

# 1 Supplemental Instruction as a Programme for Developing Leaders and Facilitators for Learning

*Elisabeth Suzen, Roger Helde & Abbas Strømmen-Bakhtiar*

*Abstract:* The topic of this article is the student-active programme Supplemental Instruction (SI) and the students who lead this programme, the SI leaders. SI is a voluntary offer of professional guidance under the leadership of the students themselves. The purpose of SI is to improve student performance and reduce interruptions to studies through collaborative learning strategies. We have chosen to focus on the students who lead this programme, the SI leaders. The question we have sought to answer is: How do SI leaders understand and experience (a) SI as pedagogical programme and (b) SI as a leadership development programme? A phenomenological approach was chosen in relation to the aim of the study in order to obtain a deeper understanding of how SI leaders have understood and experienced their role as leaders and educational facilitators. The study was aimed at the SI leaders in the subject of physics working on the driving instructor education at Nord University, Norway, autumn 2017. We conducted two interviews with each SI leader, both interviews regarding their experience of being an SI leader. Six main themes emerged from our analysis indicating that SI leaders benefit from the SI programme, both in terms of leadership development and as a pedagogical learning arena for themselves as future teachers.

## 1. Introduction

One of the main challenges in higher education today is high drop-out rates among students (Aubyn et al., 2009; Schnepf, 2017; OECD, 2013). The transition from upper secondary school to studies at universities and university colleges where students are left more to themselves is difficult for many new students. In order to help the student to succeed in their studies, it is important that universities, university colleges, and higher education institutions respond to student needs for academic and social interaction.

Supplemental Instruction (SI) is perceived as a way of approaching these pressing educational challenges (Jacobs et al., 2008). It is a programme developed to support students in their learning process and aims to improve student performance and reduce the drop-out rate. SI does not focus on weak students, but on traditionally difficult courses with a high percentage of fail marks and poor exam attendance. In this way, SI is a programme for everybody and is offered on a regular basis. Since its beginnings in 1973, more than 1,500 universities in more than 30 countries have implemented the programme in their educations. The method is well described in different handbooks developed for the programme (Arendale, 1994).

## 2. Methods

We will describe the context for the SI programme and the methodological approach, data collection, and analysis.

### 2.1 Context and SI Programme Structure

The study was aimed at the SI leaders in the subject of physics working on the driving instructor education at Nord University, Norway. In total, 98 students were registered for the course, and altogether seven SI leaders run the SI programme in the course. The SI leaders were contracted as student assistants and received financial compensation based on the number of SI session hours they led. In the period of September – November 2017, four SI meetings were arranged each week, each meeting lasting two hours. There were always two SI leaders at each meeting, meaning that every SI leader had at least one meeting each week. The SI supervisor observed each SI leader at one meeting at least during the period and had several meetings with the SI leaders altogether. Before the semester started, the SI leaders were informed about our study, the voluntary participating in the study and the purpose of the study. They were all invited to participate, and all seven SI leaders in physics autumn 2017 participated.

### 2.2 Methodical Approach, Data Collection, and Analysis

A phenomenological approach was chosen in relation to the aim of the study in order to obtain a deeper understanding of how SI leaders have understood and experienced their role as leaders and educational facilitators. Phenomenology is both a philosophical movement and a research method used here to understand and explore the lived experiences of SI leaders. The study is rooted in a hermeneutical phenomenological understanding, based on Hans-Georg Gadamer's hermeneutical ideas and Martin Heidegger's understanding of phenomenology. Schools of phenomenology have developed different ways of collecting and analysing data. We have used interpretative phenomenological analysis (IPA), which is a method based on a hermeneutical phenomenological understanding (Smith et al., 2009). IPA has an ideographic focus, meaning that we aimed to gain insight into how a given person (the SI leader), in a particular context, understands a given phenomenon (the pedagogical and leadership parts of the SI programme). The one premise for participating in such a study is that the participants have experienced the phenomena. For a phenomenological study, the data collection process involves primary in-depth interviews and multiple interviews with the same individuals (Creswell, 2007). We conducted two interviews with each SI leader, both interviews regarding their experience of being an SI leader.

Existing literature on interpretative phenomenological analysis does not provide a clear representation of current methods of data processing. At the same time, Smith et al. (2009) present some basic elements that are relatable to researchers and that encourage IPA researchers to be innovative in the ways they conduct this sort of analysis.

