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Learner-Centred-Approach and Person Centred Planning

A description of the concept, methods, and techniques



Project Result 1 of the Erasmus+ Palsen

Personalised Approach to Learning for Students with Special Needs

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Introduction

This document one of 4 Project Results of the Erasmus+ project Palssen:
Personalised Approach to Learning for Students with Special Needs

This result describes various concepts ‘Learner-Centred-Approach’ (LCA) and ‘Individual Learning Planning’ (ILP): background, application, challenges in the implementation, specific methods, techniques, and examples of ILP. It provides methods, techniques, practices, and examples of LCA in VET and gives more confidence to teachers to create VET that take diversity of learners into account.

Equity, not Equality

We believe that the key to Inclusive Vocational Education and Training is the acceptance and the support to ensure that education and training facilities are accessible for all students. The European Agency of Special Needs and Inclusive Education states that ‘the ultimate vision for inclusive education systems is to ensure that all learners of any age are provided with meaningful, high-quality educational opportunities in their local community, alongside their friends and peers.’ Such vision requires a change in teaching and in supporting the learning process of students with SEN. It also requires moving away from the approach a ‘one -size-fits-all’ education and training, towards a more person-centred and tailored-made approach. To implement a more Personalised Approach of Learning for students with Special Educational Needs, teachers should gain competences to enable them in identifying and in meeting the needs of these students. The ultimate goal of the PALSSSEN-project is that students with SEN can receive meaningful, high-quality Vocational Education and Training together with their peers in mainstream Vet-providers. Therefore, students with SEN will work with an individual learning plan which reflects their individual needs, talents, and opportunities. This new way of working aims to achieve formal professional qualification in the mainstream Vocational Education and Training system. The key to equal opportunities is equity, not equal treatment. Only by delivering tailor-made programs bases on needs assessment this can be accomplished.

Impact

The Erasmus+ program pays a lot of attention to impact. By this they mean the change that is achieved (partly) thanks to a project – for an individual, for an organization and for society. The fundamental change the project wants to contribute to is one of the indicators to rate the project.

The aimed impact for partner organisations is that they:

- Are considered as good practice of implementing National policy of Inclusive Vocational Education and Training
- Are considered as good practice of implementing European policy of Inclusive Vocational Education and Training



- Have an increased awareness of concrete opportunities of facilitation Inclusive VET
- Have increased concrete actions of breaking down barriers
- Have an increased concrete action of facilitating Inclusive VET

The aimed impact for students with SEN (Target Group) is that they

- Enjoy Vocational Education and Training program in mainstream education with their peers.
- Have a Learner Centred Learning Plan which reflects their individual needs and opportunities.
- Have increased the opportunity to achieve professional qualification in mainstream Vocational Education and Training.

Aims

The Palsen project aims to increase the effectiveness of the outcomes of VET to students with SEN. The project also aims to increase the competences of teachers and VET-organisation providing LCA for each student in their own organisation so they can increase the achievements of their educational and training efforts.

More specific the objectives of the project are:

- To understand the concept of Learner-Centred-Approach, the core-aspects of Learner-Centred Approach and characteristics and elements of an Individual Learning Plan
- To identify and describe innovative teaching methods, techniques and materials which contributes to a Learner-Centred Approach
- To identify and define criteria for developing individualised and flexible curricula
- To gain and to improve competence of teachers in developing an Individual-Learning-Plan for each student based on the concept of Learner-Centred Approach.
- To test and to implement (put-into-practice) the Learner-Centred-Approach and Individual Planning in the daily practice of the teachers of the project

Project Results

In the project we have produced 4 Project Results:

Project Result 1: Learner-Centred-Approach and Persons Centred Planning

A description of the concept, methods, and techniques

This result describes various concepts 'Learner-Centred-Approach' (LCA) and 'Individual Learning Planning' (ILP): background, application, challenges in the implementation, specific methods, techniques, and examples of ILP. It provides methods, techniques, practices, and examples of LCA in VET and gives more confidence to teachers to create VET that take diversity of learners into account.



Project Result 2: Facilitators, barriers, and recommendations

A description of facilitators and barriers and recommendation to the implementation of LCA and ILP in mainstream VET

This result gives a comprehensive overview of facilitators, barriers, and recommendations of implementing LCA and including key differences of national VET systems in the partner countries. Barriers are categorised in two categories: within the scope and outside the scope of influence.

Project Result 3: Self-assessment Instrument for Learner Centred Approach

This result is a tool that supports VET providers to assess their current performance of applying a LCA and ILP. Through this self-assessment process VET providers will have the opportunity to identify priorities for improving their performance. It provides feedback on current performance and support the process of setting priorities. The self-assessment instrument can be applied at individual, department and at organisational level; the outcome of the self-assessment process is visualised and direct available; the instrument is easy to use in any 'Excel environment' and can also be used to monitor achievements of improvement actions.

Project Result 4: Manual Learner Centred Planning

This result is a manual for implementing the concept of ILP. The manual comes with a flexible digital tool (Excel file). The manual can be applied at individual, at department and at organisational level, adapted to individual needs of the students, the teacher, the coach, and the organisation and easily used in the communication about the learners between teachers, coaches, and management. Other VET providers can use the manual. It can easily be adapted to specific context and/or needs of the learning with SEN and the VET provider.

Participating organisations

The Netherlands

REA College Pluryn

ROC RijnIJssel

All about Quality Consultancy

Portugal

CFAE CENTRO-OESTE

Slovenia

Biotehniški izobraževalni Center Ljubljana

Italy

Forbusiness Lifeskills S.r.l.



Executive summary

In the project “Personalised Approach to Learning for Students with Special Educational Needs”, partners worked together to explore, to identify, to exchange our current practices and the partners build up competences with the aim of implementing a more Learner-Centred-Approach of Learning for individual students with Special Educational Needs. The project contributes to the effectiveness of the outcomes of Vocational Education and Training to students with and without special needs.

The term Personalised Approach of Learning in Vocational Education and Training refers to a diverse variety of educational training programs, learning experiences, instructional practices, that are intended to address the learning needs, interests, aspirations, or cultural backgrounds of individual learner/students. Personalised Approach of Learning in VET is the alignment of didactics, pedagogy, curriculum, and the learning environment, for students and by students, in order to meet their different learning needs and aspirations.

Personalised Approach of Learning

Personalised Approach of Learning in VET is more than individualised learning programs and individualised support and coaching. In a more Personalised Approach of Learning environment, students participate in collective, structured activities with scaffolded support from their teachers, including modelling, guidance in goal- setting, and timely feedback. With scaffolded support of the teachers, the teacher challenges a student to think aloud and come up with answers themselves. This form of instruction, often applied in the methodology of Problem Based Learning, is tailor-made: students take independent steps to continue learning.

In the first part of the publication, Personalised Approach of Learning (PAL) in VET is explored in various constellations at school. These constellations are based on 4 dimensions. The choice regarding a dimension determines how the degree of Personalised Approach of Learning at the VET-organisation may look like. The constellations are explained in more detail from two dimensions: The External Direction versus Self-Governance and the Collective Interest versus Individual Interest.

There are consequences of choices on the dimensions or some constellations of a more Personalised Approach of Learning. In practice. The elaborations indicate what the interpretation of the dimensions mean for the personalisation of Vocational Education and Training.

Differentiated Instruction (DI)

In the second part of the publication the concept of Differentiated Instruction (DI) is introduced as professional learning strategy of implementing a more Personalised Approach of Learning in Vocational Education and Training. Differentiated Instruction is explored as an effective way to support students



with Special Educational Needs (SEN) by providing opportunities that assist them in taking more responsibility for how they learn and what they learn. Effective Differentiated Instruction requires that teachers take deliberate actions to address the particular needs of students. It is effective instruction that is responsive to students' readiness, interests and learning preferences. All these three characteristics of the learner, readiness, interests, and preferences allow teachers and students to build new learning through connections to existing knowledge and preferred ways of working: Readiness refers to the student's starting point for learning, relative to the concept being studied. Attention refers to students' interests which enhances the relevancy of learning by linking new information to students' experience and enthusiasm. Learning preferences are the many different ways in which learners prefer to acquire, process and work with information. Differentiated Instruction is not the same as individualised instruction. Instead, it involves considering and selecting from a variety of instructional approaches and making frequent use of flexible, short-term groups to address a variety of learner needs and preferences.

Implementing Differentiated Instruction can be done through 4 phases

- It starts with developing fundamental instructional routines and skills of assessment and evaluation.
- The second step is to expand the acquired competences based on the learning needs of the students.
- The third step focuses on designing a variety of options for students by offering a variety of instructions and ways of learning.
- The last step is to maintain and sustain the acquired competences and practices in order to ensure that the variety of instruction and learning meets each students' needs.

Problem-Based-Learning

In the third part of the publication, Problem-Based-Learning is introduced as a method to encourage Personalised Approach of Learning for students with and without Special Educational Needs in the classroom. It emphasises the concept of including of students with Special Educational Needs in their learning process mainstream education classrooms. Problem-Based-Learning (PBL) is a Student-Centred Approach of Learning in which students learn about a subject by working in groups to solve a so called "open-ended-problem". In PBL, students form small groups to discuss a real-life problem or cases by activating their prior knowledge on the topic, relating the new information to their prior knowledge, structuring new ideas and critically evaluating their findings. This part of the publication examines what PBL is and explain the benefits of this method to students with SEN. It also provides useful strategies for PBL activities for students with SEN in the classrooms. By exploring the aspects of PBL methods, all students, including those with Special Educational Needs are able to benefit from these common learning approaches in a classroom setting. Research suggests that PBL instructional approaches have a positive effect on the achievements in students with SEN. It also reports that students with SEN preferred the PBL method and that they wanted to do that type of learning again. Collaboration during PBL activities helps with the social acceptance of students with SEN by their peers. One of the benefits of



PBL in classrooms on both achievement and social skill development is due to interactions between students with SEN and students without a disability.

