, it is being positioned alongside mentoring, tutoring and onboarding as part of a broader institutional student success strategy. Where SI-PASS sits alongside other peer support or mentoring models, institutions need to clarify what SI-PASS does, how it differs, and how related initiatives complement rather than duplicate one another.

#### From first-year support to wider institutional learning

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A strength remains its contribution to the first-year experience. SI-PASS supports students at points of transition as they adjust to unfamiliar academic expectations, develop study strategies, build confidence and form peer networks. Its value is both academic and social (Tinto, 1997; Tinto, 2012; Thomas, 2012): it scaffolds the 'what to learn' and 'how to learn' alongside 'who to learn with'. This community-building function is seen beyond first-year students, drawing Leaders, Supervisors and other staff into partnerships around learning.

### Evidence, claims and limits

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SI-PASS is increasingly positioned beyond retention and performance, including belonging, widening participation, partnership, employability and inclusive learning (Malm et al., 2022). This adaptability is a strength but raises evidence and evaluation challenges requiring a move beyond attendance and attainment alone. These can provide useful evidence but not the full picture of why SI-PASS works. The Liège case study illustrates this complexity with its quasi-experimental analysis indicating performance gains across several iterations, whilst a randomised control trial informed by the ‘gold standard’ discussed by Dawson et al. (2014) did not replicate a significant performance advantage in one setting. This does not necessarily undermine SI-PASS but highlights the need for considered and contextualised evaluation.

SI-PASS’s influence on staff development and, by implication, its influence of FYE, emerges as an underexplored dimension. Supervisor Training, Leader debriefs and feedback loops can help staff understand how students experience difficult courses and transition, promoting reflective practice. These insights can create micro-level changes in modules and meso-level changes in programme design and culture, and may influence teaching, assessment, and curriculum design and communication, but require further research.

### Lessons for implementation

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1. Several practical lessons for institutions considering SI-PASS have emerged:
2. Articulate your educational context and the challenge or change SI-PASS is seeking to address, such as transition, performance in challenging courses, belonging or study strategy development.
3. SI-PASS requires visible institutional sponsorship and coordination balanced with discipline ownership and student leadership.
4. Student leader training and ongoing supervision are not ‘nice to have’; they are central to quality assurance.
5. Attendance and attainment data should be complemented by evidence of belonging, confidence, study behaviours, leader development and staff learning, with strong evaluation design.
6. Plan for sustainability from the outset, as training staff does not automatically lead to embedded or enduring provision.

### Conclusion

In relation to the three questions guiding this article, the case studies show that SI-PASS is adopted in response to overlapping challenges around transition, academic confidence, belonging, retention and wider student success agendas. They also show that its purposes evolve as institutions embed the model within local disciplinary, institutional and national priorities. Successful implementation depends on balancing alignment to the SI-PASS model with contextual adaptation, quality assurance and purposeful evaluation.

SI-PASS in Europe has therefore not developed as a single, uniform intervention, but as a recognisable model adapted across different settings. Academic performance, retention and transition remain important rationales for implementation, particularly in first year and challenging courses. However, the cases also demonstrate wider value in relation to community-building, study strategies, Leader development, staff

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learning and institutional partnership. This adaptability is a strength, but it depends on maintaining a common core of principles, including student leadership, active learning, structured supervision, disciplinary relevance and clear quality assurance mechanisms.

The article highlights SI-PASS as more than an additional support opportunity for first-year students. It can operate as a structured partnership model connecting students, Leaders, academic staff, professional services and institutional priorities. It cautions against assuming that implementation, attendance, impact or sustainability will happen automatically. Institutions need to identify the educational challenge SI-PASS is intended to address, ensure activity is student-led and rooted in the discipline, coordinate provision institutionally, and evaluate outcomes in relation to the aims or purpose.

The article does not suggest that SI-PASS works in all contexts or that impact can be assumed. Rather, it proposes that SI-PASS can make a distinctive contribution to the first-year experience when it is critically implemented, appropriately resourced and carefully evaluated. Further research is needed into the conditions under which SI-PASS is sustained, scaled or discontinued, and into its wider effects on belonging, study behaviours, Leader development, staff practice, curriculum development and institutional approaches to student success. In particular, the staff development dimension remains underexplored, especially where Supervisor Training is used within academic development or early-career professional learning programmes.

