



Student-Run Multidisciplinary Allied Health Practice Centre

STUDENT'S HANDBOOK

Project number: **598602-EPP-1-XK-EPPKA2-CBHE-JP (2018-3220/001-001)**

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List of Abbreviations

ASAHP	The Association of Schools Advancing Health Professions
AWF	Asbar World Forum
EBP	Evidence-Based Practice
EIP	Evidence-Informed Practice
GAS	Goal Attainment Scaling
ICF	International Classification of Functioning, Disability and Health
SMAHPC	Student-run Multidisciplinary Allied Health Practice Centre
SOCRE	Developing Social Rehabilitation through Education
WHO	World Health Organization

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Introduction

This handbook has been designed by the International Working Group, comprising of students and teachers, with the aim to ease the future students' journey of developing necessary competences to excel as young scholar and health professionals, in the 21st century. It provides a concise and detailed description, primarily thought from the perspectives of the students, of key concepts, operational model of SMAHPC Centre and modern learning approaches. In parallel, it describes a very pragmatic fashion the operating model, including its phases and respective steps, along with the role of the students in each of them.

General Information about SMAHPC

The “Student-run Multidisciplinary Allied Health Practice Centre” operates as an integrated platform connecting patients, providers and students. The triangle of actors is led by the vision of offering top quality services to ensure social well-being, while gaining expertise within the respected fields. It has been widely documented that team-work under a common goal encompassing various branches of knowledge leads to better creation of insight. Thus, the Centre contains in its core the concept of multidisciplinary. Bridging across disciplines is expected to stimulate human-centred entrepreneurship to assist the end-users in the daily operations and beyond.

Entrepreneurship, in such a rapidly developing sector, means innovating and transforming, to provide answer that increase efficiency and enable access. Students in cooperation with companies, and users are expected to critically assess the current needs and potential feasible responses. Operating under the strategy of co-creation that allows and encourages the blending of different perspectives, innovation in healthcare shall bring a value to society, put differently, solve a social issue. Hence, Student-run Multidisciplinary Allied Health Practice centre will foster a

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supportive environment to new ideas, with less strict structures, open to new information, and values risk-taking.

Processes as clinical decision making and patient pathways, must be backed by sufficient evidence to ensure best treatment for the patients. Evidence-informed practices (EIP) requires synthesizing information from sources as literature review, patient experience, resource utilization, to come to a proper scientific and professional answer. EIP strongly relates to the core vision of offering top quality services, considering the circumstances of the patient. The element of *best-practices* shall be further developed through online communication networks between professionals with potential embedded screening algorithms.

Such multidisciplinary centre, whom main pillar is allied health professionals, backed in their practice by evidence and information, characterized by an approach of user involvement in stages of designing, implementing and delivering, and including new innovative approaches as digital platforms for online consultation to aid the professional in tailoring their intervention, will help students develop their professional competences, and patients receive high quality services to positively impact their wellbeing, increase utility and productivity.

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- 1.5. The receptionist facilitates the first interaction between the client (and the client's family), the Case Manager and the Student Case Manager
- 1.6. The receptionist provides the Declaration of Consent for the client/ the guardian to sign
- 1.7. The receptionist provides the Confidentiality Agreement for all actors involved
- 1.8. The receptionist gathers and archives all the documents on the client's file in physical and digital format

2. *Assessment and Diagnosis*

2.1. *Academic Procedures*

- 2.1.1. The respective teacher welcomes the passive participation students in the observation room/classroom, before the session begins.
- 2.1.2. The teacher presents to the students on what they will be observing in the particular session.
- 2.1.3. The teacher and the students observe the ongoing therapeutic/diagnostic session from the observation room/ classroom, by adhering to the conditions stipulated on the protocol of Observatory Rooms.
- 2.1.4. By the end of the session the teacher encourages the students to discuss, make questions and draw conclusions.

2.2. *Service Provision Procedures*

- 2.2.1. The Case Manager and Student Case Manager make the first assessment/ evaluation of the client, based on the ICF Guidelines
- 2.2.2. The Case Manager and Student Case Manager uploads the first Patient Overview on the Patients Profile in the Digital Platform
- 2.2.3. The competent professionals (Service Providers) to offer treatment to the particular concerns of the patient, presented in the first overview submitted by the Case Manager, assign themselves to the case

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- 2.2.4. The self-assigned Service Providers and their assigned Students meet with the patient in individual sessions to further evaluate the client and his concerns (constructs) by using their professional field's instruments.
- 2.2.5. By using the Monodisciplinary Reports of each part-taking Service Provider, the Case Manager, assisted by the Student Case Manager will generate a new Multidisciplinary Report of the Clients' Overall State and Condition, based on the ICF Model.

3. *Goal and Treatment Plan*

- 3.1. With the completion of the ICF Multidisciplinary Report, The Student Case Manager, supported by the Case Manager steer the Multidisciplinary Team and the Student Service Providers in a Goal Setting Meeting
- 3.2. The Multidisciplinary Team sets the Long-Term and Short-Term Goals based on the SMART Method Principles
- 3.3. The Multidisciplinary Team scales these objectives according to the Goal Attainment Scaling Approach (GAS Approach)
- 3.4. The Case Manager gathers and concludes the information in a Final Intervention Plan based on GAS Approach

4. *Treatment*

4.1. *Academic Procedures*

- 4.1.1. The teacher of a respective subject and discipline hosts the Students on the Observation Room/ classroom, providing them with information regarding the clients' condition, goals and planned activities
- 4.1.2. The teacher and the students observe the ongoing therapeutic/diagnostic session from the observation room/ classroom, by following the protocol for Observatory Rooms.

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- 4.1.3. By the end of the session the teacher encourages the students to discuss, make questions and draw conclusions.
- 4.1.4. The teacher and the students will generate the Daily Reflection Report.

4.2. *Service Provision Procedures*

- 4.2.1. The Service Providers and their Students will advance with the planned therapy based on the Intervention Plan.
- 4.2.2. Service Providers are expected to use their professional judgement to estimate the students' knowledge, skills and capacities to carry out a specific activity autonomously or under their guidance/assistance.
- 4.2.3. The Service Provider and the Student Service provider will generate the report of the session.

5. *Revision*

- 5.1. In a specific predefined interval, the Multidisciplinary Team, the students and the Case Manager regather to re-assess the current condition of the client, the goals achieved
- 5.2. The Multidisciplinary Team and the involved students, facilitated by the case manager and the student case manager reflect on the re-assessment session
- 5.3. The Case Manager gathers all the information and conducts a Review Report, or a Final Report (in case the Client does not need to continue the treatment).

6. *Reflection*

- 6.1. In the reflection phase, the receptionist/case manager receives feedback from the client regarding their satisfaction with the services and the approach
- 6.2. The Multidisciplinary Team, the Case Manager, Service Coordinator and the Students involved gather on a final reflective meeting

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- 6.3. The Case Manager conducts a General Reflective Report based on the successions of the Reflective Meeting

7. *Innovation and Entrepreneurship*

- 7.1. Twice a year, the institution organizes an innovation day, where the all the actors present their innovative and research ideas to improve the service delivery on their community
- 7.2. The distinguished ideas will be mentored and further developed
- 7.3. The distinguished ideas will be connected with or apply for a grant to implement their innovative solution

Narrative Description of the Operating Model

1. *Registration*

In the registration phase, the client represents himself/herself to the reception desk, supported or not supported (if independent adult) by the family's presence. In this point the client may already have made himself/herself an appointment.

The receptionist will facilitate their adaption to the centre. If the client hasn't already registered to the digital platform, the receptionist will open a Digital Platform Account for the Client. If yes, the receptionist may skip this step.

The client may have approached the centre with an appointment, made online in the digital platform. If the client hasn't already appointed a meeting with the Multidisciplinary team, the receptionist will support the client to set an appointment. If the client has already made the appointment, the receptionist may skip this procedure.

The receptionist will provide the Declaration of Consent for the client, so the centre and the client can document their agreement on the centre's attitudes and the approaches. The receptionist will

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gather the Signed Confidentiality Agreement from all the parties involved, so the centre will guarantee the security of the sensitive information of the client.

If the client has approached the centre with an already made appointment, the receptionist will notify the case manager to approach the reception area to lead the client and his/her family to the assessing room.

The receptionist will upload all the documents mentioned above on the Patient's Profile on the Digital Platform, and create the physical folder of the client for document archiving.

Generated Documents:

- Client's Digital Platform Account
- Client's Folder
- Declaration of Consent
- Confidentiality Agreement

2. Assessment and Diagnosis

In the First Assessment Procedure, the Case Manager, followed by the Student Case Manager assess the Clients general Conditions, based on the Clients' concerns and restrictions in activity, based on the ICF Model. The Case Manager and the Student Case Manager will conclude their findings in a report, and submit it to the Clients' Profile on the Digital Platform.

The Service Providers will use this initial report to estimate if their contribution is required in the respective case. If so, the Service Provider will self-assign their engagement to the particular case. Depending on the initial assessment, the Service Providers, followed by the Student Service Providers on duty (depending on the field and year of studies) will proceed with a second professional assessment, to thoroughly assess the specific condition, by using specialized

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professional instruments. Each member of the Multidisciplinary Team, must forward their report to the respective Case Manager, in order to create the ICF-based Multidisciplinary Report.

If this process is foreseen to be used for academic purposes, the respective teacher must gather the class into the observation room/classroom before the session begins. The teacher must inform the class on what they will be presented with, beforehand. If the class is part-taking through the observation room, they must be cautious to not interfere in any way the working process, according to the protocol of the Observatory Rooms. After the session is concluded, the teacher will encourage the students to ask questions, make discussion and guide them towards a conclusion.

3. Goal and Treatment Planning

With the ICF Multidisciplinary Report conducted, the Case Manager, followed by the Student Case Manager steer a meeting with the Multidisciplinary Team and the Involved Students for the purpose of Goal Setting. The goals must follow the principles of the SMART approach, and the scaling procedures of the Goal Attainment Scaling (GAS) approach. The Case Manager gathers and concludes the information in a Final Intervention Plan based on GAS Approach.

4. Treatment

The Service Provider, supported by the Student Service Provider on duty (belonging to the particular field), will proceed with the therapeutic activities and goals, in line with the intervention plan. In parallel, the Service Provider will play a mentorship role throughout the therapy session. The Service Provider's professional judgement is called for, in order to estimate the student's knowledge, skills and experience to carry out any of the activities, either in the autonomous level, or with the guidance and support of the supervisor himself. Each therapy session must be concluded by the Service Providers and Student Service Providers with a Therapy Session Reports

If this process is foreseen to be used for academic purposes, the respective teacher must gather the class into the observation room/classroom before the session begins. The teacher must inform the

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class on what they will be presented with, beforehand. If the class is part-taking through the observation room, they must be cautious to not interfere in any way the working process, according to the Protocol of the Observatory Rooms. After the session is concluded, the teacher will encourage the students to ask questions, make discussion and guide them towards a conclusion.

5. Revision

In an interval decided in cooperation with the Multidisciplinary Team, the Case Manager and the Client's Rehabilitation Team gather to re-assess the Client's current condition, and the success of the therapy. The Case Manager expects the client to perform the objectives set for the client in the specific interval. In parallel, the session is observed by the Service providers through the one-sided window. After the session, the Case Manager, Multidisciplinary Team and the Involved Students regroup to reflect on the reassessment procedure, measure the attainment of the objectives by the client, and renew the Treatment goal plan. After the reflective session, the Case Manager gathers all this information into a Report (Review Report). In case the Multidisciplinary Team shares the unified professional attitude that the client is done with the treatment, this procedure is done for the purposes of releasing the client and the Case Manager Conducts a Final Report. The Case Manager gathers all the information and conducts a Review Report, or a Final Report (in case the Client does not need to continue the treatment).

6. Reflection

In the reflection phase, the case manager will receive structured feedback from the client regarding their satisfaction with the services, the approach and the attitudes of the centre and health-care professionals. The involved Case Manager, Multidisciplinary Team and the Service Coordinator will gather in a final reflective meeting regarding the overall patient-care, as the basis of learning and growing through experience. The Case Manager conducts a General Reflective Report based on the successions of the Reflective Meeting.

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7. Innovation and Entrepreneurship

Twice a year, the institution organizes an innovation day, where all the actors present their innovative and research ideas to improve the service delivery methods on the medical community. The distinguished ideas will be mentored and further improved and/or developed. The developed ideas will be connected to a potential donor or apply on calls for grating opportunities to have the chance to implement their innovative solutions.

Organogram of the Centre



Note: All the Job Positions above will be covered in the student level as well, according to their year of studies and qualifications

Figure 2 SMAHPC Organogram

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Key Concepts

Student-run

Student-run defines a process that it allows participant students to explore their own talents, to enrich their learn experience, with promoting opportunities/options with expanding their vocational development.

Student-run projects start with passionate students who have a deep interest in topics or areas for which there is no obvious opportunity to become involved. Student run projects endorse students to get responsibilities and apply their knowledge whereby they are recommended to be physically and mentally active. These projects are led by students who seek hands-on experience and the opportunity to apply their knowledge in a setting beyond those experiences readily available and outside of the traditional academic model (Zielinska & McDermott, 2018).

These projects empower cooperative learning, interdisciplinary teamwork and entrepreneurship in which students effectively taken roles.

These projects are not constrained by the bounds of university-driven or externally funded research, they may promote innovation and creativity beyond what might be expected in pre-planned projects (Zielinska & McDermott, 2018).

These projects prepare grounds for project preparation, development/evolution, problem solving and leadership skills. The students, through trial and error and intrinsic motivation, gain skills in project development, leadership, communication, collaboration, interdisciplinary teamwork, project evaluation and sustainability that may otherwise be hard to come by.

Therefore, student's connection to other institution, university and organizations enhance.

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Multidisciplinary Collaboration

The terms multidisciplinary, interdisciplinary and transdisciplinary are all terms which refer to the involvement of different disciplines to varying degree on the same continuum and these terms should not be used interchangeably. Multidisciplinary collaboration means working together with different disciplines (e.g., health sciences, medicine, social sciences, engineering etc.) within their boundaries (Choi & Pak, 2006).

Nowadays Collaboration and multi-disciplinary working is becoming more as norm, increasing the average student's exposure to entrepreneurial activities and thinking (Supporting Entrepreneurial Connectivity , 2018). Multidisciplinary teamwork or collaboration is a new approach designed to guide thinking and practice within healthcare systems (Merjola-Partanen, 1993), which nowadays is increasing more and more.

In terms of healthcare, multidisciplinary collaboration is a key term that is considerably important for sustainable health system, thus, it is described as integrated team approach.

Healthcare practice is highly dynamic, increasingly multidisciplinary and largely dependent on joint human collaboration. The term multidisciplinary team is used to refer to a group of professionals from two or more disciplines who work on the same project, independently or in parallel, so the collaboration between team members in order to deliver integrated patient-centred care is considered as vital. (Choi & Pak, 2006) (Reeves, Scott, Lewin, & Zwarenstein, 2010).

Multidisciplinary collaboration can in its best be co-creation. Co-collaboration and co-creation are a situation in which networks, collaborator organizations, partners and customers create to build something together. It is important that the final users of the product are also involved as innovators. The value of co-creation is the diversity of the result. Partners with different competence: knowledge and skills, and backgrounds have a same focus of interest and the interaction creates something more valuable and sustainable than by doing the creation alone.

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Collaboration can be divided in different kind of levels which are hierarchical collaboration, parallel collaboration and co-operative collaboration. In hierarchical multidisciplinary collaboration communication between disciplines is more like announcing information from one discipline to another. In parallel multidisciplinary collaboration different professionals in different disciplines are communicating collaboratively and reflectively. In co-operative collaboration different disciplines communicate dialogically and they have shared professional communication. (Jeglinsky & Sipari, 2015).

Healthcare and services should be delivered by a range of professionals functioning as a team under one organizational umbrella or by professionals from a range of organizations, including private practice, brought together as a unique team.

The concept of ‘collaboration’ in the healthcare context is a process of problem solving, shared responsibility for decision-making and the ability to carry out a care plan while working towards a common goal.

Due to complex structure of health issues, the health professionals whom have specialization in different fields are interconnected to each other. In comparison to personal operations, cumulative knowledge and experience of health professionals are leading innovative solutions in which play an important role on development and success. While initiating multidisciplinary collaboration, it has to be settled that a team approach includes health specialists; access to multi operational therapeutic selections caring system, which reflects standards of quality. Therefore, the decisions have to be made with adequate information. In addition, it is important that participation of patients to debates of “patients care, management” while getting appropriate information of health specialists. Consequently, a multidisciplinary approach to health services leads e.g., to patient satisfaction and higher financial performance.

Different definitions have been developed about multidisciplinary collaboration, having characteristics like objectivity, methods, regularity, common goals, population's/patient's

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dialogue based on different kind of knowledge: personal experience and perceptions, scientific knowledge, theories, legislation, roles and norms, common understanding, expert knowledge. When focusing to create a Student-Run Centre, the co-collaboration and co-creation would involve the organization and its networks, students, teachers, clients and other potential stakeholders.

Multidisciplinary co-work and collaboration at the Centre is the key to a whole new knowledge, competence and skills: Hybrid skilled competence. How is this done? With Cooperation, co-ordination and in dialogue, by Imitation for learning, by shared and parallel doing.

For example, developing a new kind of web-based service for young mothers. There is a need for multidisciplinary collaboration in teams which include nurses, occupational therapists, physiotherapists and engineers (web page designers), lawyers, economists. This is a multidisciplinary collaboration because all the members represent their own discipline and bring their knowledge. All the members are working within their own discipline domains.