The SI leaders' descriptions were firstly read individually and then explored several times in order to acquire an overall impression. We extracted significant statements from the transcribed interviews and grouped them into larger units of data, known as *meaning units* (Kvale & Brinkmann, 2009; Creswell, 2007). Secondly, these formulated meanings were organised into themes. Based on this, we noted what the participants in the study had experienced. This is called a *textual description* and includes verbatim examples (Creswell, 2007). Finally, we prepared a theoretical discussion of the main themes that occurred in the data (Creswell, 2007; Webster-Wright, 2010). This is often called a *structural description*, in which the themes are seen in relation to each other. For these reasons, literature related to the findings of phenomenological studies is often presented in the discussion, because what constitutes relevant literature depends on the findings and main themes that emerge (Smith et al., 2009). The purpose of a phenomenological study is to find the central underlying meaning of an experience. In an interpretative phenomenological study, the analysis is not a linear process. It is often necessary to go back and forth and to re-read. Phenomenology is a sensitive approach and a way of thinking as much as a way of analysing.

### 3. Findings

The themes that emerged from the analysis of the interviews with SI leaders were as follows: communication, facilitation of learning, strategic leadership, situational leadership, collaboration, and transferability of the skills to working life. These are elaborated in more detail below.

#### 3.1 Theme 1: Communication

One theme that arose was communication in its different forms. The SI leaders express the importance of communication, both non-verbal and verbal. This includes everything from how they informed students about the SI offer, how they behave at SI meetings and how they meet the individual students, to the tone of voice and specific words they used. They are aware of the importance of their body language. "I have to be a bit careful how I approach the students physically. There are methods you can use for this. I might speak a bit too quietly too," (SI Leader 5, Interview 1). They use communication to make the students feel safe at the meetings and state the importance of giving positive feedback verbally to the students when they participate.

The SI leaders have experienced the importance of using learning questions, and of considering which questions are open and closed, which questions require knowledge, and which create understanding. As one SI leader claimed:

I saw that it worked quite well when they got stuck into the tasks, asking the right questions and getting them on the right track. ... Then they did the work themselves too, and that's probably the whole point that they will learn a lot better by doing the work themselves rather than just being given the answer. (SI Leader 6, Interview 1)

They claim that the main aspect of the pedagogical approach lies in asking the right questions.

Several SI leaders talk about their own fear of taking responsibility for SI, and especially their fear of talking in front of people. However, they appreciate being given the opportunity and the personal challenge, and after several SI meetings, they express a feeling of finding their identity as a leader. In this way, the SI programme functions as a way of developing their leader identity and makes them become more self-confident as leaders. All of those interviewed stated that SI had changed the way in which they look upon themselves as leaders.

The SI leaders value the communicative element of the SI leadership. Some of the SI leaders had work-experience as managers in various professions. However, they find SI different in terms of leadership than what they had previously experienced. SI has a communicative style of leadership and provides an arena for the SI leaders to try out this type of leadership.

I think it's interesting on a personal level to be in an arena where I can try things out. Because I'm going to fail, but then I'll try again and again and again then maybe I'll get some experience and learn from that. Maybe I'll get better at it. And it would be good to gain acceptance for that kind of leadership. Because I can point and scream and tell you what you're going to do now, I'm good at that, but the other type of leadership I'm not so good at, and SI will probably give me this. (SI Leader 5, Interview 1)

### 3.2 Theme 2: Facilitation of Learning

SI leaders describe their pedagogical role as a coach and a facilitator for learning. Like a coach, they use questions and follow-up questions to help the students to reflect upon the tasks, find solutions and justify their choices. Like one SI leader says: "I usually say we teach others how to learn, and that we try to help them learn how to do things themselves," (SI Leader 2, Interview 2). The SI leaders define their role as a coach and not that of a teacher who will give them the answers. "It's not about standing there and teaching the subject, but you should rather help them figure it out. I do not jump into the first session there without looking into how I want to ask my questions" (SI Leader 4, Interview 1). In this way, communication skills also play a role in facilitating learning, where the SI leaders specifically talk about how they provide guidance and the value of communication in the guidance framework.

SI is all about peer learning, where students learn from each other. The SI leaders feel that the students learn a lot from each other and appreciate the coaching they get from the leaders. When the students discuss and find the answer together with fellow students, they built understanding and in-depth learning for the subject.

Guidance and coaching – we should ask open-ended questions and never give the answer, because the whole idea is that the person should find the answer themselves and gain a sense of mastery and ownership of the answer they reach. And through discussion, they reach the answer together. (SI Leader 3, Interview 1)

The SI leaders see the responsibility they have to facilitate and enable this, because otherwise, the collaborative learning will not take place.

SI leaders are concerned with assessing where the students are in their learning process and facilitate further progress based on this assessment. The SI leaders emphasise that everyone should be allowed to participate on their own terms, and therefore want to involve everyone on this basis – there is no right or wrong way to participate.