### Biographies

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## References

- Arendale, D. R. (1994) Understanding the Supplemental Instruction model. In D. C. Martin & D. R. Arendale (Eds.), *Supplemental Instruction: Increasing student achievement and retention* (pp. 11-21). *New Directions in Teaching and Learning*, 60, (11-21). Jossey Bass.  
[https://doi.org/10.1002/tl.37219946004?urlappend=%3Futm\\_source%3Dresearchgate.net%26medium%3Darticle](https://doi.org/10.1002/tl.37219946004?urlappend=%3Futm_source%3Dresearchgate.net%26medium%3Darticle)
- Arendale, D. R. (2022). History of Supplemental Instruction-PASS: The first 25 years. Unpublished manuscript. Department of Curriculum and Instruction, University of Minnesota, Minneapolis, MN.  
<https://conservancy.umn.edu/items/9f94bc8b-36c7-47ff-a969-d75828036b5d>
- Arendale, D. R. (2002) History of Supplemental Instruction (SI): Mainstreaming of developmental education. In D. B. Lundell, & J. L. Higbee (Eds.), *Histories of developmental education* (pp.15-28). Center for Research on Developmental Education and Urban Literacy, General College, University of Minnesota.
- Bayram, İ. (2025). What Helps or Hinders Learning in an Online SI-PASS Student Leader Training Course Delivered in a Turkish Higher Education Institution. *Journal of Peer Learning*, 16(1), Article 8. DOI: 10.21061/jopl.123
- Bengesai, A. V., Amusa, L. B., & Dhunpath, R. (2023). A meta-analysis on the effect of formal peer learning approaches on course performance in higher education. *Cogent Education*, 10(1).  
<https://doi.org/10.1080/2331186X.2023.2203990>
- Blanc, R. A., DeBuhr, L. E., & Martin, D. C. (1983). Breaking the Attrition Cycle: The Effects of Supplemental Instruction on Undergraduate Performance and Attrition. *Journal of Higher Education*, 54(1), 80–90.  
<https://doi.org/10.2307/1981646>
- Bowles, T. J., McCoy, A. C., & Bates, S. (2008). The Effect of Supplemental Instruction on Timely Graduation. *College Student Journal*, 42(3), 853–859.  
[https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1103&context=psych\\_facpub](https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1103&context=psych_facpub)
- Bruzell-Nilsson, M., & Bryngfors, L. (1996, July 15-19) *Supplemental Instruction. Student Success in High Risk Courses*. Ninth International Conference on the First-Year Experience, Scotland.
- Bryngfors, L., & Bruzell-Nilsson, M. (1997) *An Experimental Project with the Method of Supplemental Instruction*. Lund University.
- Canadian National Centre for Supplemental Instruction. (2014). *Supplemental Instruction in Canada – Guidelines for Best Practice*. University of Guelph.
- Dawson, P., van der Meer, J., Skalicky, J., & Cowley, K. (2014) On the Effectiveness of Supplemental Instruction: A Systematic Review of Supplemental Instruction and Peer-Assisted Study Sessions Literature between 2001 and 2010. *Review of Educational Research*, 84(4), 609–639. <https://doi.org/10.3102/0034654314540007>
- Dekker, I., Luberti, M., & Stam, J. (2023) Effects of supplemental instruction on grades, mental well-being, and belonging: A field experiment. *Learning and instruction*, 87,(101805) 1-9.  
<https://doi.org/10.1016/j.learninstruc.2023.101805>
- Dekker, I., Malm, J., Carey, W., & Whitford, M. (2025). *Transferable Skills that Students Learn During SI-PASS: Development and Validation of a Transferable Peer Learning Skills Scale*. [Manuscript submitted for publication].
- Fostier, M., & Carey, W. (2007) *Exploration, experience and evaluation: Peer Assisted Study Scheme (PASS), sharing the experience of The University of Manchester: 480 first-year bioscience students*. Science Learning and Teaching Conference, Keele University.