Scaffolding is recognized as an important strategy in ensuring that PBL activities are effective for all students. Scaffolding in Problem-Based-Approach of Learning has benefits for both students with and without SEN because it establishes clear goals and provides clear instructions for students to follow PBL-methodology. When specifically focusing on strategies for students with SEN, it is recommended to vary instructional strategies through Differentiated Instructions (see Part 2 of this publication)

The Seven Step Method (SSM) is a method for implementing PBL in a structured way. It consists of seven steps that a group must take to get the maximum return on learning from a (problem) task.

Person-Centred-Planning

The fourth and last part of the publication is about Person-Centred-Planning (PCP). PCP focuses on student's individual educational needs, but PCP is also about involving students in planning and evaluating of education and training services. It sees students with Special Educational Needs (SEN) receiving education and training as equal partners in planning, developing and monitoring student's learning process to make sure that this process meets student's needs. In other words, seeing the student with SEN as an individual, and working together to develop appropriate solutions to optimise the learning process and learning outcomes. PCP ensures that students with SEN are involved in decisions about their learning process and learning outcomes. It is recognised as a key component of developing high quality vocational education and training. National government policies are emphasising strengthening the voice of students and moving away from a one-fits-all model where educators decide for students what to learn, to a more 'Personalised Approach of Learning', where educators and students (with and without SEN) decides on tailor-made meaningful education and training activities that meet the desired and needs of the students. Reviews of research about this topic found that offering education and training to students with SEN in a more person-centred way usually improves learning outcomes, increase learning satisfaction and inclusion of students with SEN in mainstream systems. This part of the publication also describes the Person-Centred-Planning (PCP) Framework which comprises domains and subdomains, including ideas within a (sub)domain to be taken into account. The PCP framework is a framework for developing a Person-Centred-Plan for each student based on the concept of Person-Centred-Planning. The PCP-framework is worked out into three domains: The Person-Centred-Plan (Individual Plan), the Facilitator and the System-Level.



Personalised Approach of Learning

The following description of Personalised Approach of Learning (PAL) in Vocational Education and Training (VET) could be considered as a definition: "The term Personalised Approach of Learning in Vocational Education and Training refers to a diverse variety of educational training programs, learning experiences, instructional practices, that are intended to address the learning needs, interests, aspirations, or cultural backgrounds of individual learner/students".

A concise summary is given by Kennisnet who states that Personalised Approach of Learning means "... meeting individual differences between learners with a rich variety of learning situations".¹

In this regard, research indicates that student and teacher, each with their own role, are jointly responsible for the learning process.² The learning environment allows for a learner demand management, considering the learner's needs, expectations, and interests. "Personalised Approach of Learning in VET is the alignment of didactics, pedagogy, curriculum and the learning environment, for students and by students, in order to meet their different learning needs and aspirations".³

In a Personalised Approach of Learning environment, students are co-owners of their own learning process. Therefore, instructions to students should be responsive to students' needs, abilities, and interests.⁴ Education and training are designed more on the basis of learner involvement and independence, offering more variety in learning objectives and/or learning routes. Personalised Approach of Learning in VET presupposes a VET-organisation that focuses on the diverse needs of the individual learners rather than a 'one size fits all' model for learners.⁵

Learning in VET is personalised when it meets the individual learning needs of the students. However, this does not mean that the learning itself is also an individual matter. The learning of students in VET takes place in interaction with peers, teachers, praxis, and the learning environment. Learning of students also requires participation in joint activities.⁶ Personalised Approach of Learning in VET is more than individualised learning programs and individualised support and coaching. In a more Personalised Approach of Learning environment, students participate in collective, structured activities with scaffolded support from their teachers, including modelling, guidance in goal- setting, and timely feedback. With scaffolded support of the teachers, the teacher challenges a student to think aloud and come up with answers themselves. This form of instruction, often applied in the methodology of problem Based Learning, is tailor-made: students take independent steps to continue learning.

¹ Source: "Scholen om van te leren", Kennisnet (2015)

² Source: "Personalising learning 6: the final gateway: school design and organisation", Hargreaves (2006)

³ Source: "Personalising learning 6: the final gateway: school design and organisation", Hargreaves, (2006)

⁴ Source: "Personalised learning: an overview", Bartle (2015).

⁵ Source: "Personalised learning: Implications for curricula, staff and students", Bates et al., (2014)

⁶ Source: "Developing socially just subject-matter instruction: A review of the literature on disciplinary literacy", Moje, (2007)



Dimensions for the degree of Personalised Approach of Learning

Personalised Approach of Learning (PAL) in VET can take shape in various ways at school. In this context, we talk about different constellations of PAL. The various constellations are based on 4 dimensions. The choice regarding a dimension determines how the degree of Personalised Approach of Learning at the VET-organisation may look like. To explain the variation in constellations, the dimensions on which these constellations differ, are explained in more detail.

Two dimensions are distinguished, namely:

1. External Direction versus Self-Governance
2. Collective Interest versus Individual Interest

The two dimensions of personalised Approach of Learning are visualised in figure 1.

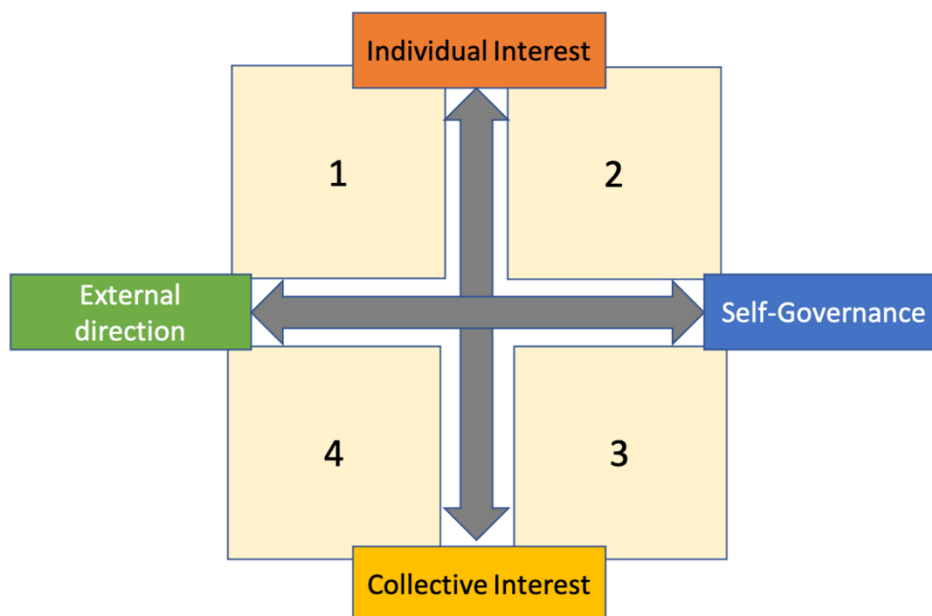


Figure 1: The two dimensions of Personalised Approach of Learning

External Direction versus Self-Governance

The first dimension is that of directing the learning of the student. That is, the influence on and responsibility for the learning process in terms of what, when, where, how, why, with whom and at what pace the students learn. At one end of the dimension, the direction and responsibility of the learning lies entirely with the teacher, a programme, or the method. The teacher, a programme or the method indicates what students learn, where, when with whom and how long it takes them to complete the learning process. The learner/student is more considered to be a receiver and not an active player and developer of his/her learning process (OECD, 2013).



On the other side of the dimension is the learner who is in full control of his/her own learning process. Between these two extremes are all kinds of hybrid forms, in which learners are more or less co-owners of their own learning process. A choice on these dimensions has consequences for the role and competences of teacher and students but also for the VET-organization.

When the learner co-directs his/her own learning process⁷, this requires a more democratic approach to learning⁸ than when the direction rests entirely with the teacher. This more democratic approach to learning can be achieved by the teacher by engaging the students in their learning goals and their learning activities. It also requires the monitoring of the learning process and evaluation of the achievements. In addition, the more democratic approach also requires a dialogue between teacher and student about what motivates students and what their educational needs are. Students are expected to take initiatives and having developed self-regulatory skills⁹.

In a more Personalised Approach of Learning in VET, students are expected to be actively participate in education. Students formulate their own learning goals, they reflect on their learning process and learning outcomes and they participate in thinking about the next step in their individual development. This requires the development of self-regulating skills of students in which co-regulation of the learning process by the teacher is important aspect.¹⁰

Instead of the teacher, ICT can direct the learning process of the student (external direction). Knowledge transfer and acquisition of learning material then take place by a computer-controlled program (program control). Based on student responses, the adaptive system performs an intervention in the form of feedback or provision of new learning material for the student. If the control lies with the teacher, ICT can support him/her in gaining insight into the educational needs of students¹¹. Finally, ICT can support self-regulation. The analysis of the learning behaviour allows students to compare their own learning behaviour and activities with those of large (sub)groups of other students. On the basis of this, they can, for example, find out what students with the same profile as themselves have done to achieve good learning performance and what their next steps might be. A choice on this dimension has consequences for the VET-organisation, such as learning resources, an ICT infrastructure, grouping of students, time and place of learning, tasks, roles, and functions of teachers.

⁷ Source: Prain, V., Cox, P., Deed, C., Dorman, J., Edwards, D., Farrelly, C., Keeffe, M., Yager, Z. "Adapting to teaching and learning in open-plan schools", (2014)

⁸ Source: Kubow, P. K., & Kinney, M. B. "Fostering democracy in middle school classrooms: Insights from a democratic institute in Hungary", (2000).

⁹ Source: Prain, V., Cox, P., Deed, C., Edwards, D., Farrelly, C., Keeffe, M., Waldrip, B. "Personalising learning in open-plan schools. (2015)

¹⁰ Source: Zimmerman, B. "Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. (2008)

¹¹ Source: Bransford, J., Brown, A., & Cocking, R. (Eds.). "How people learn" & Darling-Hammond, L. "Can value added add value to teacher evaluation? (2015)



Collective interest / individual interest

In the most education system, choices are made as to what needs to be taught. This involves weighing up individual and collective interests. Vocational Education and Training does not only serve the interests of the individual student, but also the interests of the society. This involves socialisation, that is, the ways in which we become part of existing traditions and practices through education¹². Socialisation is related to things such as being able to communicate with each other, to organise events, to make, to behave and to observe rules. The development of an individual student into a reflective and critical human being is also important in this context. In this process of development, emancipation, freedom, and responsibility play an important role while the educational system qualifies the outcome of this process¹³. In the VET-organisation, it equips students for work, and it provides diplomas.