The importance of creating a safe environment is a concern shared by all the SI leaders. Students must feel safe if they are expected to share, ask questions and even attend SI meetings, and SI leaders see their responsibility to facilitate this. They are also conscious of the responsibility of investigating why someone may not want to participate, and in particular, if they are not yet confident enough to contribute. This will entail a challenge for students' own learning, and SI leaders are very focused on creating a learning process that suits the students.

### 3.3 Theme 3: Strategic Leadership

By strategic leadership, we mean the planning and preparation that SI leaders carry out before they start the SI programme or attend an SI meeting. This includes how they plan to start the semester and introduce SI, how they arrange the room for SI meetings, how they plan to start the meetings and help the students to get to know each other, and so on. The SI leaders are concerned with how to make the students feel welcome and safe at SI meetings, so that they feel confident to attend and participate in the discussions.

The SI leaders emphasise that they themselves must be professionally prepared for the meetings. As one SI leader says:

Be professional and ensure that you have actually read about the subject itself. I do not want to arrive there the first time and be the person who forgot a part of what we're doing. Okay, we've got good enough grades, but that does not mean that we remember everything. So, a little repetition, so I'm able to follow the subjects for the class, know what they've worked on, that would be a big advantage. (SI Leader 4, Interview 2)

Being prepared for questions and reflections related to physics is important to the leaders. They see this as a part of improving the quality of SI and important to the students achieving the learning outcomes.

The SI leaders are less concerned about the meetings being structurally prepared, with established tasks and topics, because they do not find this to be in accordance with the intentions and principles of SI. They are not concerned about the strategic part of leadership when it comes to preparing what the students should be working on, but they see the need to clarify which room the meeting will take place in and that the framework factors, such as boards and, if necessary, tasks, have been clarified. For this, they need to collaborate with the administration at the faculty, both to book rooms and to get the necessary resources. As part of their strategic leadership, the SI leaders find it important to vary the weekdays on which the SI meetings take place.

In this way, they can help to ensure that even more students have the opportunity to attend the meetings.

### 3.4 Theme 4: Situational Leadership

Situational leadership deals with what happens in the actual situation or context. It concerns how to handle the unexpected. SI leaders are more concerned with the situation-oriented part of leadership than the strategic. “We do not necessarily follow a concrete plan. It’s more an intention, maybe. An intent, not a goal” (SI Leader 5, Interview 2). This is related to how they handle the unexpected, both in terms of what happens professionally but also what happens on the interpersonal level, socially. SI leaders see their relationship with the students as an important factor in student learning outcomes, as well as for the whole student environment at the university.

Nord University’s practice is to arrange all SI meetings with two SI leaders. Normally, one leader is used in SI programmes, but based on the former SI leaders’ experience, the university has chosen to always use two. When there are two SI leaders, it is namely easier to handle the situational leadership. The leaders experience that it is easier to cater to the students’ different needs, and the group can be divided depending on student learning needs. In addition, if many students unexpectedly attend a meeting, there are two leaders to handle this, and if they get stuck or become uncertain about what to do next, they can easily consult and discuss with each other.

The subjects to be discussed at the meetings are determined by the participants, so the SI leaders are more concerned that meetings should be based on participant needs and not on a pre-determined plan. This entails a challenge, because they must handle the unexpected and cannot prepare for all the issues or problems that are brought up.

We did not have much control over what should be done, really. It was mostly the participants who chose the theme. So it was not easy to prepare for the meetings, because we had no idea what they were going to do. (SI Leader 2, Interview 1)

### 3.5 Theme 5: Collaboration

Collaboration with other SI leaders as colleagues and collaboration with professionals and the administration at the university is central and is perceived as an important support function for SI leaders. As SI leaders, the students take an SI leader course over three days and are subsequently observed in their role by a supervisor. They experience this course and the observations as meaningful.

The course has given me an understanding of how to increase reflection among the students and how to make them think more themselves. Ask questions that challenge ... as opposed to just saying “this is the way to do it.” (SI Leader 4, Interview 1)

The SI leaders consider themselves to be a team. This creates a joint sense of security in their leadership. At SI meetings, they work together in pairs, but they always shift

co-partners from meeting to meeting. They feel that cooperation with different people challenges them and makes them more flexible and tolerant. They acquire complementary skills and form a complete unit. When they lead meetings in pairs, they have a partner to reflect with before, during, and after the meeting. They have someone to give feedback to and get feedback from. This makes them more self-reliant and more capable of solving different challenges as a team. The SI leaders say they do feel that they lack support, either from the SI supervisor, the subject teacher, or the administration at the faculty.