The evolution of the peer learning model Supplemental Instruction in Europe and its impact on the student first year experience

<https://www.advance-he.ac.uk/knowledge-hub/exploration-experience-and-evaluation-peer-assisted-study-scheme-pass-sharing>

Ginty, C., & Harding, N. (2014) The first year experience of a peer assisted learning program in two institutes of technology in Ireland. *Journal of Peer Learning*, 7(1), 36-56. <https://journalofpeerlearning.org/articles/51>

Keenan, C. (2014) Mapping student-led peer learning in the UK. The Higher Education Academy. <https://www.advance-he.ac.uk/knowledge-hub/mapping-student-led-peer-learning-uk>

Lochtie, D., & McConnell, C. (2024) *Student-led peer learning and support*. <https://www.advance-he.ac.uk/knowledge-hub/student-led-peer-learning-and-support>

Malm, J., Bryngfors, L., & Mörner, L. L. (2012a) Supplemental instruction for improving first year results in engineering studies. *Studies in Higher Education*, 37(6), 655-666. <https://doi.org/10.1080/03075079.2010.535610>

Malm, J., Mörner, L.-L., Bryngfors, L., Edman, G., & Gustafsson, L. (2012b). Using supplemental instruction to bridge the transition from secondary to tertiary education. *International Journal of Education*, 4(3), 31–48. <https://doi.org/10.5296/ije.v4i3.1826>

Malm, J., Bryngfors, L., & Mörner, L.-L. (2015). The potential of supplemental instruction in engineering education: creating additional peer-guided learning opportunities in difficult compulsory courses for first-year students. *European Journal of Engineering Education*, 41(5), 548–561. <https://doi.org/10.1080/03043797.2015.1107872>

Malm, J., Bryngfors, L., & Fredriksson, J. (2018). Impact of Supplemental Instruction on dropout and graduation rates: an example from 5-year engineering programs. *Journal of Peer Learning*, 11, 76-88. <https://journalofpeerlearning.org/articles/84>

Malm, J. (2021). A Study on Learning Activities in Supplemental Instruction. In A. Strømme-Bakhtiar, R. Helde & E. Suzen (Eds.), *Supplemental Instruction, Volume 2: Student Learning Processes* (pp. 25-46). Waxmann Verlag. <https://www.waxmann.com/buecher/Supplemental-Instruction-4325>

Malm, J., Collins, J., Nel, C., Smith, L., Carey, W., Miller, H., Khagram, K., & Zaccagnini, M. (2022). Transferable skills gained by student leaders in international SI-PASS programs. *The International Journal of Learning in Higher Education*, 29(1), 65-82. <https://doi.org/10.18848/2327-7955/CGP/v29i01/65-82>

Malm, J., Ody, M., Elvén Eriksson, H., Fairclough, I., Helde, R., Oakley, M., Rotherham, B., Suzen, E., Sletvold, H., & Walsh Olesen, A. (2022). How have Supplemental Instruction–Peer Assisted Study Sessions (SI-PASS) programmes adapted during the Coronavirus pandemic? Studies from four Higher Education Institutes in Ireland, Norway, the UK and Sweden. *Student Engagement in Higher Education Journal*, 4(2), 24–44.

Malm, J., Carey, W., Dahlberg, L., Mörner, L. L., & Ody, M. (2023) *Status report for European SI/PASS/PAL-programmes: Post-pandemic*. Lund University. <https://doi.org/10.13140/RG.2.2.18513.30564>

Martin, D. C., & Arendale, D. R. (Eds.). (1992). *Supplemental Instruction: Improving first-year student success in high risk courses* (2nd ed.). National Resource Center for The First Year Experience.

Ody, M., & Carey, W. (2009). Demystifying Peer Assisted Study Sessions (PASS): What...? How...? Who...? Why. The Challenge of Learning Development 6th LDHEN symposium. <https://documents.manchester.ac.uk/display.aspx?DocID=7418>

Ody, M. C., & Carey, W. (2013) Peer Education. In E. Dunne & D. Owen (Eds.), *The student engagement handbook: Practice in higher education* (pp. 291–312). Emerald Group Publishing.