This includes both cognitive and non-cognitive knowledge, skills, and competences. There is also an economic importance of Vocational Education and Training, where Vocational Education and Training is considered an investment in human capital¹⁴.

But Vocational Education and Training also serves individual interests: the development of the talents of students and responding to the individual wishes, needs and expectations.

The degree of Personalised Approach of Learning changes as the balance between individualisation and collectivisation shifts.¹⁵ As the collective interest weighs more heavily, there will be far-reaching form of collectivisation and standardisation in Vocational Education and Training, in which there is little or no Personalised Approach of Learning. All students receive the same education (one-size-fits-all). The more that is laid down at the collective level, the less scope remains for making individual choices. As individual interests become more important and Vocational Education and Training matches individual goals and learning needs, there is individualisation and differentiation, with students following highly personalised learning pathways or designing their own learning pathway (one-size-fits-one).

As with the previous dimension, choices on this dimension have consequences for the role of the teacher, the student, and the VET-organisation. A strong collectivisation leaves little room for differentiation and variation in educational approaches. Whereas individualisation leaves a lot of room to offer a programme tailored to each individual student, depending on his/her performance and preferences. With strong collectivisation what, when, where, how, why, with whom and at what speed students learn is the same for all students. After all, at the end of each school year, all students must achieve the same learning goals and they have been taught in the same way. Individualisation can be achieved at different points, namely at the what, when, where, how, why, with whom and at what pace students learn. As individualisation increases, ICT allows each student to follow a more personalized learning pathway that matches the student's interests and own learning goals. Through the use of ICT, there are more opportunities to tailor the content of the curriculum to different learners.

¹² Source: Biesta, G., "Het prachtige risico van onderwijs". (2015)

¹³ Source: Biesta, G., "Het prachtige risico van onderwijs". (2015) & Veld, R.J. in 't. (2015). "Onderwijs voor een onvoorspelbare toekomst. (2015)

¹⁴ Source: Veld, R.J. in 't. (2015). "Onderwijs voor een onvoorspelbare toekomst. (2015)

¹⁵ Source: OECD, 'Education at a Glance 2013: OECD Indicators (2013)



Consequences of choices on the dimensions

There are consequences of choices on the dimensions or some constellations of a more Personalised Approach of Learning. In practice, these constellations are often not found in their pure form. The elaborations indicate what the interpretation of the dimensions mean for the personalisation of Vocational Education and Training.

1. Classroom teaching
2. Group differentiation and individual learning lines
3. Personal learning routes
4. Self-regulated learning in a fixed program
5. Learning Partnerships

Classroom teaching

Classroom teaching in Vocational Education and Training is characterized by a strong degree of collective interest, where there is only external direction. All students must meet the same standards and have the same learning goals. The teacher/trainer decides what, how, where, when, with whom and at what pace students learn. Often a method is used in which learning objectives and learning activities are set. Students are divided into year groups and taught simultaneously in the same classroom (curriculum year class system), at the same time and carry out the same learning activities. ICT is used, for example, for "drill & practice" exercises.

Group differentiation and individual learning lines

Group differentiation in Vocational Education and Training is characterized by a strong degree of external control with some attention to the individual interest. Special educational needs of students are considered without asking for the input of the student. The student works at his own level at the direction of the teacher. The student has no say in what he/she wants to learn and how he/she would like to achieve the learning objectives. The teacher or the curriculum determines the next step the student takes. Students are often divided into different groups, which receive more or less instruction depending on their support to special educational needs. Students that need a lot of extra support and cannot keep up with the level of the group, get an individual learning line with possibly minimum goals and an adapted program. ICT can be used for drill & practice, especially for those students who need extra practice. But also, the use of adaptive technology fits here. The student works at his own level on predetermined goals.

Self-regulated learning in a fixed program

In this constellation, the learning goals of the Vocational Education and Training program are predetermined (collective interest). There is a fixed programme to which students must relate. However, students have a say in the way they prefer to work on it (self-direction). They can decide, in consultation



with the teacher, how they are going to achieve the learning goals. They have the opportunity to express when, with whom and in what time frame they will work.

In this constellation, the student can influence his learning process and he/she is co-owner of it. However, the frameworks for what a student must learn are fixed. Students can work with adaptive technology where this technology is addressing the Special Educational Needs. They can indicate themselves when they are ready for the next step, the next learning goal and may have their own personal digital learning environment.

Personal learning routes

This constellation is characterized by a far-reaching degree of individual interest and by self-regulation of the student. Students decide for themselves what and how they learn. If taken to the extreme, this can mean that each learner learns different things, at each time and place. Students choose their own "teacher", their own peers, their own curriculum, and their own learning activities. This can be made accessible to them through ICT. Learning does not take place within the boundaries of the school, the community, or the own country. The world is open to the student. Students must have self-regulating skills. Depending on the student, this learning can also serve collective interests, but this does not have to be the case. The curriculum is strongly influenced by the developmental needs of the students.

Learning Partnerships

Learning partnerships are characterised by a mixture of collective and individual interests and by students who take control of their own learning process, supported by the teacher. There are common goals as well as individual goals and needs. There is dialogue between teacher and student about what motivates students and where their educational needs lie. Students are expected to take initiative and develop self-regulatory skills.¹⁶ Students co-determine what and how they learn. They identify their own learning goals, and they monitor their own progress. Their teacher supports them in this. Students form learning partnerships with teachers, fellow students, and other relevant stakeholders (e.g., Employers). For example, ICT is used to support the students in their self-regulation process.

The way in which the VET-organisation implements customisation or Personalised Approach of Learning has implications for the curriculum, pedagogy and assessment of needs and expectations. It also has impact on the professional development of the team (teachers, trainers, and coaches) and has implications for the development of the culture of the VET-organisation and infrastructure. This indicates that changes need to take place at various levels of the VET-organisation in order to successfully implement Personalised Approach of Learning.¹⁷ In this, different factors and actors play a role.

¹⁶ Source: Prain, V., Cox, P., Deed, C., Edwards, D., Farrelly, C., Keeffe, M., Waldrip, B., "Personalising learning in open-plan schools". (2015).

¹⁷ Bates, S. "Personalised learning: Implications for curricula, staff and students" (2014) & Hargreaves, D. "Personalising learning" (2005)



Dimensions for the VET-organisation of learning

The dimensions that underlie the choice of the form of Personalised Approach of Learning (PAL), influence the way the VET-organisation should be organised. There must be congruence between the design of PAL in the primary process (micro-level) and the secondary process of the VET-organisation (meso-level).

Degree of uniformity / flexibility

Uniformity means that the VET-organisation is largely determined by common agreements and standards. Examples of uniformity are a building with classrooms that are identical in size and layout, one type of grouping, one method for all students in the same class, a timetable with lessons that are identical in length and in time allocation, an identical task and job descriptions for all teachers, etc. etc.

Flexibility of the VET-organisation means that Vocational Education and Training is organised in such a way that differences between students can be accommodated in a flexible way. Flexibility is a property of the organization to be able to adapt to changes, to allow customisation, to guide students individually and to differentiate according to the needs of the student.¹⁸ For example, in an VET-organisation with a high degree of flexibility, the timetable is not binding, multiple grouping forms can exist side by side (instructional groups, workshop groups, self-study groups), there is a large diversity of learning sources (method, ICT programs, self-developed materials, materials found by students themselves and/or experts), teachers have multiple roles and not all the same role (for example, language specialist or math specialist), and there is variation in the teaching spaces (including spaces for self-study, group work, classroom instruction, etc.). Furthermore, classroom teaching is not the dominant working method. In order to better respond to the diversity of students, students are alternately guided individually or in subgroups.

Organisational flexibility cannot be achieved without some form of standardisation¹⁹. VET-organisations should ask themselves the following questions: "Variation of what? And then what do we need to standardize to make that kind of variation possible?". To make a more Personalised Approach of Learning possible, coordination between teachers, trainers and coaches is essential. Working with changing subgroups requires good preparation, direct coordination, and cooperation between colleagues. For example, agreements must be made about how a teacher cooperates with colleagues and how students are monitored.

The essence of standardisation is then those things are 'just right' and at the same time a flexible response can be made to the needs of students. That flexibility should enable teachers and the VET-organization to give each individual student what he/she needs to develop to his full potential.

¹⁸ Hargreaves, D. Personalising learning. (2005)

¹⁹ Waslander, S. (2014). De beloften van ICT voor het onderwijs..



Degree of external direction / self-governance

If the choice is made to give students more control over their own learning process, students will need to have more influence on the choice of, for example, learning objectives and learning materials, or on the pace at which they learn, or the place where they learn. This means that the method can no longer be leading, the grouping form is not always the year-long class, and the influence of the timetable and the teacher is declining. To achieve more control by students, changes must therefore be made to the organisation as a whole. If this does not happen, the self-direction of students will be restricted.

Organising more personalised education also touches on laws and regulations. Not everything is allowed and not everything is possible; the school must, among other things, work on the core objectives, adhere to the norm for hours and be accountable to the Education Inspectorate. The question is how the school organisation deals with this. When legal standards are approached from the standpoint that it is about 'rules from above that you must adhere to', a school team feels little space and direction. It is important that the team has insight into what legal frameworks are and discusses with each other which space is taken and how the school can make the chosen approach explicit and accountable²⁰. The direction and ownership to implement a more Personalised Approach of Learning lie much more with the team itself than with external factors.



Reaching Every Student Through Differentiated Instruction

Introduction

As students enter adolescence, they are making the most challenging transition of their lives. To send them on that transition equipped with self-knowledge of what they are good at, what they enjoy, how to learn something that is challenging for them, and conditions under which they can do their best work, is to provide the best possible support for their success in school and in life. When you find out who your students are, you can support them in their learning, and everyone benefits. Differentiated Instruction (DI) allows you to see learning from a variety of perspectives and provides countless, unexpected teachable moments that you may otherwise miss.