Another example would be a multi-professional and disciplinary 6-week service program as part of education and work placement for families and/or people living alone who has need for assistance and support but whose needs cannot be met by public social and health services. Aims of the program is strengthening the customer's sense of capability and making the resource plan of life as well as assisting in its implementation and enabling a student's wide-ranging learning in a multi-professional team. In the service program, students have the opportunity to challenge themselves and learn the things pragmatically, customer-oriented at customers' home.

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Figure 4 Team Work

Allied Health

While occupational groups in the field of integrated health vary from country to country, specialists aim to promote healthy life, improve quality of life and provide the best possible service. These people provide such health services as identification, evaluation and prevention and/or treatment of diseases (ASAHP, 2018).

Allied health encompasses a broad group of health professionals who use scientific principles and evidence-based practice for the diagnosis, evaluation and treatment of diseases; promote disease prevention and wellness for optimum health, and apply administration and management skills to support health care systems in a variety of settings. (ASAHP, 2018).

Allied Health involves all health professions providing diverse health or related services pertaining to the identification, evaluation, rehabilitation, reablement, promotion and prevention of health, functioning and disability.

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Allied health professionals must also attend to the prevention of disease and the management of patients with chronic disease. Thus, the scope of allied health practice extends to the individual, the family, and the community and to public education. In addition, healthcare administration and health systems management are important components of allied health. (ASAHP, 2018).

The training needs of many specialists, from physiotherapists to emergency medical technicians, differ from each other. Therefore, each professional group should have appropriate laboratory environments, hands-on experiences, practical activities, appropriate health facilities and patient populations for educational processes. Practitioners who provide a variety of diagnostic, technical and therapeutic health services to improve patients' health outcomes should generally collaborate with multidisciplinary healthcare teams to meet patient needs and assess them from a holistic perspective.

Allied health professions have holistic view of human beings and are working toward the common goal of providing the best possible service in health care and health promotion. The international classification of functioning, disability and health (ICF) provides common language of functioning and disability for different professions and persons with disabilities and basis for understanding and studying health status and functioning. In the ICF (Figure 8) person's functioning is "a dynamic interaction between her or his health conditions, environmental factors, and personal factors." (WHO, 2018).

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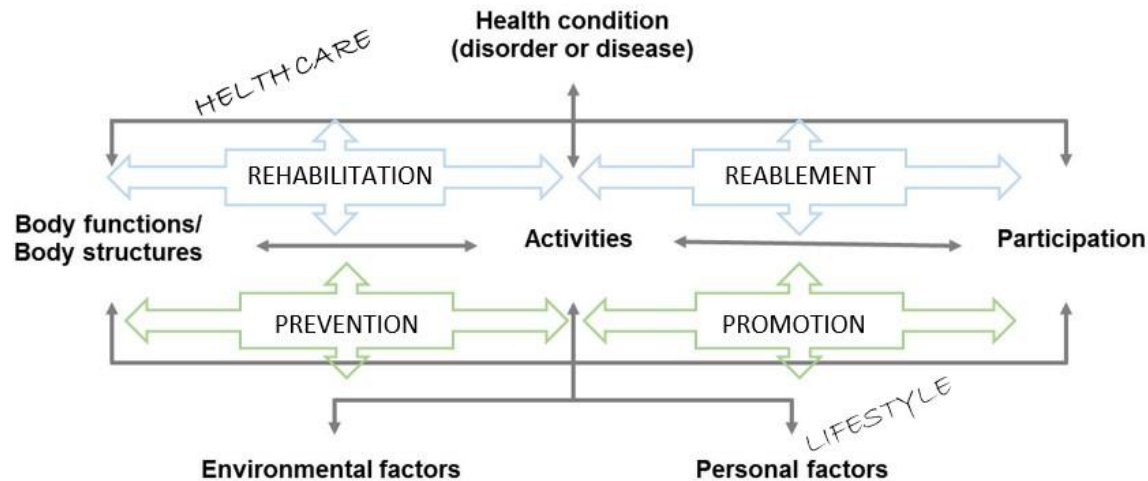


Figure 5 Interactions between the components of ICF (WHO,2001,18) and Allied Health Areas (modified by Juntunen, K.)

Example

Allied health professions at Student-Run Centre are students of laboratory technician, nursing, occupational therapy, and speech therapy.

Laboratory technicians are essential part of identification the health condition of clients and the effect of treatments. All students can participate, for example, in planning of a health promotion program for a workplace to enable employers to increase control over their own health and quality of life. Nursing an occupational therapy students can implement evidence informed falls prevention program for seniors with disabilities. Further, they can be involved in reablement process of older adult after hospital period assisting him/her to regain functional capacity and improve independence at home. All students have specific role in rehabilitation process of children with disability, to measure, achieve and maintain optimum functioning in interaction with their environments.

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Evidence-Based Practice

Evidence informed practice is used to design health promoting programs and activities using information about what works. It means using evidence to identify the potential benefits, harms and costs of any intervention and also acknowledging that what works in one context may not be appropriate or feasible in another. Evidence informed practice brings together local experience and expertise with the best available evidence from research (Victorian Department of Human Resources, 2019).

Evidence-informed practice (EIP) is a process for informed clinical decision-making. In EIP, research evidence is integrated with clinical experience, patient values, preferences and circumstances. Although the term evidence-informed is used frequently of late rather than evidence-based, few authors have clarified the distinction.

Evidence-based practice is defined as using the best and most accurate evidence in a clear, honest and rational manner in decisions on individual patient treatment. In evidence-based health care settings, appropriate resources, patient preferences, expert opinion, and evidence from scientific research are combined to provide the best care for patients. In other words, the best evidence obtained through systematic research is combined with personal experience and clinical decision skills gained in clinical practice, and patient's values and preferences. Evidence-based practices strengthen the link between knowledge and decision-making, and make the diagnosis, treatment and care process scientific and professional. Thus, it is possible to provide effective health care to the patients with the available resources.

In EIP practitioners and clients are in real dialogue where research evidence is integrated with clinical experience, patient values, preferences and circumstances. Miles and Loughlin (2011) claimed that EBP, in which evidence is the prior knowledge base, has taken humanity out of clinical practice, so they promoted the use of the term evidence-informed practice to indicate that

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the process be client-centred rather than focused on the science of reducing the quantitative evidence. Nevo & Slonim-Nevo (2011) argued that research findings should not be overestimated, but considered as part of clinical reasoning as well as client's values, wishes and expertise.

Example

For example, when rehabilitation or care is conducted as evidence-based practice it means that the therapist co-ordinate the protocol prior the evidence instead of the individual information about client. The situation has a different kind of nature, EIP, when therapist take first into the consideration the individual situation of the client and use evidence because to find of best solutions just for the one special client.

Evidence-based health care is the practice that covers lifelong learning approaches that aim to reach clinical information about diagnosis, prognosis, treatment, decision-making, and cost. The following steps are followed in the evidence-based implementation process:

- Converting information needs related to patient care into answerable questions.
- Answering questions identified by the best, most accurate evidence (Clinical reviews, related literature, laboratory studies for diagnosis, other sources)
- Evaluation of evidence with a critical approach in terms of validity (proximity to reality) and usability (in terms of clinical applications)
- Application of the results to clinical trials
- Evaluation of performances

Evidence used in the health promotion context can come from a range of sources, and can be numerical information analysed statistically or can be descriptive information gathered from interviews or open-ended questions. For it to be evidence it needs to be collected in a systematic manner and it needs to be informed by research and/or evaluation.

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Innovation and Entrepreneurship

Entrepreneurship

One of the basic building blocks of development and prosperity in a country is entrepreneurship. The idea of business development, which emerged by entrepreneurial activities, refers to the ability of starting a business depending on the innovative skills of entrepreneurs.

Entrepreneurial education is becoming more prominent, with many students seeking extracurricular activities and taking on additional classes in order to learn more about how to succeed in different fields (Supporting Entrepreneurial Connectivity , 2018),

The term "entrepreneur" is a French word derived from the verb "entreprendre", which means to do or to undertake. Entrepreneurship is defined as a concept that encompasses the whole process of entrepreneurship taking risks, pursuing, implementing and innovating opportunities. Entrepreneurship, a creative and innovative activity, is highly motivated to expand energies on the creation of a new enterprise or organization. For this reason, entrepreneurship and business start-up activities are directly proportional to the entrepreneurial abilities of individuals and many factors that affect business start-ups.

Universities have realized cooperation with industry to benefit from them and their students as: to learn about the views of employers and the particular knowledge and skills that graduates are expected to have; to find placements for students who prepare them for the world of work and to provide various services (training courses, joint innovative activities, etc.) to enterprises that not only benefit recipients but also generate additional income.

Entrepreneurship and Innovation are fuzzy concepts that have been given multiple meanings. They are often considered as overlapping concepts, for example Schumpeter defines entrepreneurs as “individuals that carry out new combinations (i.e., innovations)” (1934: 74).

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Entrepreneurship in healthcare industry is similar to other industries in environmental conditions, structure, and strategies. It is characterized by turbulent and harsh environmental conditions. In the light of these environment variables, health care has undergone structural and strategic changes and innovations to achieve organizational economies of scale, improve utilization of resources, enhance access to capital, increase political power and expand the scope of the market (Zuckerman, Dowling, & Richardson, 2000)

Health sector is one of the most dynamic sectors within the service sector due to its structure. This dynamic structure brings many opportunities, creates new markets, makes important economic breakthroughs and creates new employment areas. With a good assessment of potential opportunities, students in health education are provided with the opportunity to recognize the sector they are specialized in and to have entrepreneurial tendencies to evaluate these opportunities. From this point of view, health students who are educated in the field of health should be educated as people who can take risks, take responsibility, have a self-motivation and features such as a structure open to innovation, change and transformation.

Entrepreneurship and innovation competence are transversal competences, which applies to all phases of education and studying. Students' personal growth and development of skills to entrepreneurship are facilitated by culture, pedagogy and education. Visibility of "entrepreneurship path" is seen throughout the curriculum and during education as a growing awareness of entrepreneurial skills and knowledge. Education and culture enable the widespread development of entrepreneurial mind-sets, which benefit individuals and society as a whole.

As summary, it can be said that stakeholders and environment support the development of student's competences and generation new entrepreneurs. It was seen that competences of entrepreneurship can be developed at different environments and platforms. Also, it was made clear that during studies, students are actively participating in society and working life. They work together with companies and entrepreneurs to practice their entrepreneurship skills through relevant activities

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such as projects and trainings. In the end of their studies, students are able to enter the job market, self-employed themselves and co-found new companies with their peers.



Figure 6 Competences of Entrepreneurship in Education Field

Innovation

Over the past two decades, innovation has become critical to economic growth and progress in all industries, especially in the healthcare system... “Innovation in healthcare system will be more pervasive in people’s lives because it will be focused on keeping people within the “magic” circle of wellness” (Shrestha, 2018), not just treating them when they’re facing any sort of health issues.

Innovation has become one of those buzz words that connotes different things to different people – newness, discovery, or perhaps an advance in technology. But no matter how it's defined,

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constant innovation has undoubtedly brought the science of medicine to another stage, contributing to an ever-improving healthcare system (Hwang, 2019).

European policy making has the learning for innovation in developing higher education as a central element. To benefit business, solve different problems faced by the society and to ease the everyday life, is the innovation required. By collaborating with regional companies and organization, the students will learn to develop new solutions, products and services. These authentic creative collaborations offer an attractive learning environment and increasing

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innovation competence. (Hero, Lindfors, & Taatila, Individual Innovation Competence: A systematic Review and Future Research Agenda, 2017).

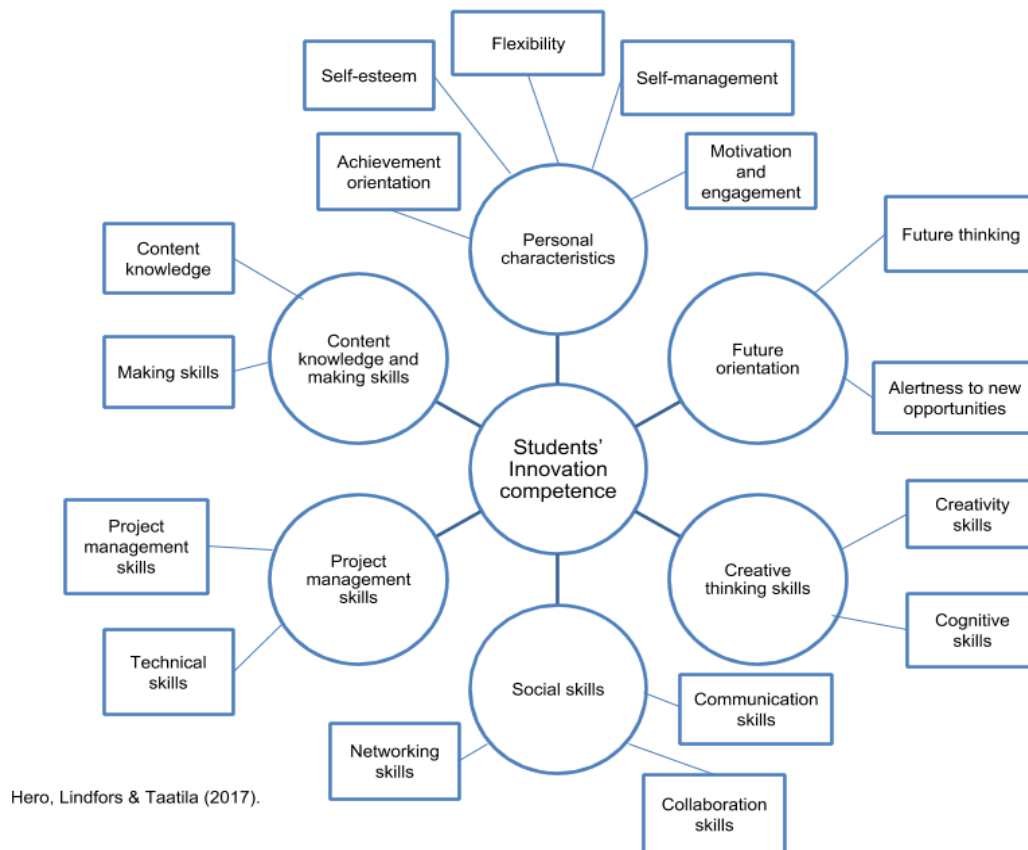


Figure 7 Students' Innovation Competence

The Department of Commerce Advisory Committee on Measuring Innovation in the 21st Century Economy has defined innovation as “the design, invention, development, and/or implementation of new or altered products, services, processes, systems, organizational structures, or business

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models for the purpose of creating new value for customers and financial returns for the firm (The Department of Commerce Advisory Committee on Measuring Innovation in the 21st Century, 2006). “Viewed comprehensively, innovation represents the implementation of new or significantly improved products, services, or processes. It can also imply new organizational models, methods of service delivery, ways of relating to customers, and approaches to marketing (AWF, 2018).

Innovation can be defined as the introduction of innovative thought into the market. Innovation created by the impact of the economy of creativity represents the development process of new approaches, technology and working styles. Innovation starts with a good idea. It then proceeds by transforming this idea into a marketable product or service, a new or improved production or distribution method, or a new social service (Figure 5). In summary, innovation is the whole of the creative process that makes good.

Today, institutions are able to achieve success, improve their activities and make effective innovations.

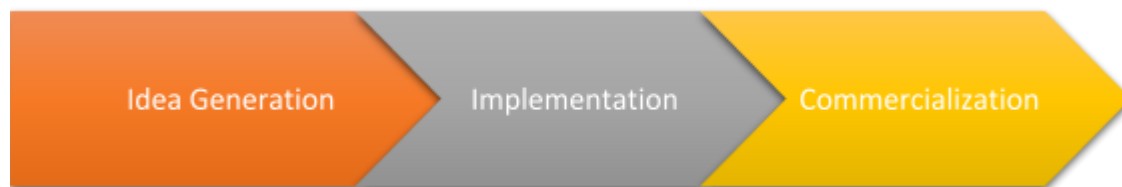


Figure 8 Innovation Process

Going forward, the emphasis on innovation promises to accelerate rapidly and produce exponential change in important areas including prevention, more personalized care tailored specifically to a patient’s genetic profile and needs, more efficient and proactive technology-enabled care models, more integrated and comprehensive delivery organizational designs, and additional creative technology-enabled options for effective health encounter (Haughom, 2014).

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Through well thought and implemented Innovation management a good working culture, where innovations can occur and the company still maintains its functionality, is possible to reach. Innovations are usually born when there is:

1. less strict structures,
2. open access to information,
3. encouraging environment for the disruptive ideas,
4. support for experimenting new things and room for the failures,
5. support for taking the ideas further into innovations,
6. wide collaboration and an approbative atmosphere and co-creation processes for feedback are essential for the greater customer understanding.

Any new idea of improving health, preventing disease and improving patient care management can be used as an innovative tool. The health sector is one of the leading sectors with high technological potential, both technological and knowledge intensive. In this context, health institutions need to be innovative with the idea of providing sustainability and competitiveness and responding better to the needs of patients, health personnel and stakeholders. Innovative products and services provided by innovation increase early detection and treatment facilities and prevent future costs. In this way, alternative solutions can be created for the benefit of the patient in the long term with the efficiency increase provided in the health system. Moreover, cheap and accessible solutions can be produced by using advanced technologies in health services. In addition, positive contributions can be made for many sectors which are horizontally and vertically connected with health. Early adoption and acquisition of innovation culture is important. The courses, practices and opportunities that will develop the culture of innovation during the education of the students who will serve as health professionals should be provided within the framework of this project.

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Innovation management is about balancing between creating space for ideas and new solutions and having structures to support the functionality. Since the innovation processes are often messy and filled with tensions, the management needs to be flexible and make their adaption to the situations based on the pro innovation values that everybody in the company or organization have approved.