Parlascino, E., Jérôme, F., Denis, B., Devyver, J., Borsu, O., Van de Poël, J.F., Navet, R., Haubruge, E., Verpoorten, D., (2017) *Innovative instructional and methodological support for the Jobs@Skills – SCES – Liège – Luxembourg incubator: Guidelines for developing blended learning*. University of Liège, Belgium: IFRES. <https://orbi.uliege.be/handle/2268/210787>

Puttaert, N., & Verpoorten, D. (2023, March) *A quest for evidence of learning in two peer-tutoring schemes at a Belgian university*. International Forum for Peer Learning and Support, London, UK. <https://orbi.uliege.be/handle/2268/317407>

Puttaert, N., Datchet, D., Baye, A., Quertemont, E., Leduc, L., Nyssen, A. S., & Verpoorten, D. (2025) Effects of SI-PASS on a high-risk course – A randomized controlled trial. *Learning and Instruction*, 95(102042). <https://doi.org/10.1016/j.learninstruc.2024.102042>

The evolution of the peer learning model Supplemental Instruction in Europe and its impact on the student first year experience

Thomas, L. (2012) *Building student engagement and belonging in higher education at a time of change: Final report from the What Works? Student Retention & Success programme*. Paul Hamlyn Foundation.

Tinto, V. (1975) Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.

[https://doi.org/10.2307/1170024?urlappend=%3Futm\\_source%3Dresearchgate.net%26medium%3Darticle](https://doi.org/10.2307/1170024?urlappend=%3Futm_source%3Dresearchgate.net%26medium%3Darticle)

Tinto, V. (1997) Classrooms as communities: Exploring the educational character of student persistence. *The Journal of Higher Education*, 68(6), 599-623. <https://doi.org/10.1080/00221546.1997.11779003>

Tinto, V. (2012). *Completing College: Rethinking Institutional Action*. University of Chicago Press.

Tinto, V. (2000). Learning Better Together: The Impact of Learning Communities on Student Success. *Journal of Institutional Research*, 9, 1-8.

[https://www.researchgate.net/publication/237333638\\_Learning\\_Better\\_Together\\_The\\_Impact\\_of\\_Learning\\_Communities\\_on\\_Student\\_Success](https://www.researchgate.net/publication/237333638_Learning_Better_Together_The_Impact_of_Learning_Communities_on_Student_Success)

University of Manchester (2025). *Peer Support*. Retrieved April 30, 2026, from

<https://www.peersupport.manchester.ac.uk/contact-us/find-your-scheme/>

University of Missouri–Kansas City. (n.d.). *SI data*. The International Center for Supplemental Instruction. Retrieved April 30, 2026, from <https://info.umkc.edu/si/data/>

Verpoorten, D., Parlascino, E., & Colaux, C. (2021). SI-PASS in a Belgian university: a pilot showcase. In A. Strømme-Bakhtiar, R. Helde, & E. Suzen (Eds.), *Supplemental Instruction, Volume 2: Student Learning Processes* (pp.123-139). Waxmann Verlag. <https://www.waxmann.com/buecher/Supplemental-Instruction-4325>

Walsh, A. (2021) PASS and the introduction of technology at an Irish higher education institution. In A. Strømme-Bakhtiar, R. Helde & E. Suzen (Eds.), *Supplemental Instruction, Volume 1: Digital Technologies* (pp. 59-66). Waxmann Verlag. <https://www.waxmann.com/index.php?eID=download&buchnr=4324>

Walsh, A. (2026). The Peer Assisted Student Support (PASS) Leadership module assisting first year students' transition to higher education at Technological University of the Shannon. *Journal of Perspectives in Applied Academic Practice*, 14(2), 112-124.

Wilson, M. (2005) Supplemental Instruction in the Canadian context. *Journal of Student Centered Learning*, 2(2), 109-119.

Zerger, S., Unite, C., & Smith, L.. (2006) How Supplemental Instruction benefits faculty, administration, and institutions. *New Directions for Teaching and Learning*, (106), 63-72. <https://doi.org/10.1002/tl.234>