This chapter is intended to inform and to support all who are new to Differentiated Instruction (DI) and those who are refining their DI-skills. It is one of the resources in the professional learning strategy of implementing a more Personalised Approach of Learning in Vocational Education and Training. The information will serve as an introduction to Differentiated Instruction as an effective way to support students with Special Educational Needs (SEN) by providing opportunities that assist them in taking more responsibility for how they learn and what they learn.

Differentiated Instruction is not new. Concern for attending to the needs of particular students is captured in writings about teaching in ancient Greece and Egypt, in descriptions of life in the one-room schoolhouse and in every instance where instructional plans are adjusted to better meet the needs of an individual learner.

Effective Differentiated Instruction requires that teachers take deliberate actions to address the particular needs of students and keep in mind the following essential concepts:

- Knowledge of students' readiness to work with concepts, their interests and their learning preferences and seeing all preferences as equally valid.
- Teachers use a repertoire of instructional and assessment strategies to meet the needs of different learners.
- All differentiated instruction activities are equally engaging and respectful and take approximately the same amount of time.
- All differentiated instruction is based on the same curriculum expectations and all students have opportunities to achieve the same high standards of performance.
- Students are assessed before, during and after their learning. Assessments inform next steps for both teacher and student.
- Even if students have choices in the ways that they demonstrate their learning, teachers are able to use a tool to assess student's work against the same criteria.
- Students work in short-term, flexible learning groups and educators are flexible in creating and altering instructional plans in response to learn.



Differentiated Instruction: a definition.

Differentiated Instruction is effective instruction that is responsive to students' readiness, interests and learning preferences. All three characteristics of the learner, readiness, interests, and preferences allow

teachers and students to build new learning through connections to existing knowledge and preferred ways of working.

The process of differentiating instruction for students depends on the ongoing use of assessment to gather information about where students are in their learning process and about their readiness, interests and learning preferences. Teachers may use this information to vary the learning environment, the instruction, and the assessment and the evaluation.

- Readiness refers to the student's starting point for learning, relative to the concept being studied.
- Attention to students' interests enhances the relevancy of learning by linking new information to students' experience and enthusiasm.
- Learning preferences are the many different ways in which learners prefer to acquire, process and work with information. Learning preferences are influenced by gender, culture, the classroom environment, learning styles and multiple intelligences.

By attending, at various times, to a learner's readiness, interests and learning preferences, we increase the likelihood that students will be able to build new learning through connection to existing knowledge and preferred ways of working and that they will be engaged in the learning.

Examples of research support for Differentiated Instruction

A wide variety of research studies point to differentiated instruction as a manageable, creative, practical, and proactive response to the quest for enhanced student engagement and achievement in the face of significant student diversity. The following are the findings of researchers related to the importance and effectiveness of differentiation in our classrooms.

DI-Principle	Support - Research
Differences in how students learn have a significant impact on achievement.	"When teachers recognise diversity in their students, in terms of how and what they identify with and how they learn, and when this recognition is reflected in how teachers teach, students are free to discover new and creative ways to solve problems, achieve success, and become lifelong learners." ¹
Learning begins from a student's point of readiness.	"We know that learning happens best when a learning experience pushes the learner a bit beyond his or her independence level. When a student continues to work on understanding and skills already mastered, little if any new learning takes place. On the other hand, if tasks are far ahead of a student's current point of mastery, frustration results and learning does not." ²

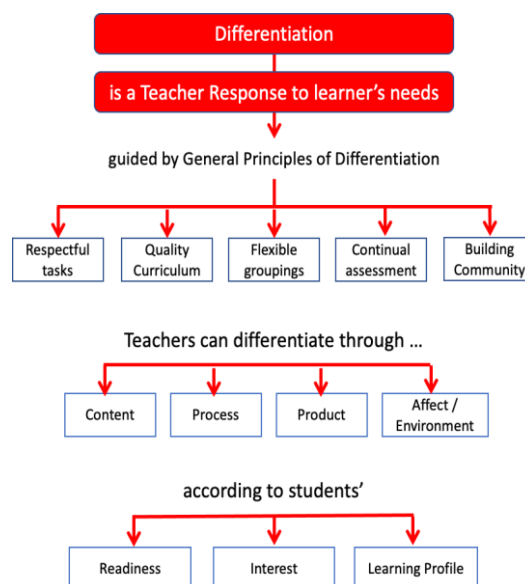


DI-Principle	Support - Research
A safe, non-threatening and respectful learning environment is vital to student achievement.	"We know that learning happens best when a learning experience pushes the learner a bit beyond his or her independence level. When a student continues to work on understanding and skills already mastered, little if any new learning takes place. On the other hand, if tasks are far ahead of a student's current point of mastery, frustration results and learning does not." ³
High expectations of success by all are matched by tasks that provide a high degree of challenge for the individual.	"When goals are clear, feedback relevant, and challenges and skills are in balance, attention becomes ordered and fully invested." ⁴
Essential concepts can be effectively presented in a variety of forms.	"One is struck by the superior findings reported for visual and dramatic instruction over verbal instruction in terms of the percentage of information recalled by students one year after the completion of the unit." ⁵

Differentiated Instruction (DI) from the Classroom Teacher's Viewpoint

Below, you see an overview of all relevant aspects of Differentiated Instruction (DI) from the perspective of the teacher. The diagram 1 emphasises the concept of differentiation. The diagram 2 emphasises the components which have to be considered for an effective response in the classroom – school.

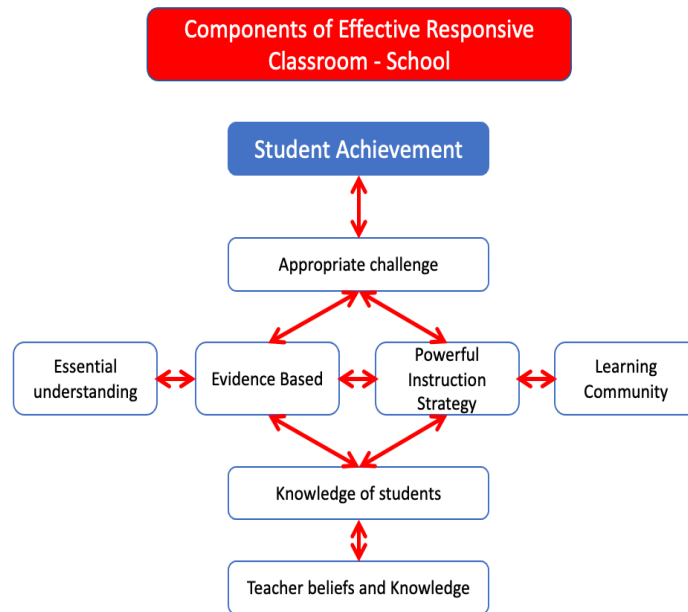
Diagram 1



Source: Carol Ann Tomlinson (2008). Association for Supervision and Curriculum Development (ASCD)



Diagram 2



Source: Karen Hume (2017). Start Where They Are: Differentiating for Success with the Young Adolescent

Differentiated Instruction (DI) in the classroom

Differentiated Instruction is not individualised instruction. Instead, it involves considering and selecting from a variety of instructional approaches and making frequent use of flexible, short-term groups to address a variety of learner needs and preferences.

Some Differentiated Instruction involves prior planning and formalised structures (e.g., designing a choice board). Some Differentiated Instruction requires less prior planning or results from decisions made on the spot based on emerging student needs (e.g., choice of group size, note-taking options)

Example 1: DI in English Language

Students studying effective presentation techniques individually choose to focus on a speaker's use of images, pitch and pace, level of language and use of written text or body language. After listening to and viewing an oral-visual presentation, students work in like groups (e.g., interest, learning style) to prepare a list of what they observed. Students then meet in mixed groups to prepare a comprehensive list, graphic organizer, or brief presentation summarizing effective presentation techniques.

Example 2: DI in Business Development

Students choose an area of personal interest to develop a fictitious business. The various forms of ownership are explained (e.g., sole proprietorship, partnership, corporation, cooperative, franchise) and



students are asked to select the form they think would be best suited to their business. Students then work individually, with a partner or in a small group to research their particular form of ownership and respond to the questions on a provided template. This task might also be differentiated by readiness if questions of greater or lesser complexity are scaffolded according to each learner's needs.

Example 3: DI in Science

Students participate in a class brainstorm of the possible factors that affect soil composition and fertility. Students individually select the factor that most interests them and then design and investigate to examine their chosen factor. Mini lessons are provided on experimental design along with investigation recording forms that support learners according to their needs for more or less structure.

Engaging students by offering choice

“Choice makes learner's desire for control and freedom possible—without the power struggle. Choice builds confidence and fosters independence. Choice tells students their interests are important and allows them to demonstrate responsibility.”

A manageable choice is the goal

All students want to feel they have some control over their lives, and they will make more of an effort when their desire for choice is addressed. It is important that teachers clearly define and model choices so that neither students nor teachers become overwhelmed. Students also need practice and experience working with a prescribed range of choices before they will be able to make informed choices independently.

Teach students to make good choices

1. Explicitly teach students the skills necessary to work effectively in a group or with a partner.
2. Help students know their learning strengths and preferences by using inventories, observation, and discussion.
3. Encourage and provide opportunities for students to reflect on the outcome of their choices, so they can get better at making good ones. For example, use learning stations to have all students try all choices, then ask, “Which one helped you to learn?” instead of “Which did you enjoy the most?”
4. Introduce choices in small ways at first:
 - a. Ask if students prefer to work individually or with a partner.
 - b. Let them decide the order of completion when multiple tasks need to be done.
 - c. Allow them to answer one of the test questions by writing or by drawing.



Provide appropriate choices

All choices need to satisfy the same expectation, take roughly the same amount of time and be equally respectful of all students. Create or select two, three or four well-constructed choices that address both the demands of subject disciplines and the readiness, interests or learning preferences of students. Remember to ensure that students know how to accomplish the process skill for any choice offered (e.g., writing a script, creating a role play, filming a documentary). Also, ensure that all choices are assessed using the same assessment criteria.