Examples:

- Students are practicing entrepreneurship and innovation skills and competences in different educational contexts, activities and projects. They are for example planning and implementing sales and marketing related to Student-Run Centre and are creating cooperation with private, public and third sectors.
- Culture at Student-Run Centre is based on empowering students act as an entrepreneur and it provides students the appropriate tools to assess and effectively develop key competences of entrepreneurship.
- Universities cooperate with industry to benefit from them and their students as: to learn about the views of employers and the particular knowledge and skills that graduates are expected to have; to find placements for students which prepare them for the world of work and to provide various services (training courses, joint innovative activities, etc.) to enterprises which not only benefit the recipients but also generate additional income.
- A company or other working life organisation gives a challenge and order an innovation from Student-Run Centre. A multidisciplinary student group comes up with creative, future oriented ideas and develops a concept. After they have made the project plan and an agreement, is the development project carried out for the benefit of working life and for society.

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Patient/Client Centeredness

Health reform promotes the delivery of patient-centred care. Occupational therapy's rich history of client-centred theory and practice provides an opportunity for the profession to participate in the evolving discussion about how best to provide care that is truly patient centred. However, the growing emphasis on patient-centred care also poses challenges to occupational therapy's perspectives on client-centred care (Mroz, Pitonyak, Fogelberg, & Leland, 2015).

A patient/client centeredness approach is a process in which health professionals align their knowledge and recommendations with the needs and preferences of the individual to prevent, manage and treat the disease of individuals. In a patient/client centeredness approach, it is possible to consider the patient's values, preferences and needs, as well as the current medical condition. Patients and their relatives should be included in the process. It is important to make an effective communication and to make sure that they are understood by the patient. It includes an understanding of the agenda and an understanding that requires sharing of responsibility with the health team in the decision-making process following the disclosure. With a patient/client centeredness approach, the cost of health decreases and inequality in health care is eliminated, and patient satisfaction, quality of care and health improvements are increased. We compare the conceptualizations of client-centred and patient-centred care and describe the current state of measurement of client-centred and patient-centred care. We then discuss implications for occupational therapy's research agenda, practice, and education within the context of patient-centred care, and propose next steps for the profession. (Mroz, Pitonyak, Fogelberg, & Leland, 2015).

Patient participation is considered to be a necessary strategy for realizing the three main goals of health care (improving health care quality, improving community health and reducing costs). In this context, the following points should be realized for effective and efficient patient participation.

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- Patients have the knowledge, skills, abilities and willingness to manage the health and care of themselves and their family members.
- The health institution has the culture that prioritizes and supports the participation of patients
- Active cooperation between patients and service providers is required to design, manage and achieve positive health outcomes

Patient participation has emerged as a health care model. The model for patient/client centredness treatment, patient participation and efficacy are presented in Figure 8.

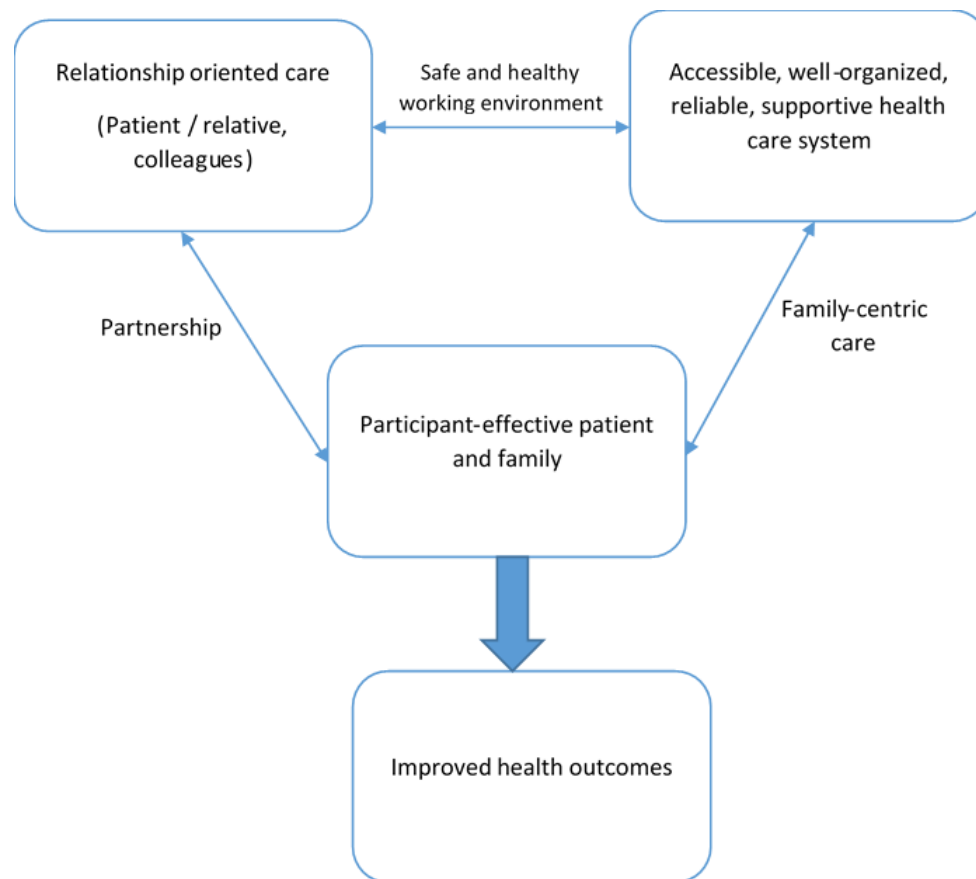


Figure 9 Patient/Client Centeredness Therapy, Patient Participation and Effectiveness (Özkan, 2017)

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Co-creation and Co-configuration

The concept of co-creation has been central to a variety of service industries for several decades. A tool to fuel innovation and customer satisfaction, co-creation acknowledges that the success of any given enterprise depends not only on the expertise, assets, and core competencies of the service provider but also on the knowledge and perspectives of the target customer as well. Co-creation extends beyond consultation with or participation of consumers. It is about integrating customers into the processes of product and service ideation and execution so that their unique perspectives and cooperation may ultimately drive value for both the producer and the customer becoming a win - win situation for all involved stakeholders (Galvagno & Dalli, 2014) and (Palumbo, 2016).

Co-creation is an initiative that brings different parties together in order to jointly produce a mutually valued outcome. Co-creation brings a blend of ideas from direct customers or viewers which in turn creates new ideas to the organization (Cranfield & Jensen, 2018).

Co-creation is described as a resource integration process involving actors that are linked within the desired service (Gummesson & Mele, 2010).

Co-creation is a teamwork approach where the service-user and the service-provider are equal partners in the development and creation of problem-solving methods, techniques and program development. All the stakeholders gather together for brainstorming problem identification and problem solutions. When co-creation takes place, it facilitates incorporation of individual and corporate cultures, values, priorities, achievable expectations and subjects that are meaningful for all stakeholders. All participants are co-producers of programs, learning methods, health interventions and community development that will bridge gaps in areas that prevent individuals and communities from reaching their desired health and educational outcomes.

Co-configuration can take place in an environment where patients, clients or students are involved in decisions about their needs or services, and where stakeholders share their experiences,

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knowledge, ideas and/or suggestions. People in such an environment or those with this understanding perceive dialogue as a means of making progress or improving performance (Daniels, Edwards, Engeström, Gallagher, & Ludvigsen, 2010).

In the context of student-run multidisciplinary allied health practice centre co-configuration and co-creation has special meaning. Co-configuration refers to building common understanding. Co-configuration is a dialogical process in multiprofessional group.

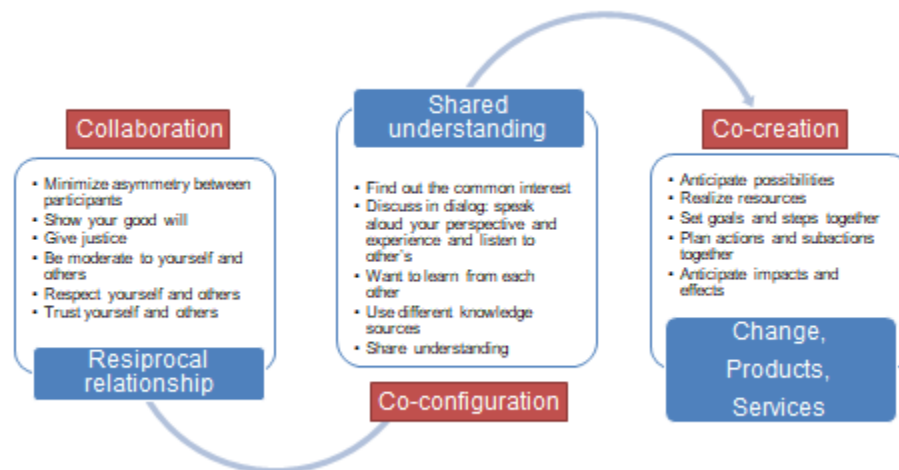


Figure 10 Co-creation and Co-configuration Process

Based on Harra (2014), Co-creation means collaboratively planned actions for developing process for best solutions in meaningful and purposeful way. It enhances participant's wellbeing, capability, commitment, opportunities and sense of agency. Both co-configuration and co-creation are based on reciprocal relationship in frames of justice, good will, respect and trust.

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Example

Reciprocal relationship can be built up in collaborative process. Co-configuration is needed e.g., in the beginning of innovation project when participants (students, entrepreneurs, clients and experts) want to uncover the challenge. Through co-configurative dialog participants are able to share experiences, theoretical knowledge, observations, evidence and other kind of knowledge of participants and build better understanding about the challenge. It gives a space for client's voice and can give an authentic view to user's needs.

In co-creation the group will first of all enable user-involvement in innovation process. Then the group will create together the common aim and plan for user-involved development, testing and marketing processes of new products or services. Through co-creations the agents are not dependent only the given possibilities, because they are able to build new possibilities together.

So, the patient is a person who experiences the course of a health condition (first symptoms, examination, treatment, follow-up, rehabilitation, etc.). Patients/clients should, therefore, be considered co-creators for the development of healthcare services and encouraged to express their ideas or to share their knowledge/experiences. In this way, problems can be approached from patients' perspectives, technical and functional quality can be improved, innovative and creative processes can be developed and patient commitment to treatment can be positively affected (Elg, Engström, Witell, & Poksinska, 2012). Not only patients but all stakeholders (patients, clients, students, health professionals, educational staff etc.) can be encouraged to share their ideas and suggestions to propose solutions for problems, to develop programs and to determine learning objectives and methods in order to ensure that they, as co-creators, can provide targeted or anticipated health or educational service (Levy, 2008).

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User-Involvement

User involvement support people to speak up about the services they use, and is making sure the voices of people are heard and they are able to actively shape and improve the services they use and influence local, national and international policies (The Advocacy Project, 2018).

It means that instead of doing things yourself, you ask and you include other people as well, but not just telling them what to do but consulting them.

Associated with such concepts as authority and partnership, user involvement/participation defines an effective process in which people take action or express their opinions in an environment where they are respected. People who are actively involved in or encouraged to be involved in decision-making processes should be made to feel that they are a part of change and development and that their interests and wishes are taken into account (Fletcher, 2003).

In an education setting, students are given opportunities to interact with and to take responsibility for their own learning. Course instructors plan their lessons to include student creativity in designing methods for learning and demonstrating their knowledge of information learn. Instructional material is disseminated in a way that accommodates all student learning styles (i.e., visual, auditory, kinaesthetic, tactile, etc...).

At Student-Run Centre the service-user is identified as an active participant and an equal actor for his/her own wellbeing/rehabilitation

The service-user (patient, client, and student) is empowered and encouraged by the service-provider (health professional, education staff) to express their priorities regarding their desired health and educational outcomes. The service-user is allowed and encouraged to be involved in the full health and education provision process. In other words, in the health context, they are asked permission before services can be provided. They are given choices of intervention. They are included in the goal-setting process and intervention plans are developed in collaboration with the

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service-user. Intervention strategies are designed to take in account the service-users' values and views.



Figure 11 Photo. (Taavi Tihkan, 2015)

Alongside and together

Who is the service-provider?

In such an environment, differences should be respected, diversity should be addressed, and inclusion should be of primary importance. Encouraging people to share their ideas, considering their rights and needs, and organizing activities for this purpose are prerequisites for user involvement (Aydin, Kutbay, Yalman, & Yavuz, 2015). Users can be involved in a process in many ways. For example, they can play an active role in planning, management, inspection, service follow-up, preparation of learning materials, innovation process (product development, design improvement, etc.) and employee evaluation and development. Taking users as educators contributes to the healing process of people benefiting from centres, the functioning and development of the centres, and research and training (Diamond, Parkin, Morris, Bettinis, &

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Bettesworth, 2003). For such reasons, types and levels of involvement should be clearly determined by health centres, people's involvement in processes should not be seen as a burden on time and resources, and employees should be encouraged to regard this process as an opportunity to turn problems into creative solutions (Fletcher, 2003).

Examples

- Co-Creation: planning services involves always those persons who are part of a system or a service (service-users and service-providers).
- Sequencing helps the planning: services should be visualized by sequences, or key moments in a customer's journey.
- Service-users need to be aware of elements of a service. Evidencing creates loyalty and helps customers understand the entire service experience.
- A holistic design takes into account the entire experience of a service. Context matters.
- Using the Service design toolkit to plan and implement better services
- Being aware of the non-verbal communication helps to understand each other. Non-verbal signals win always the verbal signals!
- Remember the symmetric discussion. Ask and be genuinely interested in service-users' views.
- Remember the strength of your team and teamwork; you don't have known and do everything by yourself.
- Dare to step out from your comfortable zone and try something new; best way to become a better human-centric professional
- The trust increases confidence: see and hear everyone, be presence, believe in everyone's ability to learn, give experiences of success

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- By observing, identifying and reflecting especially the strengths and resources of the service-user, the desired change is achieved, the internal motivation and commitment is maintained and the active role in own wellbeing/rehabilitation is strengthened.
- Help the service-user to trust her/his own abilities and skills. Give a lot of concrete and positive feedback to increase the self-efficacy and self-esteem of the service-user.
- reflect your interaction culture and the environment; do they encourage and empower to the co-creation and success experiences

Network Communication

For an organization to be successful it should increase the communication network within the organization. This in order to reach more successes by doing things in two ways: seeking and giving advices. Network communication is a social network, which promotes the team work by analysing and using theories, techniques and procedures developed for network communication (Kolleck, 2013).

Communication networks among employees are of great importance for the success of institutions. The fact that a large or small institution has effective communication networks for sharing information between the departments or with the outside world connects institutions or units.

Developing institutions have recognized the vital importance of internal communication. As a result, some institutions develop communication plans while others establish communication policies. The coordination of the units that provide health services in health institutions is necessary to ensure that the relationship between the health care provider and the provider is realized in an effective and positive manner and health services are made more effective.

It is stated that approximately 5.1 billion dollars are wasted every year due to internal communication problems. Therefore, one of the main objectives of the health sector is to help

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health workers to focus more on the patient and to make an effort to communicate and collaborate effectively with and among patients.

With the use of clinical communication technology networks, it is possible for health professionals to transfer consistent and engaging care experiences and operational developments to each other and thus to increase their connection and cooperation. New communication tools need to be evaluated to improve this communication and cooperation. At this point the following items must be taken into account:

- Considering existing workflows
- Providing joint working time for inpatients
- Improvement of cooperation among healthcare workers
- Inclusion of the patient and the family in the care plans.

Modern Pedagogical Approaches

Given the critical importance of having students play a specific and essential role in the learning process, in this section we have presented key information regarding the pedagogical approaches, focusing on the students' perspective. More precisely, we have described the roles of teachers and students, assessment methodologies, techniques, tips of implementation, and advantages and disadvantages of each pedagogical approach.

Constructivist Learning

Social constructivism is the theory of knowledge focused on the role of social processes in knowledge creation. Theory is developed by psychologist Lev Vygotsky who argued that all cognitive functions originate in social interactions and cognitive growth occurs first on a social

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level, and after that it can occur within the individual. (Amineh & Asl, 2015). According to Vygotsky (1978), language and culture play essential roles in human intellectual development and for that reason, knowledge results from many social processes and interactions, not as a result of observing the world (Lynch 2016).

Sociocultural learning is seen as participation and knowledge sharing rather than introspective activity (Lindblom-Ylänne & Nevgi, 2003). Thus, knowledge first lives through human interaction and then becomes part of an individual and his or her thinking and action (Säkjö, 2004). Because learning is seen as a social process that occurs in the context of human relationships, students learning is built on a collective process of creation and construction. (Walker & Shore, 2015). The process of co-creation can happen in a place where students develop their ideas through dialog with their peers and tutors. The role of teacher is primarily seen as a coach or facilitator, rather than merely as information transmitter (Lindblom-Ylänne & Nevgi, 2003). Changing the role of teacher to the role of instructor and facilitator requires coaching skills and courage from the teacher. He or she must gently facilitate the group's activities and goals in the direction of co-creation and, on the other hand, enables a variety of learning environments that support group learning, discussion and peer tutoring.

