

A comprehensive description of this theory and the relevance of this theory for today's education is provided in the book 'Transactional Distance and Adaptive Learning: Planning for the Future of Higher Education' of Saba and Shearer (2017).

Scales of the SEP

How does the SEP measures transactional distance? The SEP generates a measure for transactional distance by asking the student to indicate the typically experiences level of learner agency, structure, and dialogue versus the desired level. This method is based on the needs analysis (Kaufman & Guerra, 2013). Transactional distance is thus partly reflected the discrepancy between an actual and desired state. Yet, it is important to note that this scale does not tap into the interaction between dialogue, structure, and learner agency, and neither in the dynamics of transactional distance from moment to moment and from context to context.

The SEP yields the following scores for each scale:

- The average score on students' and teachers' typical experience represents the extent to which students' daily school experiences are personalized to their needs, interests, and preferences.
- The average difference in students' and teachers' typical and ideal experiences represents the extent to which there is a need to further personalized students' daily school experiences to their needs, interests, and preferences.

Below, the scales that are included in the questionnaire are further explained.

Construct	Scale
1. Learner Agency The extent to which the learning environment can accommodate each learner's choices and preferences (Garisson, 2003; Moore 1972; Saba & Shearer, 1994; Swart & Wengrowicz, 2017; Waldrip et al., 2014).	1.1. Goal: The extent to which learners can choose learning goals and to incorporate desires, ambitions, and needs in their learning goals. (Item 1-3)
	1.2. Execution: The extent to which learners have a choice in how (when, where, with whom, and with what materials, resources, and assignments) they work on learning goals and demonstrate learning. (Item 4-6)
2. Responsiveness of the structure The extent to which the learning environment is responsive to each learner's individual needs and preferences (Huang, Chandra, DePaolo, Cribbs, & Simmons, 2015; Jung, 2001; Waldrip et al., 2014).	2.1. Contextualized and relevant: The extent to which learning can be contextualized and tailored to learners' interests. (Item 7-10)
	2.3. Competency based (teacher items only): Education tailored to learners competencies, level, prior knowledge, pace, and needs (such as remediation). (Item 10-19)
3. Dialogue the extent to which the learner and other agents in the learning environment are able to respond to each other and engage in exchanges aimed at enhancing the learner's learning process (Hillman, Willis, Gunawardena, 1994; Weidlich & Bestiaens, 2018, Zhang, 2003).	3.1. Quality of learner-teacher dialogue The extent to which learner-teacher exchanges are helpful to the learning process (e.g. dialogue focused on what is learnt, on organizational aspects of learning, or interpersonal aspects of learning). (Item 20-28)
	3.2. Availability of learner-teacher dialogue The quantity of exchanges between the learner and the teacher based on availability (is there an opportunity), immediacy (how long it takes to establish exchanges), and frequency (how often does it occur). (Item 29-33)
	3.3. Quality of learner-peer dialogue The extent to which learner-peer exchanges are helpful to the learning process (e.g. dialogue focused on what is learnt, on organizational aspects of learning, or interpersonal aspects of learning). (Item 34-37)
	3.4. Availability of learner-peer dialogue The quantity of exchanges between the learner and peers based on availability (is there an opportunity), immediacy (how long it takes to establish exchanges), and frequency (how often does it occur). (Item 38-41)
	3.5. Learner-technology exchanges The extents to which exchanges take place between the learner and learning technologies that are helpful to the learning process (e.g. by affording information about the learning process, learning outcomes, and organizational aspects). (Item 42-44)

The SEP items for students in middle school:

The following questions ask about your classroom experiences. When you answer them, please think about your experiences with all of your classes this year. Please mark the response that indicates your typical experience and then indicate the ideal situation. There are no right or wrong answers.

Use the following 5-point answer scale:

My typical experience:	1 Almost never	2 Rarely	3 Sometimes	4 Often	5 Almost always
In the ideal situation:	1 Almost never	2 Rarely	3 Sometimes	4 Often	5 Almost always

- 1 I create goals for my own learning.
- 2 My teachers and I work together to set personal goals for my own learning.
- 3 I can explain how learning activities connect to my learning goals.
- 4 I choose the learning goals I work on.
- 5 I check (self-assess) my own work.
- 6 I choose how I show what I have learned.
- 7 In school I learn things about the world outside of school.
- 8 I learn about things I am interested in.
- 9 I know what the different things I learn at school are linked to each other.
- 10 I use my everyday experiences in school.
- 11 I choose where I want to work during the school day.
- 12 I choose to learn in my own way, such as selecting my own learning activities.
- 13 I choose what materials I use to reach my learning goals (such as books, pen and paper, or the computer/my device).
- 14 I work as fast or as slow as I want.
- 15 I choose the students I want to work with.