Conclusion:

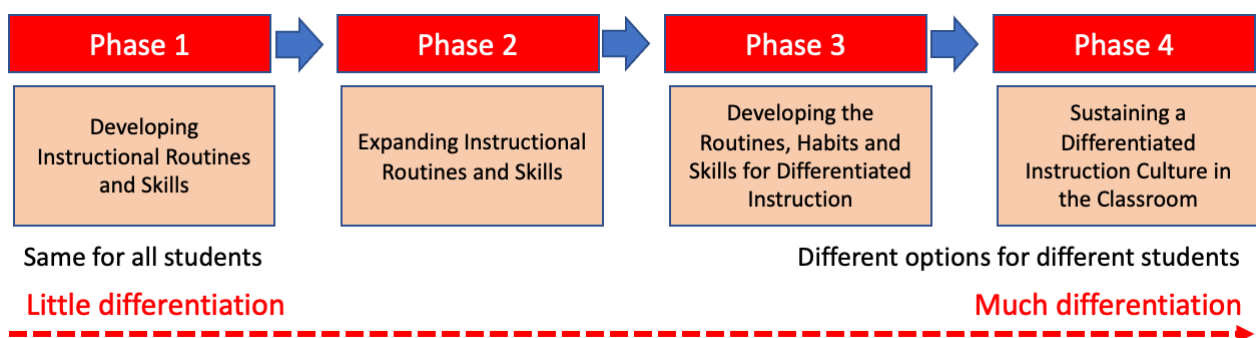
Differentiated Instruction involves:

- Using assessment to gather information about students' readiness, interests and learning preferences
- Using this information to differentiate the learning environment, instruction, and assessment and evaluation
- Selecting from a varied repertoire of strategies to meet the particular needs of students

Implementing differentiated Instruction in the Classroom

Implementing Differentiated Instruction can be done through 4 phases. The route of the 4 phases is called: the Differentiated Instruction Continuum. It starts with developing fundamental instructional routines and skills of assessment and evaluation. Without having these skills, the next step cannot be made. The second step is to expand the acquired competences based on the learning needs of the students. The third step focuses on designing a variety of options for students by offering a variety of instructions and ways of learning. The last step is to maintain and sustain the acquired competences and practices in order to ensure that the variety of instruction and learning meets each students' needs.

The Differentiated Instruction Continuum is expressed in the figure below.





Phase 1: Developing instructional Routines and Skills

Designing instruction, assessment, evaluation, and the learning environment for the class as a whole based on curriculum expectations and your own strengths and preferences. All students learn and demonstrate their learning in the same way all or most of the time.

Phase 2: Expanding instructional Routines and Skills

Designing instruction, assessment, evaluation, and the learning environment based on curriculum expectations and a general sense of the learning needs of your students in the class. Students experience a variety of ways to learn and/or ways to demonstrate their learning.

Phase 3: Developing the Routines, Habits, and Skills for Differentiated instruction

Designing instruction, assessment, evaluation, and the learning environment based on curriculum expectations and a general sense of the learning needs of the class. Try to design a variety of options for your students. Students have a choice of ways to learn and/or ways to demonstrate their learning on an ongoing basis.

Phase 4: Sustaining a Differentiated instruction Culture in the Classroom

Designing instruction, assessment, evaluation, and the learning environment based on curriculum expectations and on the specific learning needs of the students in the class. Try to ensure that the learning experiences you provide are a "good fit" for each of your students. Students are routinely provided with, or choose when appropriate, ways to learn and/or ways to demonstrate their learning that are designed for their particular learning needs.

Implementing differentiated Instruction in the Classroom

Begin planning your approach to Differentiated Instruction by referring to the continuum on the left. Consider where you are now and the steps you could take to increase your effectiveness and your responsiveness to students' needs.

Developing Instructional Routines and Skills

Identify your own learning preferences and those of your students by using inventories, surveys, observations in a variety of learning situations and in discussions. Deliberately plan part of a lesson so that it appeals to a learning preference of students that you do not usually address.



Expanding Instructional Routines and Skills

Determine ways of learning that motivate your students the most. Over several days, provide the class with learning experiences that introduce them to different ways of learning and allow you to observe which opportunities work for which students. For example: engage students in learning that is primarily visual, follow up with opportunities that are kinaesthetic and interpersonal, and then provide experiences that focus on logical/mathematical, intrapersonal, and verbal/linguistic intelligences.

Developing the Routines, Habits, and Skills for Differentiated Instruction

Begin by providing a single alternative to a standard assignment. Make sure that each alternative is equally respectful and takes roughly the same amount of time and satisfies the same expectations. Provide a few options of supporting students as necessary as they work at their choices. Create an assessment that will allow you to give meaningful feedback to the student regardless of the choice made. Engage the student in the assessment of the learning process.

Sustaining a Differentiated Instruction Culture in the Classroom

Encourage student reflection and involve students in activities that require them to engage in assessment as learning. Talk with students about how they want to use areas of strength. Challenge students to stretch beyond their comfort zone and experiment with other ways of learning when they are working on concepts that they understand. Along with your students, reflect on what helps to engage them and respond by refining your instructional approaches.



Problem Based-Learning: An Interactive student-centred learning approach.

Introduction

Problem-Based-Learning (PBL) is a Student-Centred Approach of Learning in which students learn about a subject by working in groups to solve a so called “open-ended-problem”. In PBL, students form small groups to discuss a real-life problem or cases by activating their prior knowledge on the topic, relating the new information to their prior knowledge, structuring new ideas and critically evaluating their findings. Problem-based learning (PBL) methods provide hands-on, interactive learning experiences.

Nowadays education and training practices encourage the inclusion of students with Special Educational Needs in mainstream education classrooms. It is therefore important for educators to understand the benefits of PBL and strategies for making these activities accessible to all students including those with Special Educational Needs.

PBL methods have positive effects on student achievement, student engagement and attitudes, classroom environments, self-efficacy, and social skills for both students with and without SEN. When the proper support is provided, students with SEN are able to fully benefit from PBL approaches.

Education and training are changing to keep up with new ways of teaching and training and new ways of learning. Instructional methods have shifted from lecture-dominated approaches to a focus on hands-on and interactive learning experiences²¹. Problem-Based-Learning (PBL) methods perfectly fits in this idea of hands-on, interactive learning approaches. This new educational approach has become more and more popular in all areas of education and training.

In classes, PBL enhance inquiry and critical thinking. Additionally, it emphasises supporting individual students in a classroom. In nowadays education and training, there is a growing focus on developing literacy which involves gaining and using knowledge so important questions can be identified and answered, observation can be explained, and conclusions can be made about various topics based on evidence²². Therefore, Problem-Based-Learning Approaches are useful in developing and understanding the real-world students live in.

Similar to the changes that mainstream education and training has gone through over the years, the education and training of students with Special Educational Needs has also gone through major changes. Once the common educational approach for students with SEN was to separate them from general

²¹ Treagust, D.F. & Peterson, R.F. (1998), ‘*Learning to teach primary science through problem-based learning*’; Gallagher et al. (1999) ‘*Implementing problem-based learning in science classrooms*’; Slavin, R.E. (1999), ‘*Comprehensive approaches to cooperative learning*’; Greenwald, N.L. (2000), ‘*Learning from problems*’.

²² OECD. (2006). ‘*Assessing scientific, reading and mathematical literacy. A Framework for PISA*’.



education classrooms. Since the adoption of the Disabilities Education Act in the United States of America (2004) a more restrictive environment in educating of students with SEN is encouraged. This means that students with SEN should be educated in general education classrooms as much as possible in order to promote not only educational achievement but also positive social skill development²³. It is therefore the duty of teachers to ensure that all students in their classrooms, including those with Special Educational Needs, learn and master the content to the best of their ability. Due to the importance of ensuring a high-quality education in a least restrictive learning environment, it is of value for teachers to examine the relationship between PBL in classrooms and students with SEN. To examine such a relationship, it must be asked: How can educators ensure that students with SEN benefit from PBL approaches in a classroom?

Although PBL approaches are widely accepted in education, is it possible that students with SEN are somewhat excluded from the benefits of these techniques, and if so what kind of strategies can teachers use to ensure this kind of exclusion does not happen in their classrooms? Is it possible that students with SEN are not able to fully contribute to PBL activities and therefore do not fully benefit them? To avoid possible exclusion of students with SEN, it is important for teachers frequently using PBL approaches to learn more about the relationship between these educational methods and these students so they can ensure all of their students fully benefit from this type of learning.

This chapter will examine what PBL is and explain the benefits of this technique to students with SEN. It will also provide useful strategies for PBL activities for students with SEN in the classrooms. By examining these aspects of PBL methods, this paper will provide solutions for how teachers can ensure that all of their students, including those with Special Educational Needs are able to benefit from these common learning approaches in a classroom setting.

Problem-Based-Learning

Problem-Based-Learning in the classrooms is described the National Research Council (2003) as: “activities of students in which they develop knowledge and understanding of ideas, as well as an understanding of how to study the natural world.”. This instructional technique is thought to be effective in developing critical thinking skills and is based off of the “5-E’s” model of learning in which student **Engagement, Exploration, Explanation, Elaboration, and Evaluation** are stressed²⁴. Additionally, PBL has been influenced by the ideas of educational philosopher John Dewey. Dewey (1938) believed that learning how to solve problems is how to learn, and Problem-Based-Learning is centred around this idea of learning by doing and experiencing.

²³ Individuals with Disabilities Education Act, 2004

²⁴ Bybee, R.W. (2006), ‘Enhancing science teaching and student learning: a BSCS perspective’.