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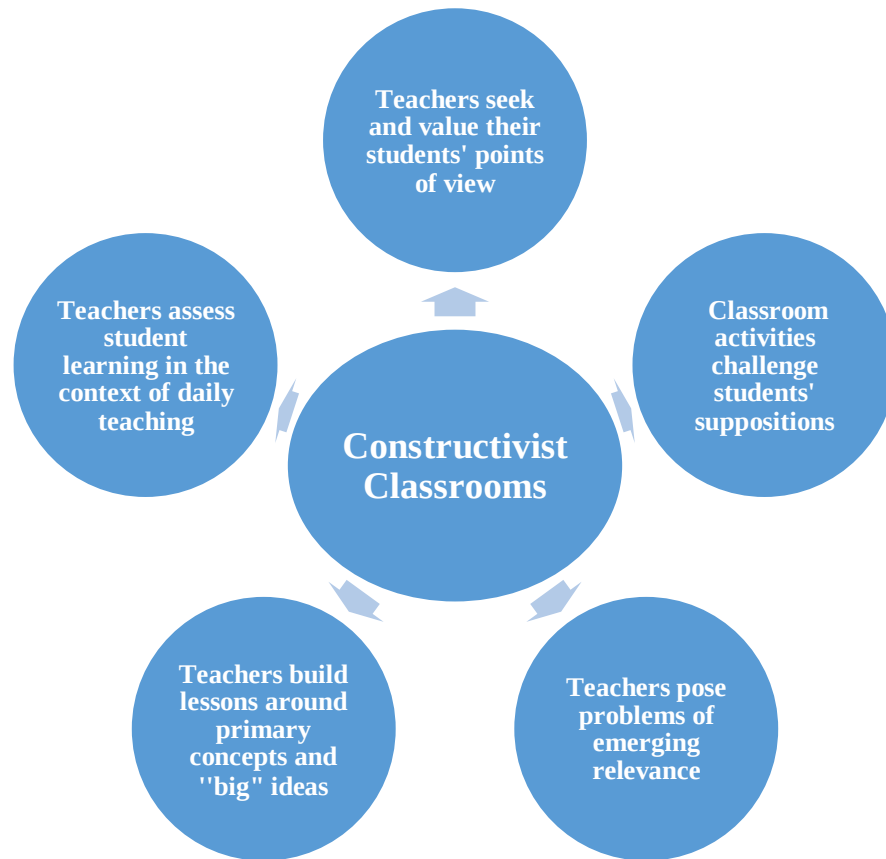


Figure 12 Constructivist Classroom. (Brooks & Brooks, 1993)

The nature of constructivist learning by (Brooks & Brooks, 1993) indicates that knowledge is subjective, temporary, subject to change, and uncertain. Learning is considered as accumulation of knowledge from real experiences, collaborative learning activities, reflections and interpretations. teachers organize the learning activities in a way that learners are motivated to explore meaning and appreciate uncertainty. For this reason, the learners will have a subjective understanding of the knowledge depending on their experience, and the perspective used in construing it.

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Constructive learning aims to replace the ‘teacher centred’ learning environment with the ‘student centred’ learning environment. Project based learning, case-based learning, problem-based learning, are ideal ways to create this teaching environment.

Students’ Role

The students are given an active learner role in the constructivist approach. Students also find their ideas gaining in complexity and power, and they develop increasingly strong abilities to integrate new information. Students assess how the activity is helping them gain understanding. Some of students’ roles can be summarized as follows:

- Actively and dynamically explore information.
- Develop social awareness and confidence.
- Effectively communicate about complex processes.
- Use technology efficiently.
- Develop themselves to be independent learners.
- Know their areas of expertise and shared that expertise spontaneously.
- Work well collaboratively.
- Developed a positive orientation to the future. (Apple Inc, 1995).

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- Encouraging learner to actively participate.
- Creating a positive learning atmosphere.
- Being flexible.
- Using a variety of teaching methods and multimedia
- Providing regular feedback and helping the learner to use practices in a norm-based system
a variety of evaluation, mostly in a skills-based system
- Managing and facilitating learning
- Reflection

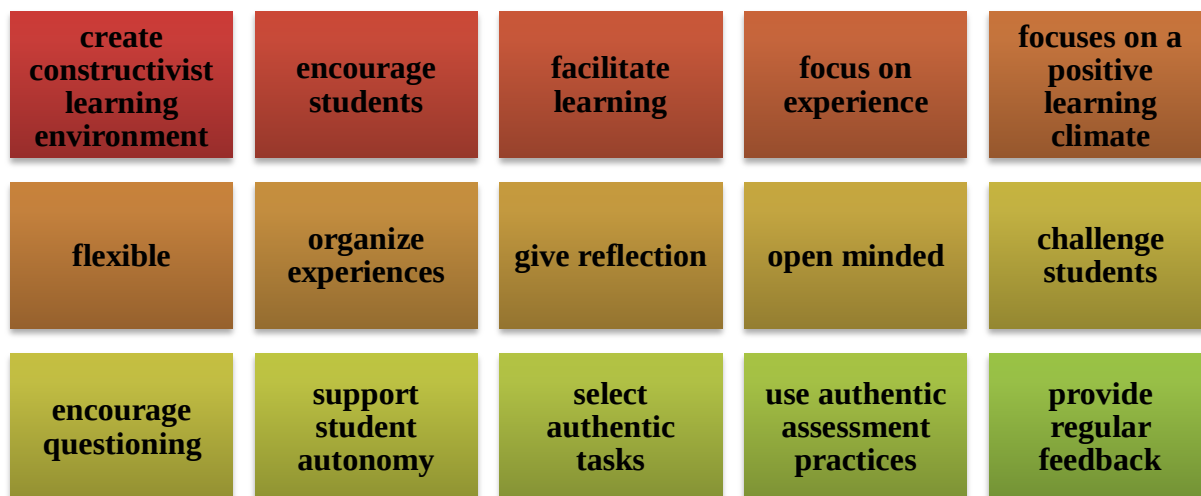


Figure 14 Constructivist Teacher's Characteristics

How to implement the Constructivist Approach?

In order to apply social constructivism theories in the education field, teachers need to shift and reshape their perspectives. Teachers must move from being “people who teach” to being

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“facilitators of learning”. On the other hand, the process of learning requires that the learner actively participate in creative activities and self-organization.

Tips for implementing Social Constructivism

- The students must solve their problems with realistic and meaningful contexts
- Engage in peer and small group interactions while solving problems: discussion sections are essentially collaborative learning environments. Discussion can be promoted by the presentation of the specific concepts, problems or scenarios.
- Act as peers as joint contributors to your own learning: they can be classroom aids, volunteers, peers and mentors.
- Cooperative learning: Work in small peer groups to help and give each other opportunities to explain, verbalise your knowledge and enhance your understanding
- Make your own theories and test them for viability: imbalance facilitates learning

Case-based Learning for Implementing Constructivist Approach

Case Study 1

Dr. Mehmet determines that Mr. Murat has an approximately 5-cm cutaneous and subcutaneous laceration in the anteromedial aspect of his left knee and a slight bleeding and that his knee joint movements are mildly painful. Dr. Mehmet determines that Mr. Murat has no other tissue loss.

1. What emergency interventions could be performed at this stage? Discuss.
 2. What kind of risks do you think the laceration in Mr. Murat's left knee may pose? What measures would you recommend?
 3. What other examinations would you ask to be performed to define Murat Bey's condition? Discuss and justify.
 4. Identify and discuss your learning objectives.
-

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Reference: Manisa Celal Bayar University PBL Scenarios

Project-based Learning Practice

It can be used a project to help the students learn how to provide patient-centred care. In this project students can work with their peer, and discuss Picker's Eight Principles of Patient Centred Care". Rather than just simply using a method like direct instruction to "teach students what is patient-centred care", giving the students the opportunities to actually construct their knowledge.

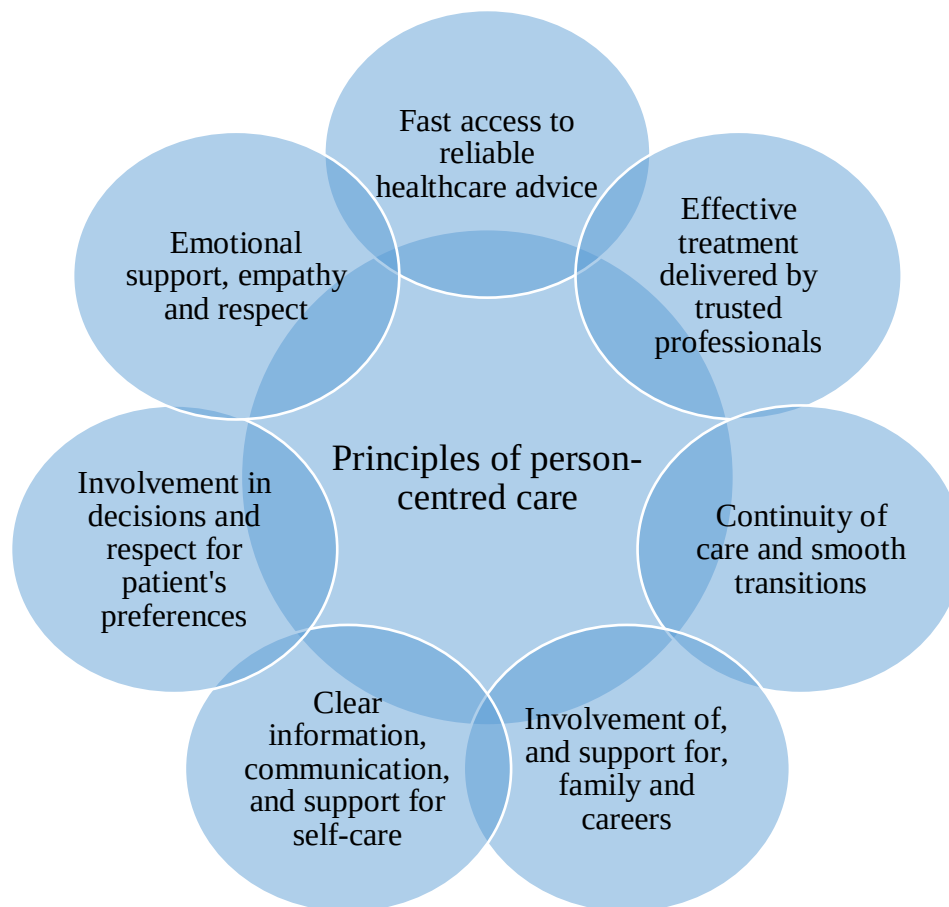


Figure 15 Eight Picker principles of patient-centred care: Picker Institute: Principles of patient-centred care. Available from: <https://www.picker.org/about-us/picker-principles-of-person-centred-care/>

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Case-based Learning Practice

Case Study 2

Mary, 44 years old, is seen in the physician's office with hoarseness and a slight cough. During the assessment, Mary tells the nurse that she also has shortness of breath, particularly when walking fast and going up the stairs. Mary has never smoked. Her vital signs are: blood pressure 120/80; heart rate 88 beats per minute; respirations 32 per minute; and temperature 36.6° C (97.8° F).

Mary is married with two teenage daughters. She works part-time as a substitute teacher. Mary has always been health conscious, watching her weight and eating properly. She tells the nurse how worried she is because she has read about women getting lung cancer even if they never smoked. 1. The physician orders a combined PET/CT scan. What is a PET/CT scan, and why was it ordered for Mary? 2. What would you say to Mary prior to the scan to prepare her for it? A few weeks later, Mary is diagnosed with lung adenocarcinoma.

1. What treatments are used for this type of cancer?

.....
.....

2. Select one of those treatments, explain what it is, and describe the standard nursing care for patients receiving it.

.....
.....

3. Add data about Mary and her family to the above case. Modify your care plan to reflect Mary's individual needs at this time.

.....
.....

4. What resources are available in your community for Mary?

.....
.....

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It is now 3 months after the initial diagnosis. Finish this case study by describing Mary's condition and your nursing care for her.

(Gaberson & Oermann, Clinical teaching strategies in nursing (3rd ed.), 2010)

Assessment in Constructive Approach

Assessment is one of the most crucial steps in educational process. It is better to ask some sort of questions such as "What should be assessed? Whom to assess? Why do we assess? Is it feasible? Is it reliable?" etc. and then make a choice of assessment.

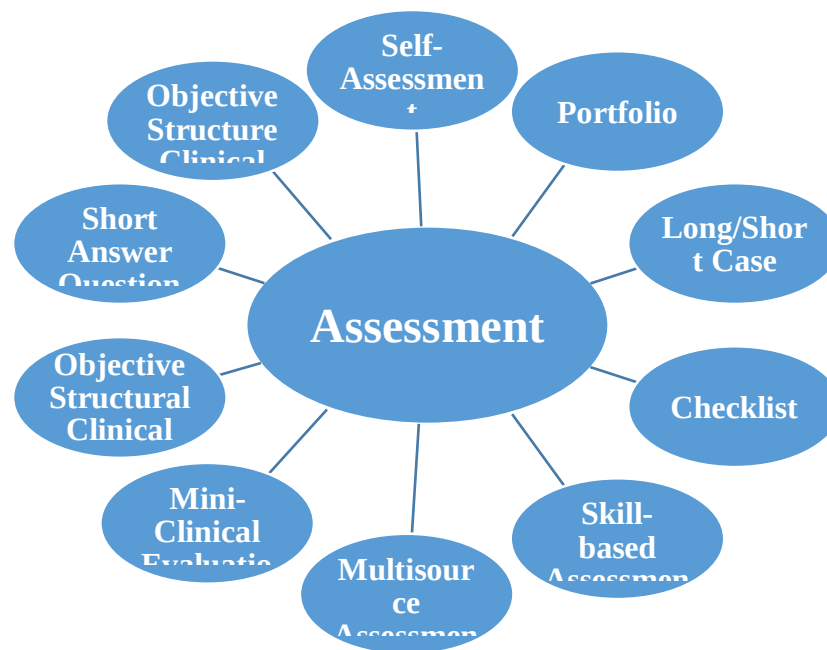


Figure 16 Assessment of Constructive Approach

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A wide range of assessment methods available in medical education (Tabish, 2008) can be summarized as follows:

Mastery Testing (criterion-reflected tests) ensures that all items are measured sufficiently to determine students have attained a mastery level of achievement.

Global Rating Scales are assessment tools for measuring behaviours. The scales can be used by directly observing students' behaviour or recalling their performance. Ratters measure an overall domain of ability, such as clinical skills, problem solving, etc.

Self-assessment is a crucial skill for lifelong performance of learners. Requires individuals to work independently, monitor, and assess their own performance and progress. Self-assessment procedures include: written exams, and performance tests (checklists, portfolio, etc).

The Short Answer Question includes open ended, semi- structured items. Predetermined and structured marking schemes are necessary to improve objectivity. The items may include real life scenarios.

Key Feature Test is a paper based on a clinical scenario. After a description of the problem which requires critical decisions or handling of a challenging scenario are given. With a proper design, key feature tests have higher content validity than other test types.

Long Case requires use of a real patient. Long case assessment gives the physician invaluable opportunity to interact with a real patient.

Short Case requires use of three to four non-standardized real patients. It gives the opportunity to carry out assessment with more sampling than single long case.

Objective Structured Clinical Examination is a multipurpose assessment tool consisting multiple stations where physicians are required to perform a specific task. A predetermined and structured marking scheme prepared for each task is used.

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Checklists are control lists of items used for observing or capturing certain actions of trainees. Usually a five to seven-point rating is used.

360-Degree Evaluation includes assessment tools completed by a number of individuals in a person's sphere of influence. This type of assessment carried out by other team members or patients provides detailed information about trainee's social skills, work habits, and aptitude for team work

Portfolio is a set of an individual's professional and personal objectives, accomplishments and methods of accomplishing these objectives. They are useful tools to demonstrate trainees' improvement and technical capacity.

Skill based assessments are developed to assess the knowledge, skills, and value necessary for competency in a certain field (Tabish, 2008).

Examples for Assessment

Example 1

Rubric for Peer Teaching Effectiveness

Directions: Rate the extent to which each statement describes your peer's teaching behaviours by circling a number following each item, using the following scale:

4 = to a large extent

3 = to a moderate extent

2 = to a small extent

1 = not at all

The peer was an excellent professional role model	4	3	2	1
The peer guided my practice problem solving	4	3	2	1
The peer helped me to apply theory to clinical practice	4	3	2	1
The peer was responsive to my individual learning needs	4	3	2	1
The peer provided constructive feedback about my performance	4	3	2	1
The peer communicated clearly and effectively	4	3	2	1

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The peer encouraged my independence	4	3	2	1
The peer was flexible and open-minded	4	3	2	1
Overall, the peer was an excellent clinical teacher	4	3	2	1
I would recommend this peer for other students	4	3	2	1

(Gaberson & Oermann, *Clinical teaching strategies in nursing* (3rd ed.), 2010)

Example 2

**A TWO-LEVEL CLINICAL EVALUATION TOOL FOR PERFORMANCE
EVALUATION (BASED ON QSEN COMPETENCIES) NICHOLLS STATE
UNIVERSITY
Clinical Performance Evaluation Tool**

S: Satisfactory NI: Needs Improvement U: Unsatisfactory

Main Competences			
At the end of class, the student who will provide care to individuals by focusing on lifelong health, health promotion and disease management and recognizing people's differences in different settings	S	NI	U
I. PATIENT-CENTERED CARE			
Develop an individualized care plan with assessment and planning based on the nursing process.			
Exhibit caring behaviours.			
Make a comprehensive assessment by determining the patient's values, preferences and needs.			
Respect individual differences.			
Assess whether the patient has pain or suffering, and if so, assess its degree.			
Demonstrate competency in his/her skills, even at the beginning level.			
II. TEAMWORK AND COLLABORATION			
Develop effective communication skills (verbally and visually) with patients and their families and team members.			