Item 16-24 n/a

- 25 My teachers respect my ideas and suggestions.
- 26 My teachers want me to explain my answers—why I think what I think.
- 27 My teachers ask about how I feel about my schoolwork.
- 28 I get helpful comments from my teachers to let me know what I did right and wrong on assignments.
- 29 My teachers ask questions to make sure I understand what I am learning.
- 30 My teachers and me examine my assessment results together.
- 31 My teachers know about my family and where I live.
- 32 My teachers talk to me about things that are unrelated to school.
- 33 It is easy to contact teachers.
- 34 I can turn to teachers when I need help.
- 35 My teachers are available online when they are not available face-to-face.
- 36 My teachers invite to meet if I want to discuss something.
- 37 I receive immediate feedback from teachers on my work.
- 38 Talking to other students is helpful in achieving my learning goals.
- 39 When I work with other students, we value each other's input.
- 40 Other students know about my family and where I live.
- 41 I talk to other students about things that are unrelated to school.
- 42 My fellow students and me have opportunities to give each other feedback.
- 43 I have opportunities to work together with fellow students.
- 44 There are fellow students I can turn to when I need help.
- 45 I seek help from fellow students before I seek the help of the teachers.
- 46 My device (chrome book) helps me to keep track of my learning progress.
- 47 My device (chrome book) helps me to plan and structure my school day.
- 48 It is easy to look for the information I need on my device (chrome book).

SEP items for teachers:

The following questions ask about your teaching experiences. When you answer them, please think about your experiences this year with your students. Please mark the response that indicates your typical experience and then indicate the ideal situation. There are no right or wrong answers.

Use the following 5-point answer scale:

My typical experience:	1 Almost never	2 Rarely	3 Sometimes	4 Often	5 Almost always
In the ideal situation:	1 Almost never	2 Rarely	3 Sometimes	4 Often	5 Almost always

- 1 I provide students the opportunity to create goals for their own learning.
- 2 I help individual students to create learning goals.
- 3 In my classroom, students can explain how learning activities connect to their learning goals.
- 4 I provide students the opportunity to choose the learning goals they work on.
- 5 I provide students the opportunity to self-assess their own work.
- 6 I provide students the opportunity to design or suggest new ways to demonstrate their learning.
- 7 I relate what students learn to their life outside of school.
- 8 I incorporate students' learning interests in my lessons.
- 9 I connect what students are learning with experiences they have throughout the rest of the curriculum.
- 10 In my classroom, students apply their everyday experiences in school.
- 11 I provide students the opportunity to choose where they want to work during the school day.
- 12 I organize the learning environment to promote student choice in learning activities.
- 13 I provide students the opportunity to choose what instructional materials (such as books, pen and paper, or the computer/my device).
- 14 I provide students the opportunity to work as fast or as slow as they want.
- 15 I provide students the opportunity to choose the students they want to work with.
- 16 I use shared documents, either paper or electronic (such as learner profiles and learning plans), to document individualized learning plans for each student.
- 17 When structuring learning time, I take into account student needs via flexible scheduling or scheduling that is responsive to student needs.
- 18 I require students to show that they understand a topic before they can move onto a new topic.
- 19 I adapt course content to meet students' needs by providing additional assignments, resources, and activities for remediation or enrichment.
- 20 In my classroom, the length of instruction time varies for individual students.
- 21 I share clear assessment guidelines with my students prior to assignments, projects, or other school-related tasks.
- 22 In my classroom, competency descriptions (such as rubrics) are used to assess student learning during assignments, projects, or other school-related tasks.
- 23 I have opportunities during the school day for individualized support for students.
- 24 In my classroom, students have opportunities to review or practice new material until they fully understand it.
- 25 I show respect towards every student's ideas and suggestions.
- 26 I ask every student to explain their answers - why they think what they think.
- 27 I ask every student about how they feel about an assignment, due date, or topic.
- 28 I give every student comments to let them know what they did right and wrong on assignments.
- 29 I ask every student questions to make sure each student is following along with what they are being taught.
- 30 I discuss assessment results together with every student.
- 31 I know about my students' family and home context.
- 32 I talk to students about things that are unrelated to school.
- 33 It is easy for students to contact me.
- 34 Throughout the school day, I am available to answer students' questions.
- 35 I am usually accessible to students via electronic communication when I am not available face-to-face.
- 36 I invite students to meet if they want to discuss something.
- 37 I provide immediate feedback to students' work.
- 38 In my classroom, the communication that takes place between students is helpful in achieving learning objectives.
- 39 In my classroom, students value each other's input.
- 40 In my classroom, students know about each other's family and where they live.
- 41 In my classroom, students talk to each other about things that are unrelated to school.
- 42 In my classroom, students have opportunities to give each other feedback.
- 43 In my classroom, students have opportunities to work together.
- 44 In my classroom, students can turn to each other when they need help.
- 45 In my classroom, students ask for help from peers before seeking my help.
- 46 In my classroom, students' devices (chrome books) help them to keep track of students' learning progress.
- 47 In my classroom, students' devices (chrome books) help them to plan and structure their school day.
- 48 In my classroom, students can easily find the information they need on their chrome book.