They emphasise that they, as leaders, must collaborate between meetings. In this way, they can exchange information regarding the meetings, the subjects or anything in particular regarding the students. They emphasise the importance of following the lecture series and the teaching given in the subject in order to familiarise themselves with the details, whether any questions have been specifically raised, and how far the group has come in the curriculum.

They also see the collaboration with students as important for SI. They want the students to experience SI meetings as a great place to be and to make SI a social arena where you can learn but also make friends.

What I think we should focus on is the marketing part. That we get along with people in the groups as early as possible and that we focus on making it fun for those who come there. So, they are ambassadors for SI to their fellow students. I think it's important that we get as many participants as possible early on in the semester and have a positive atmosphere. (SI Leader 5, Interview 1)

### 3.6 Theme 6: Transferability of the Skills to Working Life

The SI leaders experience a great deal of self-learning and self-development in the SI programme themselves. They see a clear connection between experiences from facilitating learning to their own practice as a driving instructor. Their experiences from the SI programme are something they can easily relate to practice in their own education and future occupation.

Asking the right questions is difficult to get right, but it has great transfer value to what you should do in your practice as a teacher later on. So there's a synergy effect for this profession, and I think that's very good too. (SI Leader 5, Interview 1)

SI leaders feel that SI is a valuable opportunity to challenge themselves and develop their pedagogical and leadership skills. They also value their experience as SI leaders because of the way they felt able to enrich student life, both academically and socially. The SI leaders consider the SI meetings to be both a place for learning the professional subject matter and a social arena where you can meet and make friends.

The reasons they wanted to be SI leaders in the first place is related to both social and professional factors. The SI leaders see the job as a great opportunity to prepare

themselves for their further work as driving instructors. This is a big part of their motivation for becoming an SI leader.

I want to be a SI leader to become a better teacher. It's going to make me a better leader and help me feel confident in front of classes. ... the more confident I am in front of classes, the better my teaching will be. (SI Leader 1, Interview 1)

They are also inspired by the SI leader job offering them possibilities to try things out and being an arena where you can fail but learn from your mistakes.

#### 4. Discussion

SI leaders experienced that the SI programme enhanced their professional and personal development as leaders and coaches. Being an SI leader helped to develop their communication skills, their abilities and understanding of how to be a coach, to be confident in a classroom, to organise and plan, but also to handle the unexpected, and to collaborate with other SI leaders, students and the faculty.

The facilitation of learning is something the SI leaders experienced as one of their main objectives as leaders. When the SI leaders use their own words to describe SI as an educational approach, they refer to it as an arena to facilitate learning. The SI leader becomes the leader of a learning community, where knowledge is socially constructed, and communication and collaboration are fundamental to learning. The most challenging aspect of this role for the SI leaders is finding the right questions to ask the students that demand reflection and further work. The SI leaders find this crucial because they claim that the main intention of SI is to help develop an understanding of the subject.

The SI leaders feel it is easier for the students to participate in discussions in small groups than a large auditorium. Studies show that students are more open to receiving guidance and academic input from fellow students if the environment is perceived as safe and non-threatening (Power & Dunphy, 2010). When the teacher is not present, the students themselves become experts, and this leads to more motivation to participate in the discussion (Jacobs et al., 2008).

The SI leaders define communication to include all processes by which people influence one another. This means that all actions and events have communicative aspects, as soon as they are perceived by a human being (Ruesch & Bateson, 2017). The SI leaders are very aware of both verbal and non-verbal communication, as well as the social context within the groups of students. They consider their main job to make all the students feel at home and safe within the group. They experience this as important for student learning outcomes. Several pedagogical theories support this, including that of Klafki (2001), who claimed that in order to develop trust in oneself and others, we must develop emotional and social security between student and teacher, and this requires time and effort.



Irgens, 2015, p. 33). Today, it is more common to see leadership as a social activity, and it is therefore difficult to understand context dependency. The relative, contextual, emotional and processual factors are central in one way or another. The SI leaders experience the collaboration with each other as leaders and coaches as important to their own learning and development. Their development of identity as leaders and coaches is strongly dependant on the course, the collaboration, the experiences from SI meetings and their personal development. In relation to their own learning, they see the SI leadership role as an important learning arena for their future profession. Essentially, this applies to their confidence as future teachers and the confidence in knowing how to facilitate the learning processes of others.

Very few studies on Supplemental Instruction have focused on leadership as personal development. Couchman (2009) describes the reasons why leadership is perceived as a personal experience and claims that the phenomenological understanding of “lived experience” and practical actions for everyday life provide powerful data. The SI leaders in our study experience the SI programme as personal development, where several of them chose to become SI leaders because they assumed it would entail a personal challenge.