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Detect communicative data before and after conferences.			
Determine the professional within-team and between-team roles and scope of application.			
Establish a proper relationship with team members.			
Identify appropriate help needs.			
III. EVIDENCE-BASED APPLICATION			
Have access to evidence-based literature on clinical practice and be able to guide activities.			
Give references to clinical activities from evidence-based literature.			
Value the concept of evidence-based practice to determine the best clinical practice.			
IV. QUALITY IMPROVEMENT			
Provide time- and cost-effective care.			
Scan information about processes/projects to improve care.			
Give importance to reporting changes.			
V. SAFETY			
Effectively use standard practices and technology that support safety and quality.			
Put into practice the strategies to reduce the risk of harm to himself/herself and others.			
Make appropriate clinical decisions.			
Be informed of the national patient safety objectives and quality measures.			
Use appropriate approaches not to rely solely on his/her memory.			
Talk about his/her observations and concerns regarding the hazards and errors associated with patients and their families and health care team.			
Organize multiple responsibilities and be able to provide care in a timely manner.			
VI. INFORMATICS			

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Review electronic health records for patient information concerning the clinical setting.			
Have open and clear access to electronic patient records for care performed in accordance with the clinical setting.			
Use his/her thinking skills to critically identify the information and technologies necessary to collect, process and transfer data.			
Manage data, information and knowledge of technology in accordance with ethical rules.			
Protect the confidentiality of electronic health records.			
VII. PROFESSIONALISM			
Demonstrate basic professional values (caring, sacrifice, autonomy, honesty, human dignity and social justice).			
Have a professional attitude and appearance?			
Assess constructive criticism and make correction plans.			
Interact positively and professionally with professional team members, faculty and students.			
Provide evidence to prepare clinical learning experiences.			
Gain clinical experience within the specified period of time.			
Display expected behaviours and complete tasks in a timely manner.			
Assume individual responsibility for nursing interventions, consequences and other actions.			
Make self-evaluation.			

Final comments (strengths and weaknesses):

Student Name and Signature/Date:

Instructure Name and Signature/Date.....

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Weaknesses	Improvement Strategy

Student Name and Signature/Date:

Instructure Name and Signature/Date.....

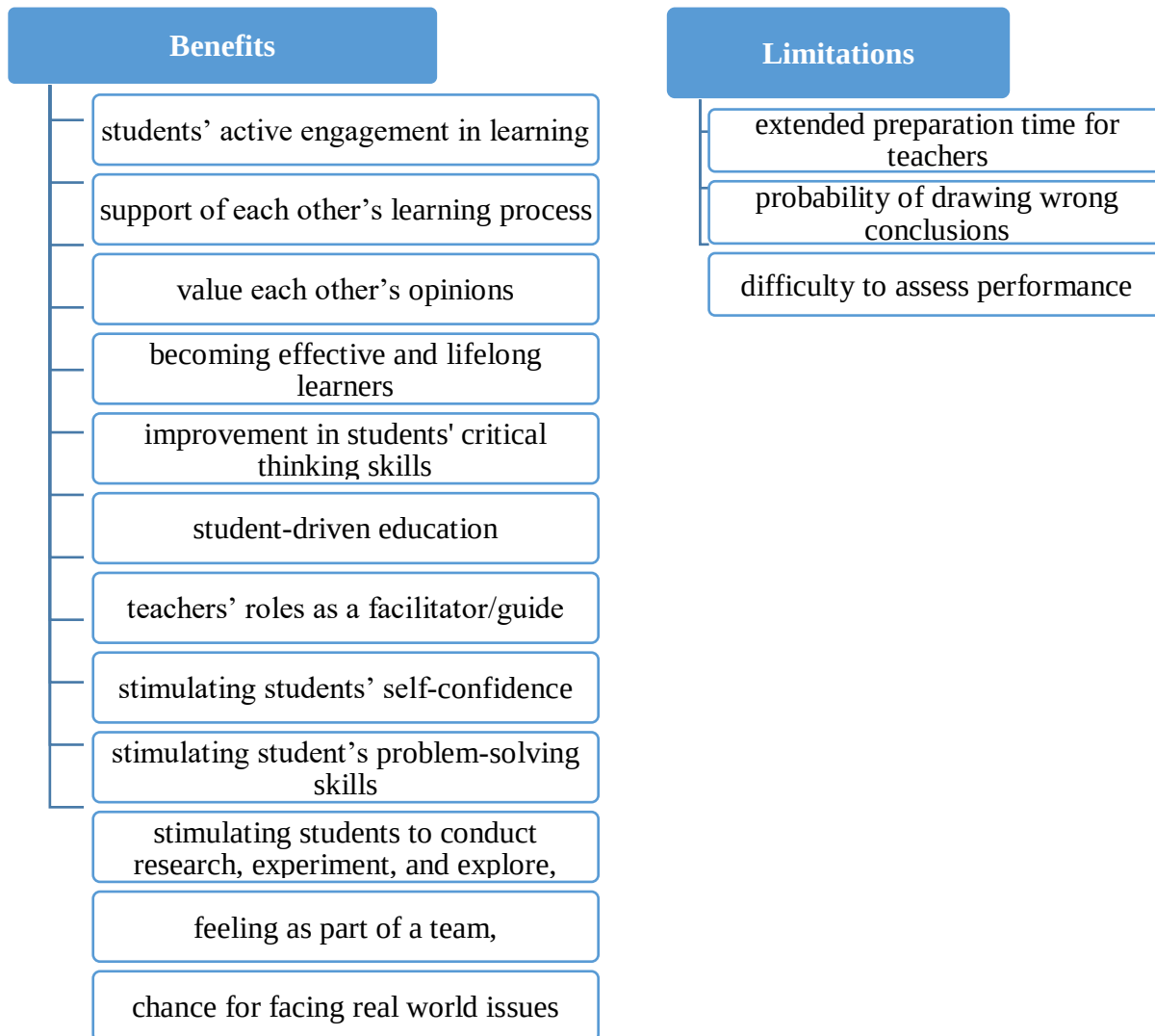
(Gaberson, Oermann, & Shellenbarger, 2016)

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Advantages/Benefits & Disadvantages/Limitations' Implementing Constructivist Approach



Blended Learning

The Internet has become widespread all over the world and can be accessed from almost all the tools like mobile phone, tablet, computer, television since the end of the 20th century. This can be

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shown as portals that provide content in the field of education, social media, video sharing platforms and e-learning sites. The fact that so many opportunities brought about the effective use of information systems to support face-to-face education in the classroom, we came across the concept of blended learning. This method is also called mixed learning or hybrid learning. Blended learning methods are increasingly being used in higher education settings.

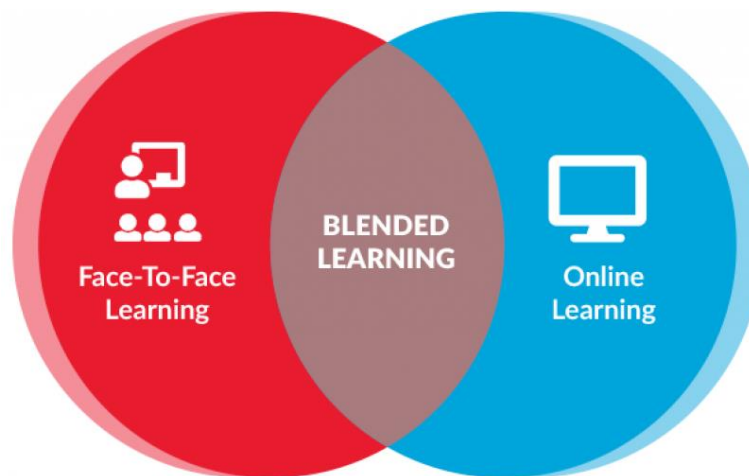


Figure 17 Blended Learning

Blended learning refers to the combination of direct learning and online learning experiences. (Garrison & Kanuka, 2004). Blended learning may include synchronous or asynchronous online instruction, rich online learning tools and/or wide variety of sophisticated technologies (Hake, 1998). It transforms education from teacher- to student-centred, promotes superior communication between educators and learners, and removes all temporal and spatial limitations (Hake, 1998 : Kanuka, Brooks, & Saranchuck, 2009).

Students' Roles

In blended learning, students should engage in content self-directed manners (Vaughan, 2010). They can put some plans (weekly work plans containing all the assignments and requirements with

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due dates) into practice to manage the components of blended learning, which would allow them to complete tasks (reading, online activities, face-to-face preparation etc.) on within certain deadlines (Brandt, Quake-Rapp, Shanedling, Spannaus-Martin, & Martin, 2010).



Figure 18 Students' roles for implementing Blended Learning

Teachers' Roles

In traditional face-to-face teaching, more structured learning methods are used. However, blended teaching allows for more clear and profound face-to-face discussions. (Westerlaken, et al., 2019).

Blended teaching is different from conventional face-to-face teaching in the sense that the former makes it less possible to transition from structured learning to clear and profound face-to-face discussions. Thus, blended teaching necessitates the implementation of a different approach. Some roles of educators are as follows:

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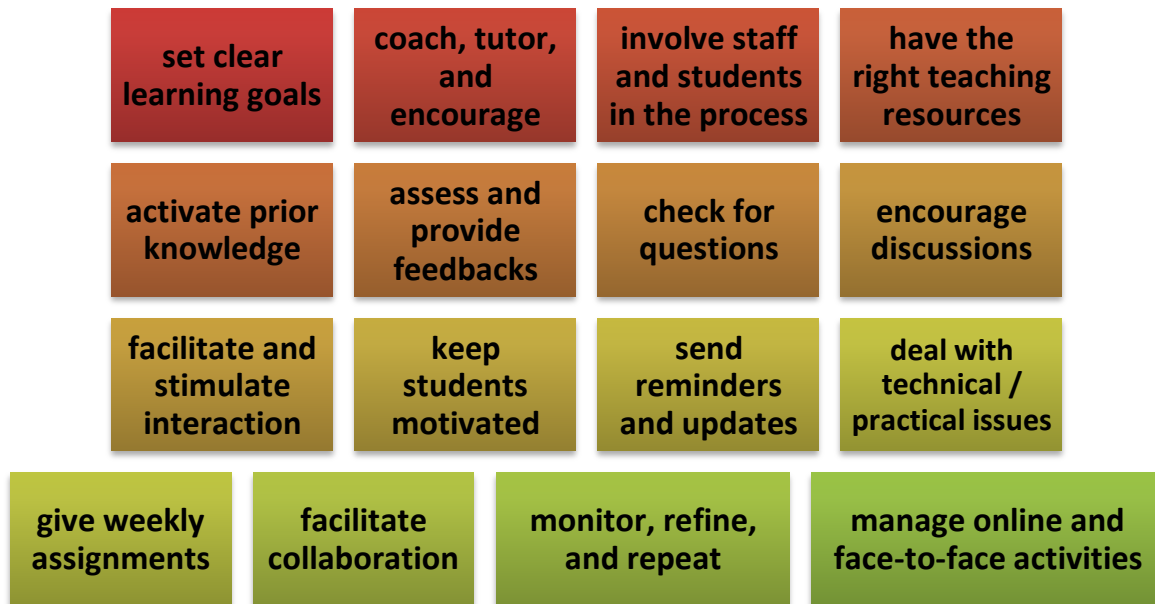


Figure 19 Teachers' Roles for implementing the Blended Learning

Face-to-face components of teaching process should be aligned with online components of it. In order to create an atmosphere for effective and higher order learning, teachers should provide feedbacks for discussions and assignments, answer content-related questions, encourage/provoke/encourage discussions, and ask relevant questions.

Teachers facilitate and activate interaction between participants. For instance, the online activities can be taught by an e-moderator and/or content expert having contact with students. Teachers should check for questions, send reminders, updates, deal with technical/practical issues, contact teachers and/or other experts (if any) related with content related issues.

In order to contribute to meaningful, effective, and deep learning, activating students' prior knowledge is one of the practical suggestions. Teachers should provide learners with settings to stimulate previous information and to motivate learners to discuss about issues addressed in face-to-face meetings. If teachers have difficulty to adapt to this method, they should be supported to

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develop and implement a blended learning program and on the ways of adapting their way of teaching to the blended learning approach (Westerlaken, et al., 2019).

How to implement the Blended Learning?

Tips for implementing the Blended Learning

In the blended learning environment, students should be provided with sufficient opportunities that help them to develop critical thinking skills, collaborate in knowledge creation, reflection and transformative learning (Westerlaken, et al., 2019). Some effective tips for engaging students into blended courses (Jeffrey, Milne, Suddaby, & Higgins, 2012) are shown in Figure below:

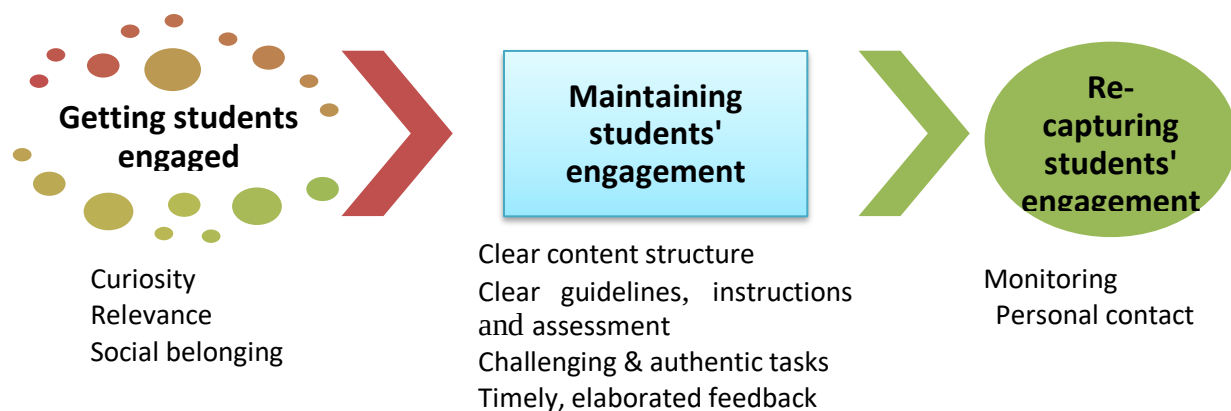


Figure 20 Tips for implementing the Blended Learning

Capturing students' feedback through online mechanisms is very crucial in blended learning environments. For instance, at the end of each week's online module, students' comments can be received by easily-accessible feedback templates. They should be encouraged to share their honest ideas for quality improvement.

Easy-to-access and anonymous web sites can help students share their opinions of quality improvement (Jara & Mellar, 2009). It is very important to inform the student explicitly about how

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their feedbacks were addressed by the teachers/professionals and to involve students in the quality improvement process. It is very vital to make students feel that their opinions and comments are valuable and worthy of consideration.

Good Practices

When students are active learners, there is a paradigm shift in the instructors' pedagogical approach from one of "sage on the stage" to more of a "guide on the side." As a result of this shift, students are able to explore content independently or within a group, with the instructor acting as a facilitator of learning (Heinerichs, Pazzaglia, & Gilboy, 2016).

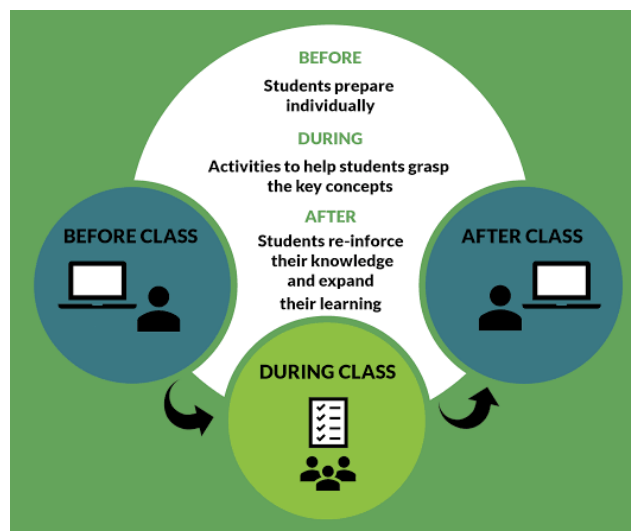


Figure 21 Good Practices on Blended Learning

When the principles of the flipped classroom are used in a blended course design, educators deliver online instruction (before class) followed by face-to-face class application of material (during class) and assessment (after class).

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Students have their first exposure to course content during the before-class component through a variety of ways, such as viewing online video lectures, reading their textbook or supplemental materials, or performing a mini-assessment of the content before meeting face to face for the during class component. The during-class component is centred on active learning strategies. Because students have already been exposed to the content, it allows for easier application of content while the teacher is present as opposed to the students initially being introduced to the content through a face-to-face lecture. The final component of the flipped classroom is the after-class component, where some form of assessment of student learning occurs.