Problem-Based-Learning and Students with Special Educational Needs

Types of disabilities, present in special education students found in mainstream education classrooms, vary greatly in their presentations, and needs. Some of these students have language-based difficulties, difficulties with attention and concentration, issues with knowledge organisation or self-regulation, or problems using cognitive strategies for problem solving²⁵. Additionally, many teachers have doubts about the abilities of students with Special Educational Needs to meet the requirements of problem solving learning that is central in education and training²⁶. Therefore, due to the challenges facing students with SEN and the perception of the abilities of these students, it is important to determine whether or not PBL techniques are compatible with these students in a mainstream classroom setting.

Many studies have examined the association between PBL and achievement in students with SEN. The majority of these researches suggest that PBL instructional approaches have a positive effect on the achievements in students with SEN²⁷. Also, the study by Scruggs, which was focused on the effectiveness of using PBL approaches, compared to textbook-based approaches in a classroom for students with SEN. It was found that on average, the students with SEN scored higher on content knowledge after being taught using the PBL method. The study also showed that the students with SEN preferred the PBL method and wanted to do that type of learning again. A potential explanation for the positive effect of PBL on the achievements in students with SEN is that these approaches focus on learning by doing and discussing rather than through reading, which is an area that many of these students struggle in²⁸.

Another aspect of PBL that is often discussed is the effects on engagement and attitudes towards learning in students with SEN. PBL is considered to be an effective way to engage students with SEN²⁹. In fact, engagement in students with SEN increases as a result of the implication of PBL activities and students have a more positive view of learning when these techniques are used. It is often found that students with SEN prefer a style of teaching using PBL and see a high value in the tasks they are assigned during these activities³⁰.

In addition to effects on achievement and engagement, the relationship between self-efficacy and PBL is important to consider regarding students with SEN. It is widely stated that students with SEN often exhibit lower self-efficacy than students without SEN. This is likely due to the fact that students with SEN often have fewer successful experiences, less support from teachers, and less access to information or successful models of peers with SEN. There is a strong suggestion that PBL instructional approaches increase self-efficacy in students with SEN³¹.

²⁵ Elliott, J.G. (2000), *The psychological assessment of children with learning difficulties*.

²⁶ Sullivan-Palincsar et al. (2001), *'Making science accessible to all: Results of a design experiment in inclusive classrooms'*.

²⁷ Scruggs et al (1993), *'Reading versus doing: The relative effects of textbook-based and inquiry-oriented approaches to science learning in special education classrooms'*.

²⁸ Elliott, J.G. (2000), *The psychological assessment of children with learning difficulties*.

²⁹ Filippatou, D. (2010), *'The effectiveness of project-based learning on pupils with learning difficulties regarding academic performance, group work and motivation'*.

³⁰ Filippatou, D., & Kaldi, S. (2010), *'The effectiveness of project-based learning on pupils with learning difficulties regarding academic performance, group work and motivation'*.

³¹ Barron et al., (1998), *'Doing with understanding: Lessons from research on problem- and project-based learning'*.



It has also been observed that collaboration during PBL activities helps with the social acceptance of students with SEN by their peers³². Social skills can sometimes be additional obstacles to students with SEN and these students can often feel ostracized or unaccepted in general education classroom settings³³. It is widely thought that the benefits of PBL in classrooms on both achievement and social skill development is due to interactions between students with SEN and students without a disability in activities as “providing feedback and clarification” which help them building up understanding³⁴. It is also suggested that non-disabled students are sometimes better able to explain concepts or activities in language and terms that can easily be understood by students with SEN better than their teachers³⁵.

Problem-based Learning Strategies for Students with Special Educational Needs

Once the question of whether or not problem-based learning strategies are truly beneficial to students with SEN has been evaluated, it is also important to examine different strategies for implementing these techniques. Research suggests that PBL approaches are effective ways to engage students with SEN in the content but makes note of the importance of special strategies for students with SEN, such as Differentiated Instruction and Instructional Scaffolding. The implementation of such strategies should be beneficial not only for students with learning disabilities but for all students.

Due to the fact that inclusion is an important focus for making PBL activities accessible to students with SEN, a lot of strategies are suggested to achieve proper inclusion and make these activities successful. One such strategy is the use of scaffolding. Scaffolding refers to a method where teachers offer a particular kind of support to students as they learn and develop a new concept or skill. In the instructional scaffolding model, a teacher may share new information or demonstrate how to solve a problem. The teacher then gradually steps back and lets students practice on their own. It also can be carried out in small groups. The model of instructional scaffolding is also sometimes described as “I do. We do. You do.” In other words, the teacher shows how something is done, then the class practices together and, finally, students work individually or in small groups. When scaffolding is used, a positive learning environment is achieved and all students, including students with SEN, are able to increase their knowledge, skills and literacy and gain a deeper understanding of the content. A common Scaffolding strategy for PBL approaches is known as structured guided inquiry. This way of scaffolding is used before the PBL-method is implemented. This is carried out in order to prevent misunderstandings and confusion during the PBL-activity when students may encounter difficulties. It may help students avoid failures. When using a structured guided inquiry approach, teachers provide the questions and procedures for the BPL-activity.

Scaffolding in Problem-Based-Approach of Learning has benefits for both students with and without SEN because it establishes clear goals and provides clear instructions for students to follow PBL-methodology.

³² Gillies, R. M., & Ashman, A.F. (2000), *‘The effects of cooperative learning on students with learning difficulties’*.

³³ Elliott, J.G. (2000), *‘The psychological assessment of children with learning difficulties’*

³⁴ Gillies, R. M., & Ashman, A.F. (2000), *‘The effects of cooperative learning on students with learning difficulties’*.

³⁵ Filippatou, D., & Kaldi, S. (2010), *‘The effectiveness of project-based learning on pupils with learning difficulties regarding academic performance, group work and motivation’*.



Scaffolding is recognized as an important strategy in ensuring that PBL activities are effective for all students. However, there are other strategies which may be relevant. When specifically focusing on strategies for students with SEN, it is recommended to vary instructional strategies through differentiation and showing a consistent behaviour management strategy by the teacher in the classroom³⁶. It is also suggested that heterogenous grouping of students during PBL activities is more beneficial for students with SEN rather than homogenous grouping³⁷.

Finally, in many literatures about this topic it is described that teacher attitudes has a significant effect on the success of PBL activities³⁸. Having a positive and supporting attitude can be an effective strategy for a teacher to use during these types of learning activities. All students, especially students with Special Educational Needs, are more motivated, persistent, and put forth more effort when they view their teachers as not only supportive but also as caring. These changes in effort, motivation, and persistence lead to an increase in the successful educational achievements of all students (Lumpkin).

The Seven Step Method³⁹

The Seven Step Method (SSM) is a method of working that is specially designed to working on problem tasks (within Problem-Based-Learning). The Seven Step Method is a method that supports working in small groups. The method can also be used outside Problem-Based Learning: think of all the situations where a problem needs to be solved. The method is a method for tackling tasks in a structured way.

It is a fixed procedure with which students can tackle a (problem) task in small groups (eight to ten students). When a group starts working on a (problem) task, a lot of time could be lost in exploring, discussing and searching for a good method of working. That is why the Seven Step Method was developed.

7 Steps building blocks

The Seven Step Method consists of seven steps that a group must take to get the maximum return on learning from a (problem) task. The steps 1 to 5 usually take one hour. For step 6, it is recommended to allow a few days. Step 7 then usually takes another hour.

The steps are structured as follows:

Step 1: Clarifying concepts

In this step unclear terms and concepts must be clarified. Existing prior knowledge can be used in this first step. Members can ask each other about this. Words / terms can also be looked up. Always try to find out the specific meaning in the situation outlined by the assignment.

³⁶ Morocco, C.C. et al. (1990), 'Interim report: Problem solving in science project'.

³⁷ Chen, R.W. et al., (2008), 'When high achievers and low achievers work in the same group: The roles of group heterogeneity and processes in project-based learning'.

³⁸ Lumpkin, A. (2007), 'Caring teachers: The key to student learning'.

³⁹ University of Maastricht (2020), 'Problem-Based-Learning: The Seven Step Approach'.



Step 2: Defining the problem

In this step, the team tries to come up with a concise formulation of the problem. In this phase, the group should also agree on the essence of the problem or task (look for keywords in the description). Does everyone see clearly where to go with the assignment? (If not, no solution can be found yet)? The problem statement is therefore formulated very explicitly.

Step 3: Brainstorming

In this step the problem will be analysed through brainstorming. Take the necessary time for this step. Everyone should be given the opportunity to present their ideas here. Ideas or assumptions that emerge when thinking about the assignment may be based on individual prior knowledge or the result of logical thinking. What does each group member think, know, mean? What is the problem related to? While brainstorming, a member of the groups, who has the role of reporter, notes on the board the ideas produced, by means of a keyword.

Step 4: Categorising

In this step, ideas, and comments (step 3) will be discussed and reviewed. After brainstorming and analysing the problem or task, the ideas are organised and critically reviewed. The comments, questions, answers, and assumptions given are systematically examined and possibly grouped (categorised). The question arises to what extent the data (information) is useful with regard to the formulated problem. (See step 2)

Step 5: Formulating learning objectives

By formulating clear learning objectives, it should be possible to search for and to study new information in a very targeted manner. Learning objectives can be formulated in the form of specific questions that are in line with the description of the situation and the formulated problem. Based on the learning objectives, students will therefore look for more background information about the meaning of certain concepts, and about causes or solutions for the formulated problem. The learning objectives can be considered as study assignments that the group sets itself. With the learning objectives students can also check to what extent the assignment has been completed successfully.

Step 6: Independent studying

In this step the individual members of the group will look for information outside the groups. The self-study, which takes place outside the group, is an important part of the working method. In addition to the literature that is made available by the teacher, additional information can also be looked up by the students themselves. Everyone individually examines whether he/she is capable of elaborating the learning objectives; The elaborated information is put on paper.