## 5. Conclusion

Six themes emerged in our study. Overall, they show that SI leaders consider the SI programme to be both a leadership development programme and a pedagogical learning arena for themselves as future teachers. A sociocultural understanding of leadership implies that it is dynamic, context-dependent, and related to participation and interaction. The opportunity to develop pedagogical and leadership skills should be a strong selling point for many SI leaders. Some of the SI leaders also refer to this as a key reason for them becoming an SI leader.

The SI leaders perceive SI to be an arena for learning and personal development. They are very satisfied with their SI colleagues and the possibility of actively using their colleagues for feedback and debriefing straight after the meetings. The use of two SI leaders at every SI meeting gives them an opportunity to give and receive feedback and to reflect on the profession together as a learning community. Based on the experiences of the SI leaders, it is fair to say that the SI programme can be considered a leadership development programme. It appears that SI creates independent SI leaders, who value the situation-based part of leadership. Although they find this challenging, none of the SI leaders felt that they lacked any support or guidance from the supervisor or the faculty.

The SI leaders experience communication, both verbal and nonverbal, as an essential aspect of SI. This is also related to how they meet the students, the collaboration with others and the facilitation of learning when guiding the students. Some of the SI leaders were insecure about their own ability to talk in front of people and take responsibility, but this also motivated them to apply for the job. They are also concerned

with the importance of meeting the students and making them feel safe at SI meetings. This makes it easier for students to participate and learn from SI. Altogether, communication is experienced as challenging but also crucial.

Our research concludes that SI leaders benefit from SI, both in terms of their role as facilitators for learning and in relation to leadership development. Further qualitative studies are needed to assess the transferability of the skills to working life and the value and experiences gained from this.

## References

- Arendale, D. R. (1994). Understanding the supplemental instruction model. In D. C. Martin & D. R. Arendale (Eds.), *Supplemental instruction: Increasing achievement and retention*. San Francisco: Jossey-Bass Publisher. <https://doi.org/10.1002/tl.37219946004>
- Aubyn, M. S., Garcia, F., & Pais, J. (2009). *Study on the efficiency and effectiveness of public spending on tertiary education*. Brussels: European Communities.
- Boud, D., Cohen, R., & Sampson, J. (2014). *Peer learning in higher education: Learning from and with each other*. Abingdon, New York: Routledge.
- Congos, D., & Stout, B. (2003). The benefits of SI leadership after graduation. *Research and Teaching in Developmental Education*, 20(1), 29–41.
- Couchman, J. A. (2009). An exploration of the “lived experience” of one cohort of academic peer mentors at a small Australian university. *Australasian Journal of Peer Learning*, 2(5), 87–110.
- Creswell, J. W. (2007). *Qualitative inquiry and research design*. Thousand Oaks: SAGE Publications.
- Day, D. V., & Sin, H.-P. (2011). Longitudinal tests of an integrative model of leader development: Charting and understanding developmental trajectories. *The Leadership Quarterly*, 22(3), 545–560. <https://doi.org/10.1016/j.leaqua.2011.04.011>
- Jacobs, G., Hurley, M., & Unite, C. (2008). How learning theory creates a foundation for SI leader training. *Journal of Peer Learning*, 1(1), 6–12.
- Klafki, W. (2001). *Dannelsesteori og didaktik: Nye studier*. Århus: Forlaget KLIM.
- Klette, K. (2013). *Hva vet vi om god undervisning? Rapport fra klasseromsforskningen*. Bergen: Fagbokforlaget.
- Komives, S. R., Longerbeam, S. D., Owen, J. E., et al. (2006). A leadership identity development model: Applications from a grounded theory. *Journal of College Student Development*, 47(4), 401–418. <https://doi.org/10.1353/csd.2006.0048>
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*. Thousand Oaks: SAGE Publications.
- Lockie, N. M., & Van Lanen, R. J. (2008). Impact of the supplemental instruction experience on science SI leaders. *Journal of Developmental Education*, 31(3), 2.
- Malm, J., Bryngfors, L., & Mörner, L.-L. (2012). Benefits of guiding supplemental instruction sessions for SI leaders: A case study for engineering education at a Swedish university. *Journal of Peer Learning*, 5(1), 32–41.
- Northouse, P. G. (2001). *Leadership: Theory and practice*. Thousand Oaks: Sage Publications.
- OECD (2013). *Education at a Glance 2013: OECD Indicators*, OECD Publishing. <http://dx.doi.org/10.1787/eag-2013-en>