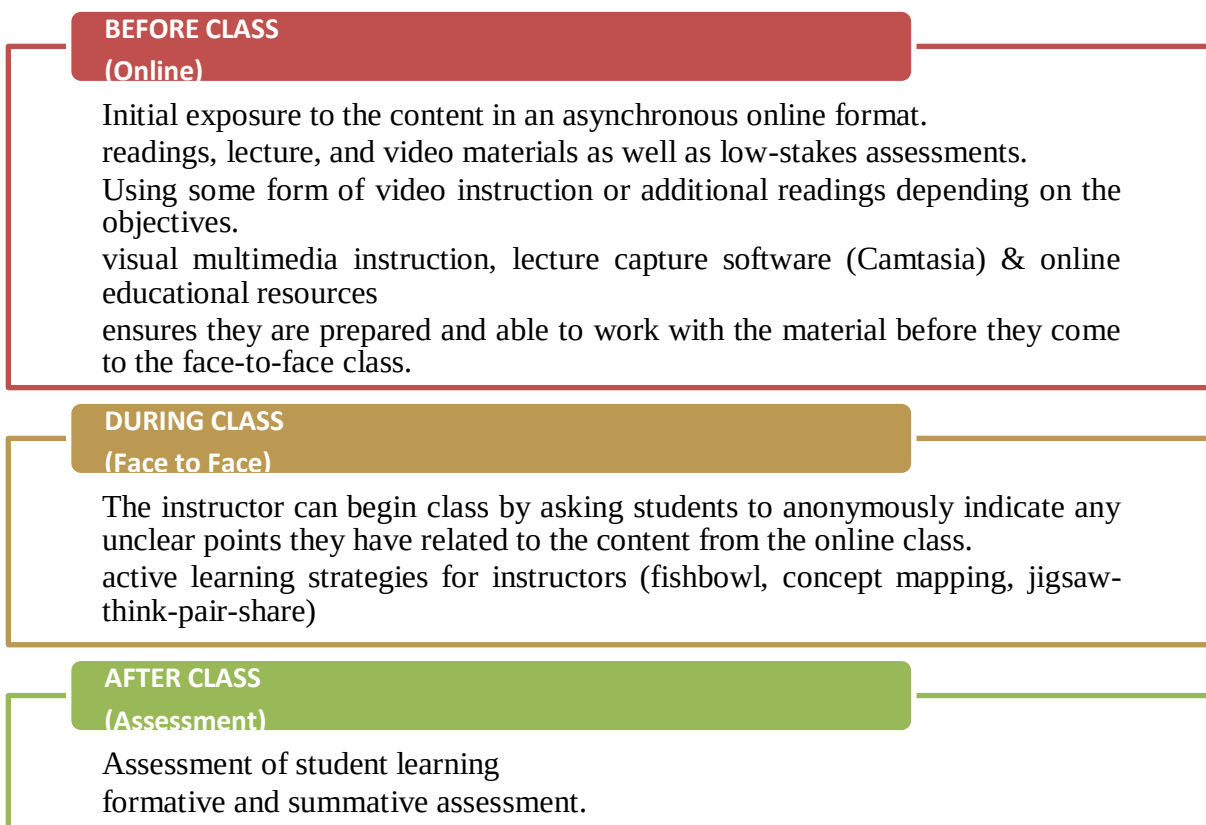


Figure 22 Good Practices for the Blended Learning

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Flipped Learning Sample

Implementation		Explanation
<i>Before Class</i>		
1.	Students are asked to watch a recommended movie before they are taught a particular subject.	Course: Psychiatric Nursing Subject: Schizophrenic Disorders and Nursing Care Recommended movie: A Beautiful Mind (2002)
2.	Students watch the recommended movie.	The students are asked to watch the movie and note down their observations about it one week before the class.
3.	Students watch the video lecture that teacher has prepared before coming to class.	The teacher wants the students to watch the video lecture about "Schizophrenic Disorders and Nursing Care" before coming to class.
<i>During Class</i>		
4.	The students are divided into groups.	Three groups are created.
5.	Discussion questions are determined, and topics are shared among the groups depending on the content.	1. Determine which symptoms and signs of schizophrenia the character has. Explain how you have come to that conclusion. 2. Determine which subtypes of schizophrenia best explain the character. Explain how you have come to that conclusion. 3. What should be the appropriate nursing care plan for the character? Plan it.
6.	Each group tries to answer the question by establishing a connection between the movie and the topic.	They are expected to do group work.
7.	The groups share the results after the discussion.	The groups share the results in order.
<i>After Class</i>		

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8.	Student performance and learning level are assessed.	The teacher assesses students' level of achieving learning outcomes related to schizophrenic disorders and nursing care (symptoms, prognosis and treatment of schizophrenia, and nursing care plan for symptoms etc.) and group dynamics. Moreover, students make self and peer assessment for their group works.
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Assessment in Blended Learning

If a blended learning model emphasized greater flexibility, choice, and personalization of learning, then assessment practices need to do the same. In order to do this, assessment needs to be directly correlated to the learning outcomes of each course. Automated online tools, such as online quizzes, can help in giving quick feedback on the mastery of the outcomes.

Blended modules may be evaluated with an online questionnaire to explore students' experiences. After completing modules, students may rate learning materials regarding faculty supervision and peer communication. Assessment should provide students useful feedback and should be quick in being returned to the student. Some digital assessment tools (e-portfolio, rubric, online quiz, blog, google form, survey, online journal etc.) that can support while assessing (self-assessment, peer assessment and teacher assessment) blended learning environments are shown in Figure below.

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Figure 23 Assessment in Blended Learning

Advantages/ Benefits of the Blended Learning

There can be some benefits of implementing blended learning. These can be summarized as follows (Hew & Lo, 2018; Peterson, 2009; Westerlaken, et al., 2019):

- Students take ownership of their learning.
- Online learning helps prepare face-to-face educational meetings.
- No temporal and spatial limitations
- Learners can determine their own pace of learning and start and follow courses as they please.
- It contributes to students' motivation and satisfaction. They feel comfortable while learning in this kind of environment.
- A recent meta-analysis shows that “flipped classroom” improves learning in healthcare professionals better than conventional teaching methods (Hew & Lo, 2018).

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- Blended learning encourages learners to communicate with one another and discuss content both during face-to-face meetings and during online modules.
- It replaces passive homework assignments (such as reading articles etc.) with interactive online activities.
- Course presentation, lecture notes and/or application videos can be uploaded online, which would enable educators to spend more time on learners in classroom.
- It allows educators to spend less time on face-to-face teaching.

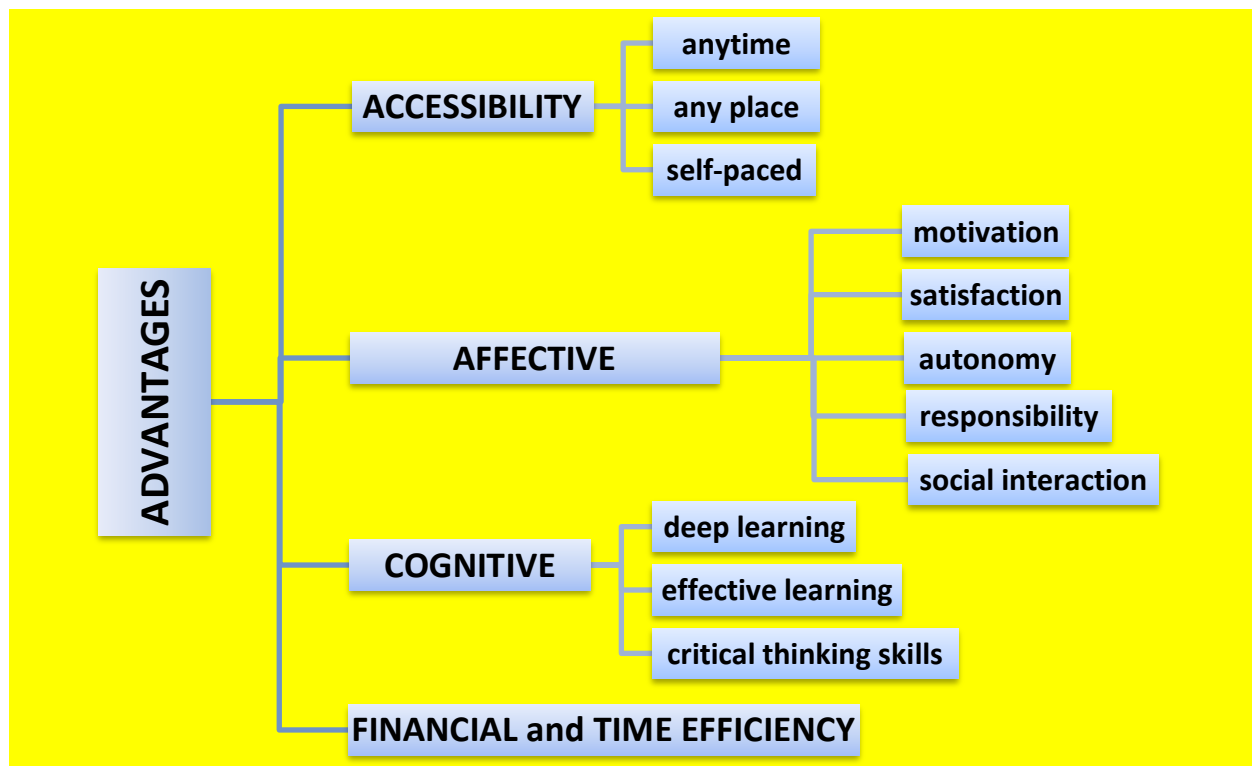


Figure 24 Advantages of the Blended Learning

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Disadvantages/ Limitations/ Difficulties of the Blended Learning

There can be some limitations of implementing blended learning. These can be summarized as follows:

- Students may not like online learning, group work and/or collaboration. They may feel confused and uncertain about what is expected of them (Wheeler, Yeomans, & Wheeler, 2008).
- Impact on teachers' workload: It can be time consuming for lecturers to prepare lessons in this environment. Teachers need training and time to prepare course materials.
- Students and teachers may need technical support for using technology effectively.
- Teachers may have a fear of losing control over the course.
- Students' motivation may decrease since the interaction between the lecturer and student is limited in blended learning environments.
- All students may not have self-regulation skills (time management, active involvement etc.)
- Some technological issues (privacy concerns related to technology, bandwidth issues, technology infrastructure etc.) may be a problem.
- Administrative and technical support is always needed since it is better for teachers to devote their energy for blended learning (defining pedagogical strategies, developing creative ways of interaction, choosing optimal e-learning materials etc.) instead of these tasks.

Collaborative Learning

“Collaborative learning” is a term used for a variety of educational approaches that involve joint intellectual efforts of students with other students and teachers. Usually, students create a product,

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working with each other searching for understanding, solutions, and meanings. Collaborative learning activities are very diverse, but most of them are not related to the teacher's presentation or explanation, but to students' discovery or application of course material (Smith & MacGregor, 1992).

The term “collaborative learning” refers also often to the group, collaborative, interactive, peer, and team learning. More clearly, collaborative learning is defined as any learning activity that includes the coordinated working for the purpose of completing tasks that lead to desired learning outcomes (Pluta, Richards, & Mutnick, 2013).

A theory of collaborative learning concern these four items: criteria for defining the situation (symmetry, degree of division of labour), the interactions (e.g., symmetry, negotiability, ...), processes (grounding, mutual modelling) and effects. The key for understanding collaborative learning is in the relations between those four items at first glance, the situation creates patterns of interactions, which trigger cognitive mechanisms that cause cognitive effects. Most relations are reciprocal (Dillenbourg, Baker, Blaye, & O'Malley, 1995).

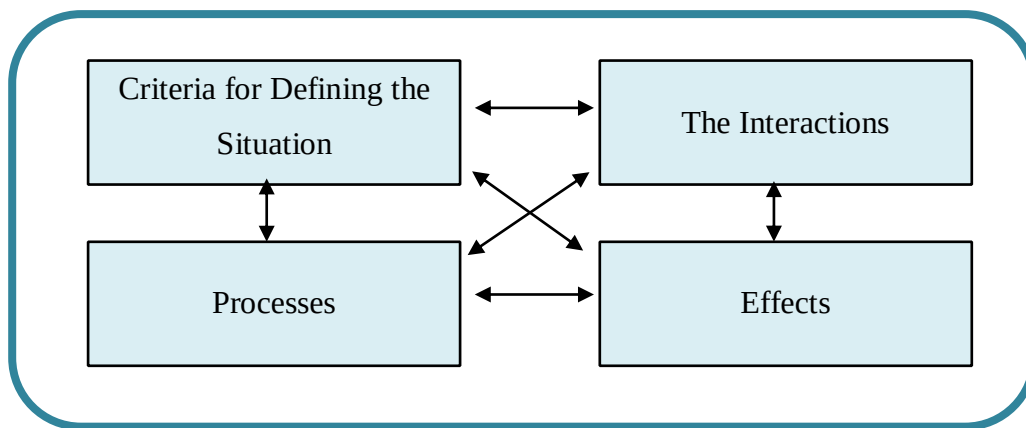


Figure 25 Collaborative Learning Scheme

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Students' Roles

According to the collaborative learning, the students work collaboratively with together and students learn to take responsibility for monitoring, adjusting, self-questioning, and questioning each other. Some of students' roles can be summarized as follows:

1. Group members must know that the group is a whole and that other members are responsible for the success or failure of one of the groups.
2. Group members with different abilities, different body developments and different learning backgrounds go to a common goal and make better friendships in group work.
3. Group members complete one part of the task, helping each other by teaching one another.
4. Group members should discuss about what kind of relationships are going well and want to discuss which improvements can be made.
5. Teams need to be supported to evaluate team work (Istifci & Kaya, 2011).



Figure 26 Expectations from the students

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Teachers' Roles

The role of teacher/supervisor/expert is critical for the success of the application of collaborative learning. It is assumed that teachers have four main roles to realize collaborative learning. These are educational, social, administrative and technical roles. Some of teachers' roles can be summarized as follows: (Istifci & Kaya, 2011).

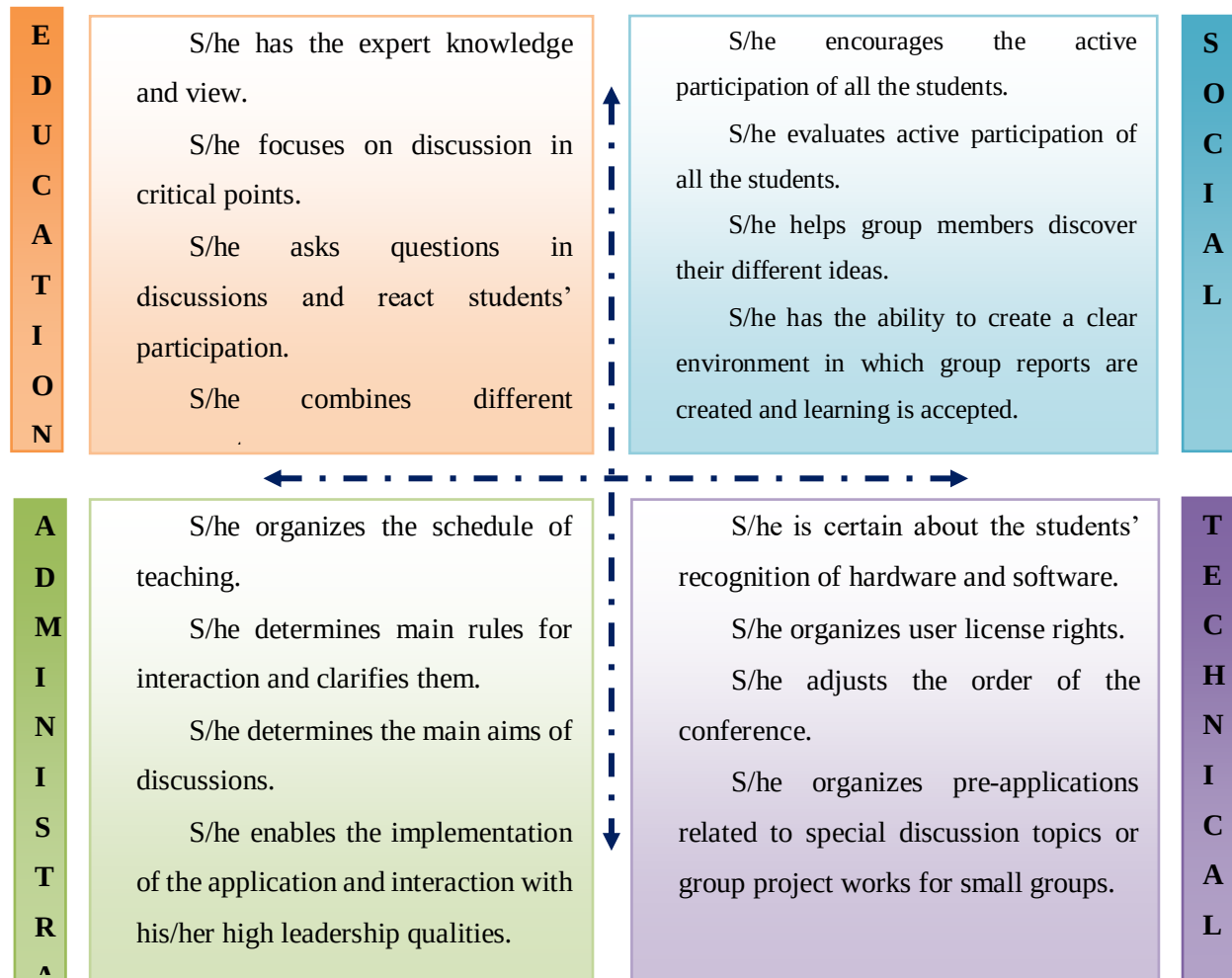


Figure 27 Collaborative Teachers' Competencies

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How to implement the Collaborative Learning?

Tips for Implementing Collaborative Learning

Collaborative learning represents a significant transform from the traditional teacher-centered or lecture-centered in college classrooms. In collaborative classrooms, the teaching / listening / note-taking process may not disappear completely. However collaborative approach contains with other processes based on students' discussions and active study with course materials (Smith & MacGregor, 1992). Collaborative groups are a heterogeneous group which is combined according to feature of ability, gender and ethnic group.

A successful cooperation cannot be achieved without a specific planning or training scale. Teachers have to do more than setting groups and telling them to study together. First, teachers should guide students as to what to do to gain the social skills. Teachers should help students understand what social skills mean. Secondly, students need to try to use these social skills. The scenarios designed by teachers' students could practice are the better way of applying social skills. Third, students should reflect on the use of social skills. They need to talk about whether they have achieved the targeted skills in their group (Istifci & Kaya, 2011).