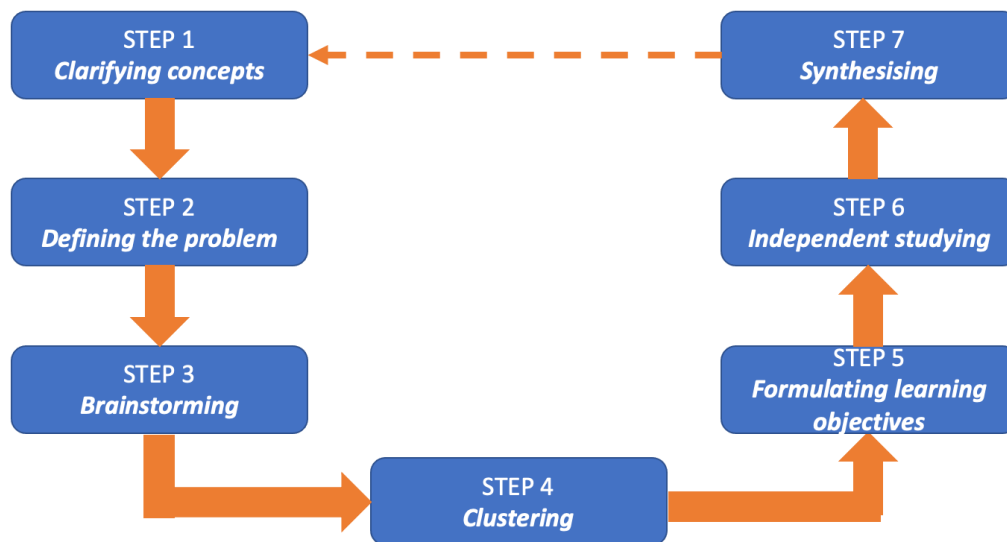


Step 7: Synthesizing

In this step, the members of the groups will discuss the new information found in step 6. The members of the group come together. The individual findings are reported, and the students correct or supplement each other. A summary is made of the elaboration of the learning objectives.

Key questions in this process are: Has each learning objective been sufficiently elaborated? Does this elaboration fit within the problem definition, in other words does the new information provide an adequate answer to the problem definition?

Step 7 can be concluded with a number of joint conclusions in response to the formulated problem in step two.



Person-Centred-Planning in Vocational Education and Training

What is Person-Centred-Planning?

Person-Centred-Planning (PCP) means different things to different people. This makes it even more important to think about how to measure and to put Person-Centred Approach in Vocational Education and Training (VET) into practice, so that VET service providers can better understand the benefits of this approach. In order to be more person-centred, VET services need to know what is most important to students. PCP focuses on student's individual educational needs, but PCP is also about involving students in planning and evaluating of education and training services. Words such as 'co-production' and 'co-design' have been used to describe involving students in developing education and training services and assessing the quality of these services.



PCP is a way of thinking and doing things that sees students with Special Educational Needs (SEN) receiving education and training as equal partners in planning, developing, and monitoring student's learning process to make sure that this process meets student's needs. This means putting students with SEN (including their families) at the centre of all decisions and seeing them as experts, working alongside professionals to get the best possible outcome and learning results.

PCP is not just about giving students with SEN whatever they want or providing information. It is about considering students' desires, values, objectives, family situations, educational needs, social circumstances, and lifestyles. In other words, seeing the student with SEN as an individual, and working together to develop appropriate solutions to optimise the learning process and learning outcomes. Being compassionate, thinking about things from the student's point of view and being respectful are all important aspects of PCP. This might be demonstrated through sharing decisions with students and supporting them to manage their learning process and to achieve the learning outcomes. But PCP in VET is not just about activities. It is also about the way educators (teachers / coaches and supporting professionals) and students with SEN think about learning and how VET activities could support this learning process. PCP is also about a relationship between teacher and students with SEN and the availability of the appropriate education and training activities and supportive services.

In the past, students with SEN were expected to fit in the routines and practices of the mainstream VET programs. But in order to be Person-Centred, VET programs need to change to be more flexible to meet student's needs in a manner that is most effective for them. This involves working with students with SEN (and their families) to find the best way to support the individual learning process in order to achieve the most desirable outcomes. This way of working can occur on a one-to-one basis, where an individual student with SEN takes part in decisions about their educational and learning program, or on a collective group basis whereby a group of students are involved in decisions about the design and delivery of VET. The underlying philosophy is the same: It is all about doing things with students with SEN, rather than 'to' them.

There is no one definition of Person-Centred-Planning (PCP) in VET. People might also use terms such as 'students-centred', 'user-centred', 'individualised' or 'personalised'. Regardless of the terms used, some research looked into what matters to students and how PCP in VET ensures that student's needs are met so students have a good and successful experiences in mainstream VET. Therefore, there are many different aspects of PCP in VET including:

- Respecting students' values
- Putting the learning process of the students at the centre of all education and training activities.
- Considering students' preferences and expressed needs
- Coordinating and integrating services of support in the education and training activities
- Working together to ensure that there is good communication, information, education, and training



- Ensuring that students are physically, emotionally, and mentally comfortable and safe
- Providing emotional support
- Involving family, friends, and peers
- Ensuring a continuum between and within support services and education and training activities
- Ensuring that students have access to appropriate support when they need it

Why Person-Centred-Planning?

There is evidence on the beneficial effects of Person-Centred-Planning (PCP) for people with disabilities. For example: PCP alert people to choices available to them and it supports them in moving towards their preferred options. In Ireland there is growing evidence that PCP has a very beneficial impact on services to people with disabilities. It should be understood that PCP is no panacea, however: It is no guarantee of a better life, in and of itself... and many positive changes for people will be achieved without using PCP at all. Much of the effectiveness of PCP would seem to rest in the way it is conducted⁴⁰ and the more general person centredness of the overall context in which it is pursued⁴¹.

It is important to note that a Person-Centred-Plan may not be needed or wanted by everyone.

A student with SEN may, however, find PCP particularly useful in providing him or her with:

- A chance to take stock of his/her overall life – and quality of life;
- An occasion to explore his/her:
 - strengths, capacities, and achievements so far in life;
 - current needs and wishes for the future;
 - range of possibilities open to him/her at present;
- A forum within which to make choices as to what is most important;
- An opportunity to set out a number of important things to be achieved in the near future (sometimes referred to as 'goals' or 'objectives') and to come up with strategies and action-plans around these goals which specify what steps need to be taken to achieve them, how, when and by whom;
- A source of encouragement to pursue the education, training and support services and choices which would greatly meet their needs and improve their life.

PCP may be viewed and used as a life-long process and support. It can also be used as an occasional or one-time-only undertaking, if that is what a person wants. It has, for example, been found to be particularly useful in times of change or transition in a person's life⁴².

⁴⁰ Connolly, 2001, Radcliffe & Hegarty, 2001 and The Circles Network, 2004

⁴¹ Sanderson, 2000 and Ritchie et al, 2003.

⁴² Miner and Bates, 1997



Why is Person-Centred-Planning in Vocational Education and Training important?

Person-Centred-Planning (PCP) for students with SEN in VET is a high priority. Ensuring that students with SEN are involved in decisions about their learning process and learning outcomes is now recognised as a key component of developing high quality vocational education and training.

There is much work to be done to support VET-providers in becoming more Person-Centred and this has become more of a priority in many EU member states over the past decade. This is because it is expected that putting students with SEN at the centre of their education and training services will:

- improve the quality of the available education and training services
- help students with SEN to receive the education and training they need
- help students to be more active in making decision which are important for them
- supports the National and European policy of creating a more inclusive Vocational Education and Training System

In the all European member states there are increasing demands for Vocational Education and Training services and at the same time all member states face limited resources. Life-Long-Learning policies may have impact on the education and training conditions for all learners. Person-Centred-Planning (PCP) in VET can help to improve student's knowledge, skills and competences and reduce the burden on the education and training services. So, national government policies are emphasising strengthening the voice of students (as consumers of education and training services) and moving away from a one-fits-all model where educators (teachers and coaches) decide for students what to learn, to a more 'Personalised Approach of Learning', where educators, coaches and students (with and without SEN) decides on tailor-made meaningful education and training activities that meet the desired and needs of the students



Person-Centred-Planning: improving quality of VET

Person-Centred-Planning (PCP) in VET can have a big impact on the quality of education and training. It improves the experience students have on education and training activities and help them feel more satisfied about the education and training programs. It encourages students with SEN to have more meaningful learning outcomes, such as appealing to their choices or to be more involved in decisions about their education and training activities so they receive the services and support that are appropriate for their needs.

Reviews of research about this topic found that offering education and training to students with SEN in a more person-centred way usually improves learning outcomes, increase learning satisfaction and inclusion of students with SEN in mainstream systems. Some ways that have been researched to improve PCP include training educators (teachers and coaches) to facilitate education and training services care that empowers students. Offering education in a more person-centred way can even improve outcomes for teachers and coaches.

The following underlying principles of PCP are important for affecting the learning outcomes:

- getting to know the student with SEN as a person and recognising their individuality
- seeing the student with SEN as an expert about their own special Educational Needs
- sharing power and responsibility
- taking a holistic approach to assessing student's needs, to providing educational and training activities and to evaluating student's learning outcomes
- including families and peers where appropriate
- making sure that education, training, and support services are accessible, flexible, and easy to receive
- looking at student's whole experience
- promote coordination and continuity
- making sure that the physical, cultural, and psychosocial environment supports the PCP
- making sure that staff are supportive, well trained and put students at the centre of their actions.

A Person-Centred-Planning (PCP) framework

In considering of high-quality Person-Centred-Planning (PCP) in VET, it is crucial to reflect and to include 4 component elements (4 P's):

1. **Philosophy:** Believing that students with SEN have the fundamental right to maximum self-determination and community inclusion no matter what their disability.
2. **Process:** Interacting with students with SEN before, during, and after PCP meetings in a manner that communicates respect and a hopeful vision for the future.
3. **Plan:** Translating person-cantered philosophy and process into a high-quality written planning document.
4. **Product:** Having high expectations for learning outcomes across a broad range of educational and training areas.



Frameworks provide a structure for organising measures, identifying gaps, and prioritising future development. The Person-Centred-Planning (PCP) Framework comprises domains and subdomains, including ideas within a (sub)domain to be considered. The PCP framework is a framework for developing a Person-Centred-Plan for each student based on the concept of Person-Centred-Planning. The PCP-framework has three domains:

1. The Person-Centred-Plan (Individual Plan)
2. Facilitator
3. System-Level

Each domain is broken down by three subdomains. Each subdomain describes relevant measures which should be focused on the outcomes of the student with SEN. The figure below illustrates the Person-Centred Planning framework.