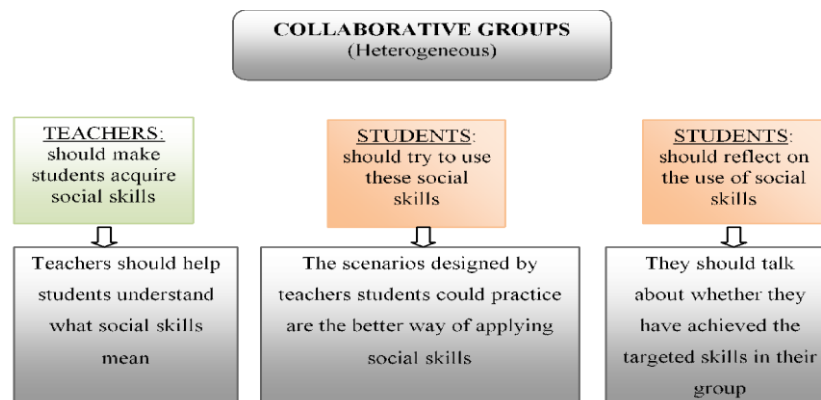


Figure 28 Collaborative Learning Techniques

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Collaboration improves student's academic achievement, attitudes and perspective. (Prince, 2004).
The teamwork develops students' professional skills, which is a part of the learning outcomes of the academic degree (Honkala, Heikkinen, Lehtovuori, & Leppavirta, 2015).

Good Practices

STUDENT-PATIENT RELATIONSHIP

Two or more students are assigned to plan, implement, and evaluate care for one patient. Each learner has a defined role, and all collaborate to meet the learning objective. Various models of dual or multiple assignment exist.

Product: nursing care plan

Process: collaborative, interactive, sharing ideas with together, monitor others' progress (self-evaluation and evaluation of other group members)

1. Three students would read the patient record, review the relevant pathophysiology, and collaborate on an assessment and plan of care.
2. The three students are divided into tasks.
3. Student A reviews information concerning the patient's medications, administers and documents all scheduled and p.r.n. (when-needed) medications, and manages the intravenous infusions.
4. Student B focuses on providing and documenting all other aspects of patient care.
5. Student C evaluates the effectiveness of the plan of care, assists with physical care when needed, interacts with the patient's family, and provides reports to appropriate staff members. Members of the learning team can switch roles on subsequent days.

This assignment strategy is particularly useful when patients have complex needs that are beyond the capability of one student, although it can be used in any setting with a large number of students and a low patient census.

Other advantages include reducing student anxiety and teaching teamwork and collaborative learning. Also, this assignment strategy increases social interaction between students and provides student motivation.

Reference: (Gaberson & Oermann, Clinical teaching strategies in nursing (3rd ed.), 2010)

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Collaborative Learning Methods/ Strategies/ Techniques

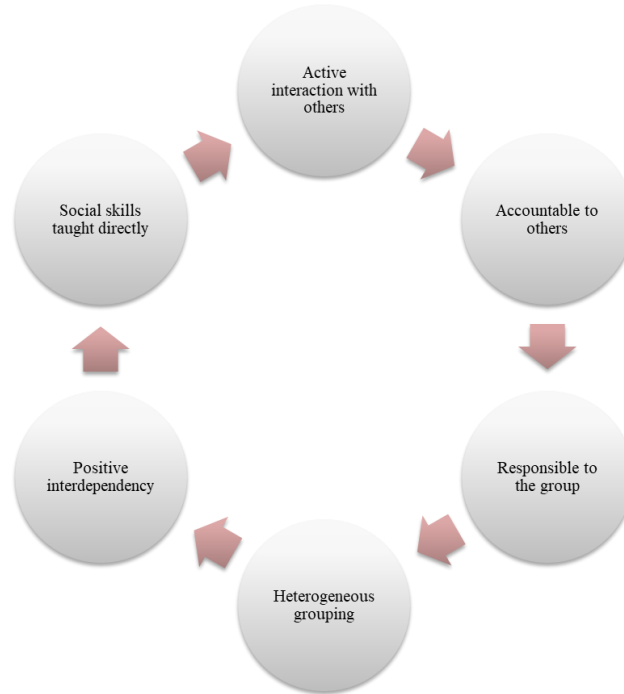


Figure 29 Collaborative Learning Requirements

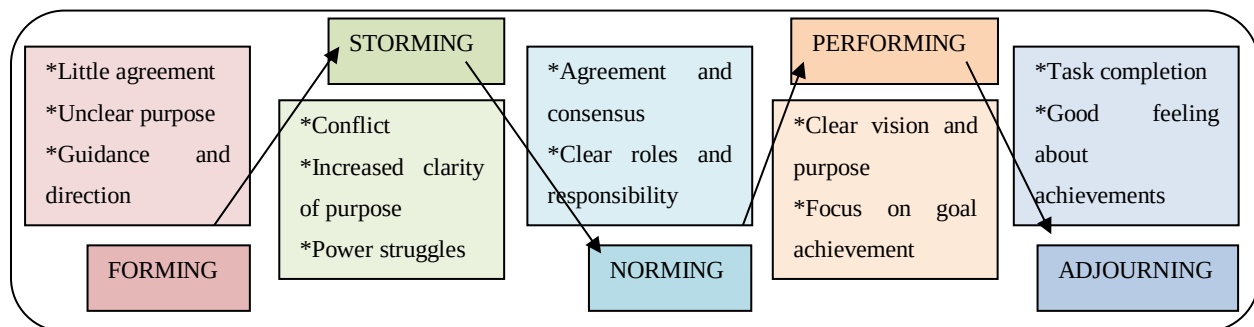


Figure 30 Collaborative Learning Concept Mapping Process (Tuckman's Model, retrieved from: <http://somanagement.blogspot.com/2014/01/group-formation-tuckmans-model.html>)

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Collaborative Learning Tips and Strategies for Teachers

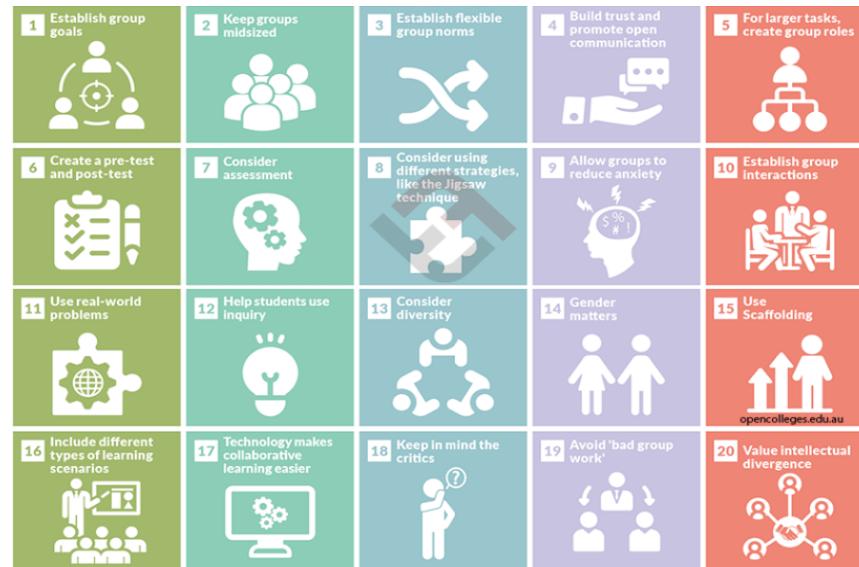


Figure 31 The Strategic Steps of Collaborative Learning (Retrieved from: <https://www.teachthought.com/pedagogy/20-collaborative-learning-tips-and-strategies/>)

Collaborative Learning Techniques

This CoLT	is a technique in which students...	It is particularly useful for...
Think-Pair-Share	think individually for a few minutes, and then discuss and compare their responses with a partner before sharing with the entire class.	preparing students to participate more fully and effectively in whole class discussions.
Round Robin	generate ideas and speak moving from one student to the next.	structuring brainstorming sessions and ensuring that all students participate.
Buzz Groups	discuss course-related questions informally in small groups of peers.	generating lots of ideas quickly to prepare for and improve whole class discussions
Talking Chips	participate in discussion; surrender token each time they speak.	ensuring equitable participation
Critical Debates	assume/argue the side of an issue opposite of their personal views	developing critical thinking & encouraging students to challenge their assumptions
Note-Taking Pairs	pool information from their individual notes to create an improved, partner version.	helping students acquire missing information and correct inaccuracies in their notes and learn to become better note takers.

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Learning Cell	quiz each other using questions they have developed individually about a reading assignment or other learning activity.	engaging students actively in thinking about content and encouraging them to challenge each other to pursue deeper levels of thought.
Fishbowl	form concentric circles with the smaller, inside group of students discussing and the larger, outside group listening and observing.	providing opportunities for students to model or observe group processes in a discussion setting.
Role Play	assume a different identity and act out a scenario.	engaging students in a creative activity that helps them "learn by doing."
Jigsaw	develop knowledge about a given topic and then teach it to others.	motivating students to learn/process info deeply enough to teach it to their peers.
Test-Taking Teams	prepare for a test in working groups, take the test individually, and then retake the test in their groups.	helping students assess and improve their understanding of subject matter as they also teach each other test-taking strategies.
(TAPPs)	solve problems aloud to try out their reasoning on a listening peer.	emphasizing process (not product) and helping students identify process errors.
Send A Problem	try to solve a problem as a group, and then pass the problem and solution to a nearby group who does the same; the final group evaluates the solutions	helping students practice together the thinking skills required for effective problem solving and for comparing and discriminating between multiple solutions.
Case Studies	review a written study of a real-world scenario and develop a solution to the dilemma presented in the case.	presenting abstract principles and theories in ways that students find relevant.
Structured Problem	solving follow a structured format to solve problems	dividing problem---solving processes into manageable steps so that students learn to identify, analyze, and solve problems in an organized manner.
Analytic Teams	team members assume roles and specific Tasks when critically reading an assignment, listening to a lecture, or watching a video.	helping students understand the different activities that constitute a critical analysis.
Group Investing	plan, conduct, and report on in---depth research projects.	teaching students research procedures and gain in---depth knowledge.
Affinity Grouping	generate ideas, identify common themes, and then sort and organize the ideas accordingly.	unpack a complicated topic and identify and classify its constituent parts.
Group Grid	are given pieces of information and asked to place them in the blank cells of a grid according to category rubrics.	clarify conceptual categories and develop sorting skills.

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Team Matrix	discriminate between similar concepts by noticing and marking on a chart the presence or absence of important, defining features.	distinguish between closely related concepts.
Sequence Chains	analyze and depict graphically a series of events, actions, roles, or decisions	understand processes, cause and effect, and chronological series, and organize information in an orderly, coherent progression.
Word Webs	generate a list of related ideas; organize them in a graphic with relationships indicated by lines/arrows.	figure out and represent relationships. Like maps, they can show both the destination and the sites and sights along the way.
Dialogue Journals	record their thoughts in a journal that they exchange with peers for comments and questions	connect course work to their personal lives and to interact with each other in content---related and thoughtful ways.
Round Table	take turns responding to prompt before passing the paper along to others who do the same.	practice writing informally and to create a written record of ideas.
Dyadic Essays	write essay questions/model answers, exchange questions, and after responding compare their answers to the model answer.	identify the most important feature of a learning activity and formulate and answer questions about that activity.
Peer Editing	critically review and provide editorial feedback on a peer's essay, report, argument, research paper, or other writing assignment.	develop critical editing skills and give each other constructive criticism to improve papers before they submit them for grading.
Collaborative Writing	write a formal paper together.	learn and perform the stages of writing more effectively.
Team Anthology	compile course---related readings with student and annotations.	experience the research process without writing a formal research paper.
Team Anthology	compile course-related readings with student and annotations.	experience the research process without writing a formal research paper
Paper Seminar	write/present an original paper, receive formal feedback from peers; engage in a general discussion of the issues with group.	develop critical editing skills and give each other constructive criticism to improve papers before they submit them for grading
Scavenger hunt	find a set of items on a list.	learn and perform the stages of writing more effectively.
Quiz	answer questions correctly to receive a chip to place on a board as they strive to cover five sequential spaces.	introducing or reviewing factual content.

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Team jeopardy	Choose categories/point values of? as to answer.	requiring students to think about content in new ways.
Friendly Feud less correct.	provide multiple correct answers to a prompt question.	helping students to understand that there can be multiple answers to a question and that those answers can be more or
Team Games Tournaments	work in heterogeneous teams to learn content and compete in homogeneous teams to earn points for the home team.	helping assess student mastery of a specific body of content
Reference: https://library.gwu.edu/sites/default/files/tlc/CoLT%20Quick%20Reference.pdf		

Assessment in Collaborative Learning

The critical principle for the evaluators is that the instructor does not play any passive role in the collaborative learning class. Collaborative learning approach is structured learning method. It transforms from the traditional one to a collaborative structure. The features of the collaboration approaches that an external evaluator should consider can be summarized as follows:

1. The nature and quality of the task statement.
2. The environment of the collaborative activity and student's behaviour during the execution of the task.
3. The behaviour of the teacher during the execution of the task.
4. The role of teacher in group administrates.
5. The reports' nature and quality made by each group.
6. The performance of teacher as synthesizer and as representative of the academic learning community.
7. The relation between design of course and collaborative activity.
8. The teacher's knowledge of and commitment to the rationale of collaborative learning (Wiener, 1986).

Advantages/ Benefits

The main goal of collaborative learning is to obtain common knowledge and use this knowledge to solve a problem. It is beneficial for the teachers who want their students to get benefit and share

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it with each student. Some studies have shown that collaborative learning is more advantageous, especially when students failed in traditional education system. Collaborative learning to student offers a positive social environment and provides percept easily. It is based on the idea that students who work collaboratively with a common aim learn better than students who work individually. The students' aims are to want to the other students' success, have motivation and teach each other to accomplish learning objectives. Students are required to present their ideas and study on differences of ideas. They are encouraged to think about the content of the lesson and use this content to fulfil group aim (Istifci & Kaya, 2011). Some of the benefits of effective collaborative learning are shown in the Figure below.

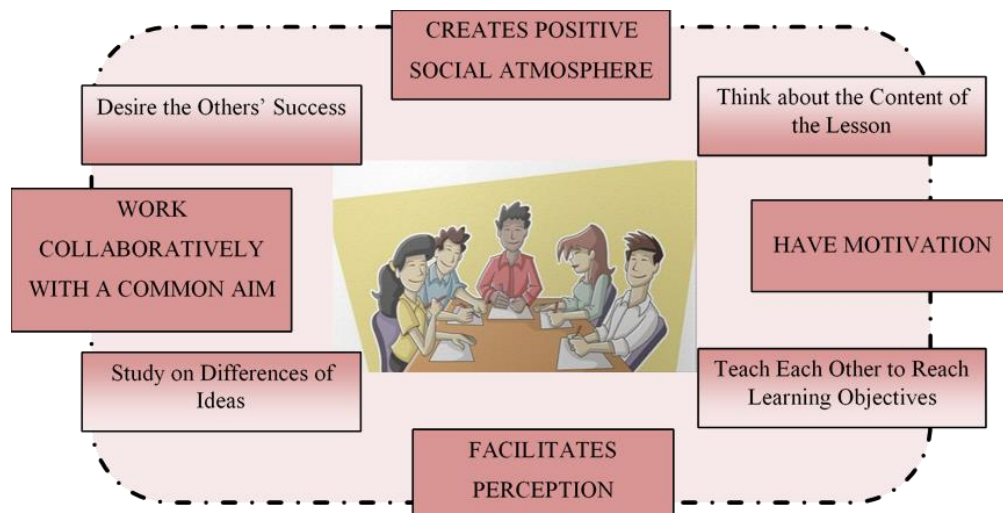


Figure 32 Collaborative Learning Advantages

Disadvantages/ Limitations/ Difficulties

In collaborative learning, teachers and students may be exposed to several important issues.

Collaborative classrooms tend to be noisier than traditional classrooms.

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1. Students need opportunities to move about, talk, and ask questions. So, structure becomes critical. Collaborative classrooms do not lack structure.
2. Teachers and supervisors may believe that new lesson plans should be created for these classes. However, many teachers can create engaging activities that are easily implemented in an already collaborative classroom.
3. Heterogeneous grouping may become some concern. First, most teachers do not believe that the student can contribute to the learning situation if the student fails. Second, teachers believe that high-performing students will adversely affect their learning status within these groups.
4. A related concern is that many schools are structured homogeneously. The teacher should make changes in all schools to create heterogeneous groups. Obviously, these conditions are not conducive to supporting collaborative learning and therefore the system must be restructured.
5. Students are used to individual evaluation and their parents want to see their child's success at school. In collaborative classrooms, it is often difficult to give individual grades to students. Some teachers give a group grade, but many students and their parents are not happy with it.
6. In collaborative learning, when students are asked to make major changes, they may be reluctant. It is difficult to find a student who wants to give up a familiar way of behaving and choose a new behaviour that will give him difficulty to attempt something (Tinzmann, et al., 2019).

Some of the main challenges/conflict of collaborative learning is shown in the Figure below.

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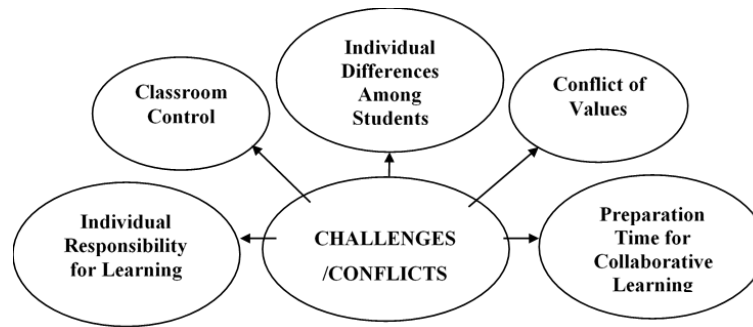


Figure 33 Collaborative Learning Disadvantages

Coaching Learning Approach

What is Coaching?

Designed consciously through collaboration, coaching is an activity that motivate people to achieve a certain goal and improves their quality of life by enhancing their performance. Coaches can be defined as people who applaud, support, motivate, give feedback, strengthen and help people to reach their goals decisively and get them to take responsibility for their decisions (<https://www.performancecoachinginternational.com>).

Coaching vs. Mentoring

The difference between coaching and mentoring is that the former is short-term and performance-oriented in that coaches focus on both the concrete topic and the task while the latter is relationship-oriented and long-term (Pelz, 2014). Some key terms used in coaching can be summarized as follows:

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Figure 34 Key terms in Coaching

Coaching, Teaching and Consulting: What is the Difference?

The differences in these three approaches can be summarized as follows:

Teaching is when a manager models, guides practice, observes practice and offers performance feedback. It is suitable when providing skill or knowledge.

Consulting seeking of answers, guiding, offering advice, and co-creating. It is appropriate during problem solving.

Coaching is providing support to someone to help them overcome internal obstacles to achieve the best. It is appropriate when a manager realizes that low performance is not related to skill and knowledge gaps (<http://www.keystepmedia.com/coaching-teaching-consulting/>).

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Students' role in implementing Coaching-based Approach

Small student-group training:

It should be a student-centred education model. It depends on the objective, however, 8 to 12 (max: 20) students are recommended. If optimal participation is expected of each student, then the number should be kept low. This training model is:

- Informal
- Egalitarian
- Collaborative
- Risk-free
- Rich in opportunities (deep and diverse learning-self-assessment)
- Fun

Small student-group training:

- Encourages learners to learn independently and to take responsibility for their own learning.
- Develops learners' problem-solving skills in many areas, including diseases.
- Allows learners to interact more with educators, group members and educational materials.
- Helps learners to develop interpersonal relationships, communication, teamwork and presentation skills.

Some skills that students are expected to develop in this learning environment may be summarized as follows:

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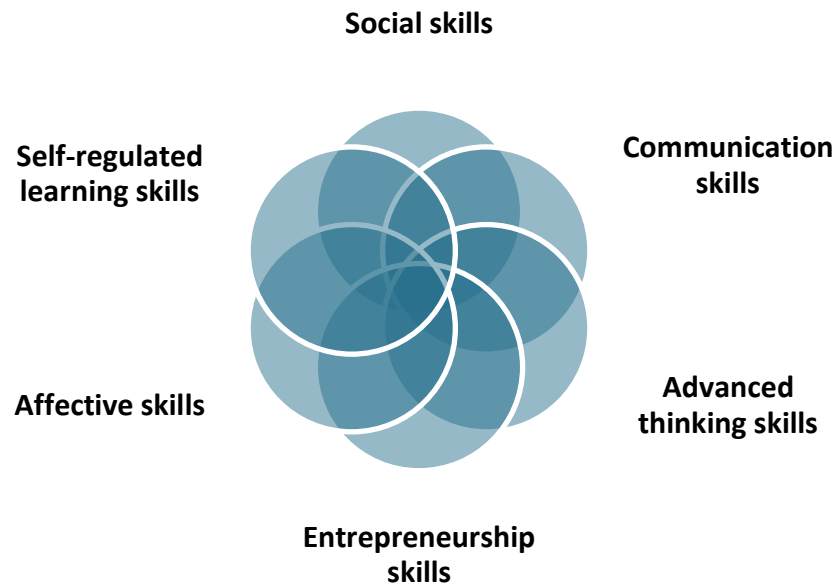


Figure 35 Skills Expected for Students to Develop

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Possible Problems and Solutions in Small Group Studies

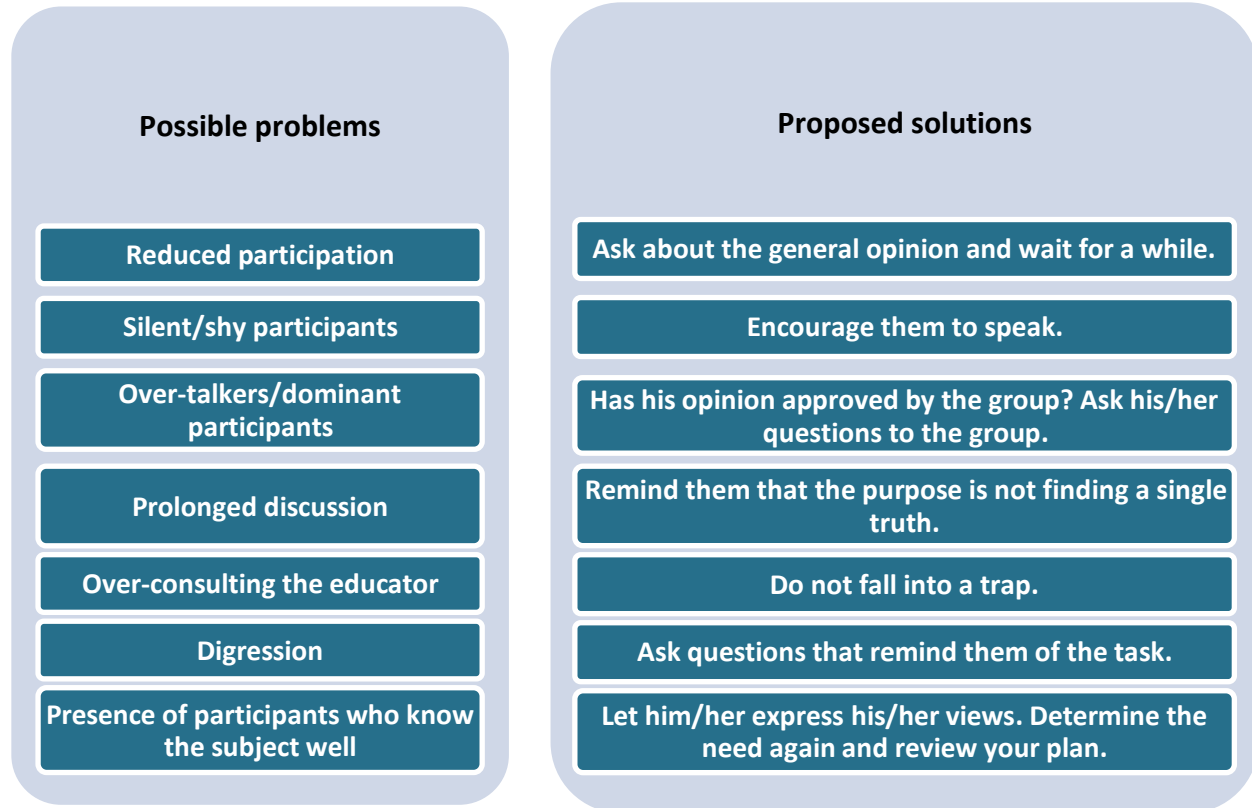


Figure 36 Risk Management in small student-group

Role of the Teachers/ Coaches in Learning

Although the roles of coaches and mentors are broadly alike, the skills required for coaching are deemed appropriate for mentoring as well. Basic skills such as listening actively and using techniques of posing questions, setting goals that improve skills, and giving feedback that increase confidence and performance are critical in coaching and mentoring practices. The following Figure shows the use of these skills.

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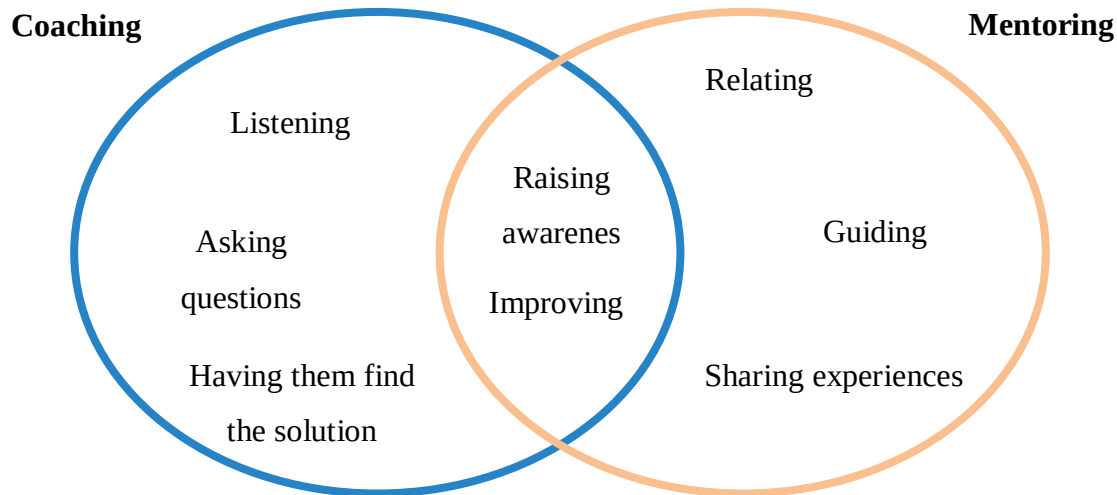


Figure: (Bayraktaroğlu, 2006)

Figure 37 Teachers' Skills

Coaching Skills

The skills referred to as “10 Core Coaching Skills” such as building rapport, listening, questioning, empathizing, receiving and giving feedback and inducing (effective persuasion) are essential for an effective coaching process, and therefore, should be possessed by coaches.

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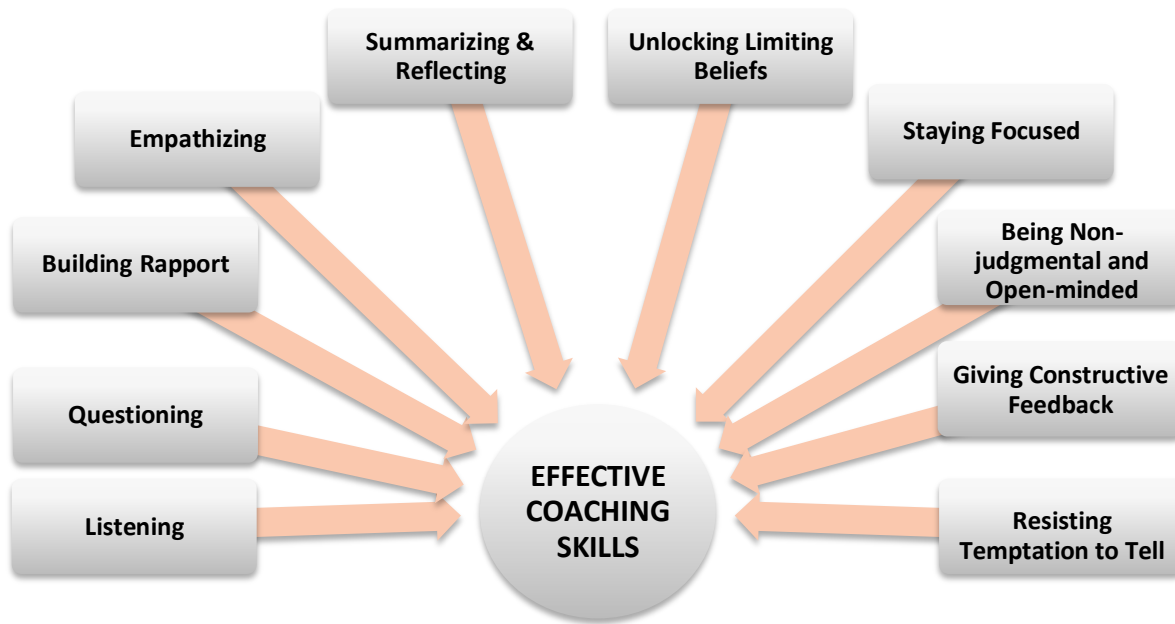


Figure 38 Effective Coaching Skills

Another skill that is as important as these skills is the use of language for the efficiency of coaching meetings. The following figure shows the phrases that are “effective” and “less effective” in language use.

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Effective coaching language	Less effective coaching language
Yes / No Will be / Will not be Doing / Not doing By whom, when Promise I don't know Create When it happens... Claim	I think so / I don't think so Ok / should be / must be Maybe Some day Trying Perhaps / Possible I wish / Hope If it happens Right / Wrong

Figure 39 Language Examples in Coaching (Newton, 2002)

Coaching Cycle

The coaching process is a cycle and summarized as follows:



Figure 40 Coaching Cycle

The coaching cycle consists of several steps taken by the coach; determining a method, time and purpose for observation, collecting observational data, analysing the data, and the coach and trainees sharing and analysing data after the process (Moore, 2013).

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The coach should pay attention to the following elements (given in Figure) when giving supportive feedback to trainees. Giving feedback is an essential communication skill. Especially supportive feedback allows you to give your opinion in a clear and precise manner. It is an important cornerstone of assertiveness. Supportive feedback allows you the opportunity to help the other person develop a clearer picture of their life, thoughts and behaviours.

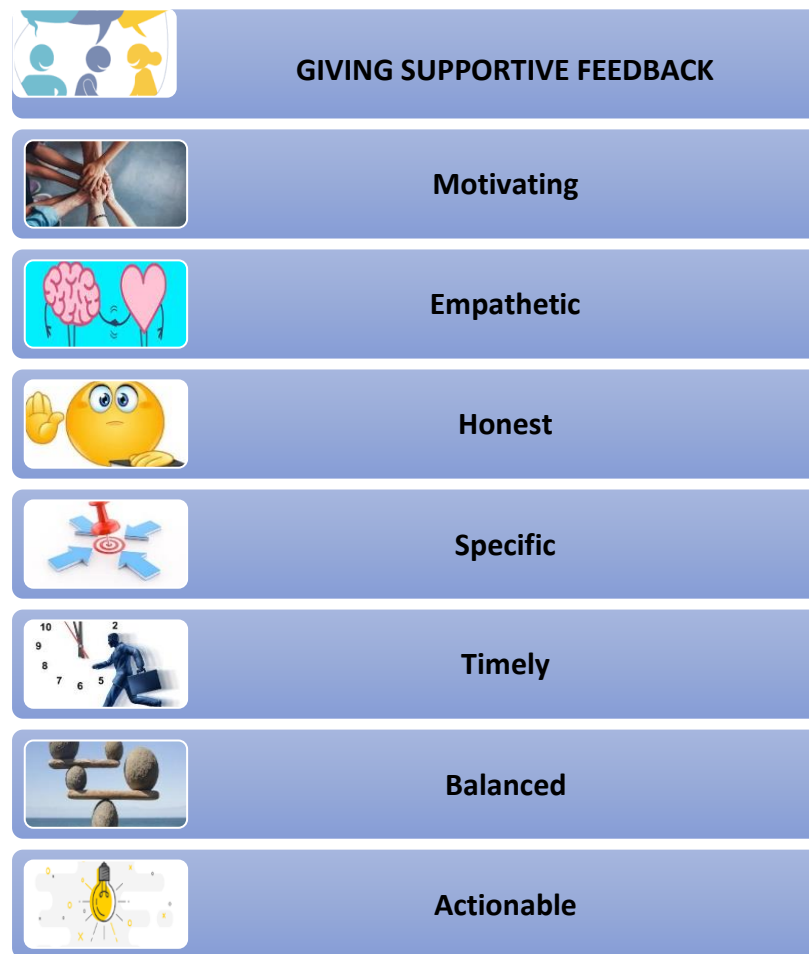


Figure 41 The impact of the “Supportive Feedback”

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Facilitation Tools and Methods

Meetings and workshops are important part of work for most of us. Their usefulness depends a lot on their design and implementation. It is important to have a diversity of workshop activities and a balanced mix of group activities for any session be it a strategic workshop, a team retreat, a kick-off meeting, a co-creation session or a regular project meeting. It is essential to pick the most appropriate interactive workshop activities for your session, so that they will fit perfectly with your objectives, group size, profile of attendants, and time frame. It is also important to have a mix of different workshop activities to avoid over using same workshop activities. The best ways to equip yourself with new group facilitation methods include: asking experienced colleagues to share their tips and/or reading books on workshop facilitation and if you don't have time, you can browse the internet for workshop facilitations tips (<https://www.sessionlab.com/blog/free-online-workshop-resources/>)

How to implement Coaching Methodology?

Main techniques for facilitating group-work

The following chart provides various techniques that might be useful for facilitators in different group situations. The procedures associated with the following techniques are discussed in detail later on in this document (<http://www.authenticityconsulting.com/misc/facilitation-techniques.pdf>).

Common Techniques	Common Application in Groups
Brainstorming	Coming up with broad range of new and creative ideas
Consensus	Make a collective decision that most of the participants agree with.
Discussion	Sharing of opinions and comments among group members to explore or clarify a topic, during decision making

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Facilitator intervention	The techniques which are used by the facilitator to strengthen a constructive practice or discontinue a destructive practice
Ground rules	These are rules and guidelines used to hold group members to a certain code of conduct during meetings.
Meeting agendas	Is important to ensure participants are focused on topics at hand, their order and their timing
Meeting management	Ensure participation and group processes are highly effective and efficient in a meeting; can be achieved through the facilitation techniques, in addition to planning and following up the meeting
Nominal Group Technique	Enables the collection, organization and summarization of a wide range of ideas from group members to generate a group consensus
Parking Lots	Listing a topic or question to be discussed later by the group
Round-Robin	Ensure all ideas from all participants are completely collected
Stories	Descriptions of experiences meant to pass important learnings

Coaching technique outcomes

The following are the expected outcomes of Coaching, regardless of its type.

- Enabling the trainee to discover the goals
- Being realistic
- Enabling the trainee to discover his/her own resources
- Giving positive and constructive feedback
- Unveiling the trainee's strengths
- Ensuring that the learner takes responsibility for learning
- Personalizing each coaching process

The effective use of instructional technologies together with these building blocks in the coaching process will contribute to the dissemination of the coaching practices (Go, et al., 2009). The use of coaching in medical and health sciences education will turn students into more qualified and self-confident individuals who improve themselves constantly.

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