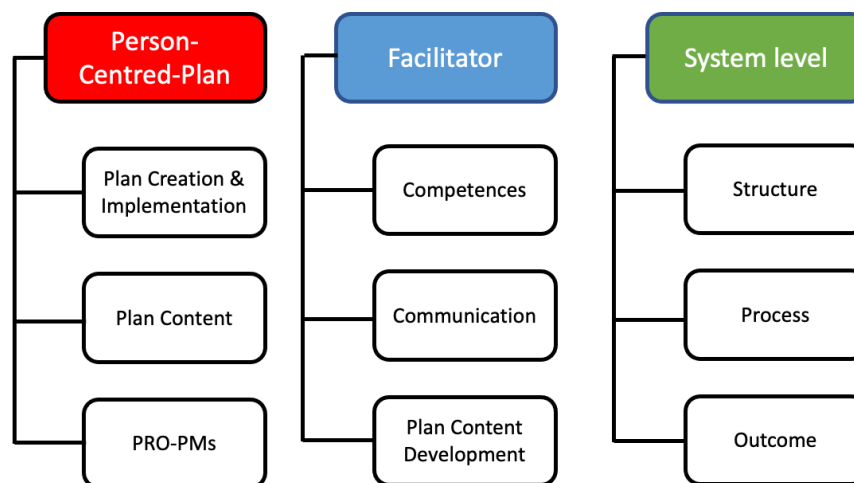


Figure: Person-Centred-Planning Measures Framework

Domain 1: Person-Centred-Plan

This domain captures what processes and outcomes need to be performed to ensure that the plan is done right. Within this domain, there are subdomains:

- 1.1 Plan Creation & Implementation,
- 1.2 Plan Content,
- 1.3 Person-Reported Outcome Performance Measures (PRO-PMs).

Subdomain 1.1: Plan Creation and Implementation



The key measures for Plan Creation and Implementation are:

Preplanning.

To prepare for the planning phase, this specifically identifies what processes need to be identified and implemented prior to development to ensure students are prepared to plan. This should include the student's preference for timing, location, and participants in the planning sessions.

Documentation of a Person-Centred-Plan

The Person-Centred-Plan (Individual Plan) is written down, a copy of the plan is provided to the student, and a copy is retained within the student's record. It is important to recognise that forms are viewed as tools to support effective Person-Centred-Processes but do not drive it.

Updating the Person-Centred-Plan.

Most students will have Individual Plans that change over time. Therefore, the Person-Centred-Plan must evolve with the student. It is crucial to remember that the Person-Centred-Plan itself is not the goal, but rather its implementation.

Subdomain 1.2: Content of the Plan

The core elements of the Person-Centred-Plan include

- A. Goal-statement
- B. Strengths and barriers of the student
- C. Short-term objectives for the student
- D. Action steps / interventions

A. Goal statement

The Person-Centred-Plan meets the student's expressed needs and desired outcomes. Therefore, the Person-Centred-Plan must reflect the educational and training services and supports that are important for the individual to meet the needs identified through an assessment of functional need, as well as what is important to the individual with regard to preferences for the delivery of such services and supports. The Person-Centred-Plan is written in the student's own words, using first-person language when it is appropriate to do so and the student's preferred name. The Person-Centred-Plan should identify goals to support and address the student's needs and desired outcomes ("goals" refer to a variety of different attainment measures including maintenance). Ideally, goals are based on the student's unique interests, preferences, and strengths. Goals should be expressed as desired by the student and must not be dictated by the facilitator (Teacher – Coach), VET-providers, or others involved in the PCP-process. Goals should be defined by the students with



SEN with a focus on attaining successful participation in the school, having successful outcomes of learning and envisioning future participation in the community. In addition to goal documentation, strengths & barriers to the student's goals must be identified and mitigated.

B. Strengths and barriers of the student

The Person-Centred-Plan should identify and highlight the strengths of the student. It is considered a key practice within PCP to consider the potential strengths and resources of the student with SEN. PCP facilitator has the role is to support the student with SEN in identifying a diverse range of strengths, interests, and talents while also considering how to actively use these strengths to pursue goals and objectives in the Person-Centred-Plan. It is not uncommon, for example, for individuals to have difficulty identifying their "strengths" as this has not historically been the focus of education and training services and assessments and individuals may have also lost sight of their gifts and talents through years of struggles with their disability and recovery. Barriers should be acknowledged alongside strengths as this is essential not only for the purpose of justifying care and professional supports, but also because a clear understanding of what is getting in the way informs the various professional interventions and natural supports which might then be offered to the individual in the service of his/her recovery. In a Person-Centred Plan is that the barrier does not become the exclusive and dominant focus of the plan and it only takes on meaning to the extent that it is interfering with the attainment of larger life goals.

C. Short-term objectives for the student

When writing and implementing the PCP, it is also necessary to identify specific, shorter- term action steps that can help the focus person to move toward his/her ambitions. These steps are usually referred to as "objectives". Objectives can be considered as interim goals which break down longer-term aspirations into meaningful and positive short-term changes. They should reflect a concrete change in functioning, change in behaviour, or change in status. Achieved objectives can be considered as are "proof" that the person is making progress. The writing of objectives is the most technical part of the entire PCP documentation process. These Person-Centred-Plan elements are often closely monitored by funders and accrediting bodies. It is therefore important that objectives be accurate and consistent with each of the characteristics described below:

- Behavioural, i.e., observable actions on the part of the students, specific enough so that the team will know when the objective has been achieved
- Achievable
- Measurable
- Time framed with a target date for expected completion
- Meaningful and understandable for the student

D. Action steps / interventions



The Person-Centred plan, i.e., the interventions section which may also be referred to as the “methods” or “services” section. Traditional plans often limit this section of the planning document to reflect only those intervention delivered to students by professionals (teachers and coaches). This method of documenting the interventions section can lead to PCPs which read as a laundry list of all interventions which are going to be done to (or for) the person while missing out on a key opportunity to capitalise on the resources in the Circle of Support. While professional services (education, training, and support) are an essential part of the plan, a high-quality, comprehensive Person-Centred-Plan also includes interventions by unpaid natural supporters or the student him/herself

Other important measure for the content of the plan is:

- The Individual Plan has community inclusion components reflecting natural community relationships.

Subdomain 1.3: Student-Reported Outcome Performance Measures (SRO-PMs)

The key measures for Student-Reported Outcome Performance are:

- The student expresses knowledge of his/her rights.
- The student is able to access his/her own Individual Plan.
- The student assesses his/her planning experience focusing on the following:
 - Perception of leadership role, empowerment
 - Perception of informed decision making
 - Strengths
 - Addressed goals and preferences, things important to the student
 - Correct people were in the room
 - Overall satisfaction with the facilitator

Domain 2: Facilitators

Facilitators of Person-Centred-Planning may not always be professionals (teachers and coaches). It may also be individuals who are close to the student—or may be the student. Because of this, many measures included in this domain may not be applicable to every facilitator; many of the measures for facilitation are especially practical in accountability applications for paid professionals.

An anchoring principle for the measures within this domain should be the facilitator as advocate for the student. Measures should be designed such that an improvement in performance results in a deeper ability for the facilitator to be an advocate for the person. Within the domain of the measures for the facilitator three subdomains:

- 2.1 Facilitator competency,
- 2.2 Communication,
- 2.3 Plan Content Development.



Subdomain 2.1: Facilitator competency

The key measures for competency are:

- Knowledge of Person-Centred-Approach principles and policy.
- Skills of facilitating the creation / development of an Individual Plan.
- Knowledge about the student, resources available to the student, policies, and regulations that impact the student, and health conditions and/or disabilities of the student with whom they are working.
- Appropriate cultural competences.
- Advocating competences

Subdomain 2.2: Communication

The key measures for communication are:

- The facilitator documents the student's preferred spoken language and ensures that the student has language services available.
- The facilitator makes other communication tools available

Subdomain 2.3: Plan Content Development

The key measures for Plan Content Development are:

- The facilitator engages in timely assessments, review, and updates of the Person-Centred-Plan (Individual Plan)
- The Person-Centred-Plan (Individual Plan) is produced within the required time frame.
- The facilitator tracks what happens after an Individual Plan is operational.

Domain 3: System-Level

At system level, measures for those who are accountable and responsible for the implementation and maintenance of a Person-Centred-Plan are identified and described.

System-level measures are grouped into 3 subdomains:

- 3.1 Structural,
- 3.2 Process,
- 3.3 Outcomes

Subdomain 3.1: Structural measures

The key structural measures are:



- There are training programs in place to ensure plans are created, implemented, and updated. These trainings should have a ratio of facilitators to participants that supports an environment conducive to learning.
- There are resources allocated that those who work within the system are able to effectively provide Person-Centred-Planning, practices, and services.
- There is professional latitude for the facilitator to exercise the necessary flexibility to carry out effective planning.
- There are processes in place to ensure that the Person-Centred-Plan continues without unnecessary interruption in cases of staff turnover and/or other losses.
- Students have access to experts in Person-Centred-Planning
- There are structures in place for stakeholder engagement. (e.g., formalised input in policies; comment periods for policy; program changes; ongoing stakeholder committees etc)

Subdomain 3.2: Process measures

The key process measures are:

- Entities should assess PCP completeness, staff training competences, and quality improvement participation rates.
- Access to resources to ensure Person-Centred-Plans are created, implemented, and updated.
- Data of and feedback on services is collected on regular basis
- There are mechanisms to gather input from family, involved others, and community partners on organisational performance.
- Stakeholder engagement policies are defined, implemented, and improved based on feedback.

Subdomain 3.3: Outcomes

The key outcome measures are:

- Student-reported outcomes in education and training, quality of life and satisfaction with education and training services and supports.
- Satisfaction of students with organisational performance and service delivery components of Person-Centred-Planning aspects: support quality, access, and delivery.