



# Heliopolis University for Sustainable Development

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## Education for Sustainable Development Program

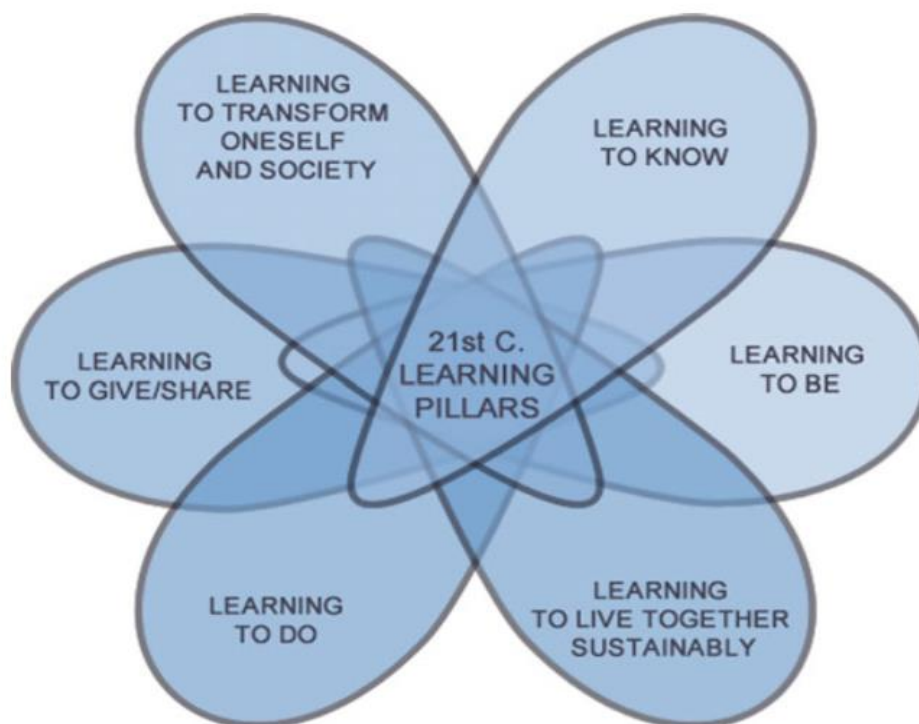
### Synopsis

“The volume of education has increased and continues to increase, yet so do pollution, exhaustion of resources, and the dangers of ecological catastrophe. If still more education is to save us, it would have to be education of a different kind: an education that takes us into the depth of things which is Education for Sustainable Development (ESD) (as cited in Sterling, 2011). This quote reveals one main challenge that the globe is facing currently; that the education which is supposed to solve the environmental and sustainability issues, is considered as part of these challenges (Sterling, 2011, P. 17). This will lead us to the dilemma of the role of education in sustainability issues. Sterling (2011) assumes that there is a global consensus that learning itself is generally accepted as a good thing. Based on this assumption the question here is how to make this education more efficient and more relevant to sustainability issues and Sustainable Development (p. 18). When it goes back to SEKEM vision for education where every human being can unfold his or her individual potential in order to live and act according to sustainable development values and principles. To implement this on the ground we have some references to support; the UNESCO pillars for education for sustainable development as follows:

### The 21<sup>st</sup> Century Pillars of Learning

In 1996, the international commission on education for 21<sup>st</sup> century published a report to be presented by UNESCO under the chairmanship of Jaques Delors. In this report the commission stated that education during life is based on five main pillars as following:

- **Learning to know:** The ability to grasp a broad general knowledge to be the base for the lifelong learning with emphasis on more in depth education for specific area of knowledge.
- **Learning to do:** The ability to acquire competences the empower learners to deal with different works situations.
- **Learning to live together:** The ability to work with community, respect the other people's work and appreciate the interdependence. The ability to work in joint projects with respect for the values of diversity
- **Learning to be:** The ability to employ a greater sense of autonomy and personal responsibility for reaching the common goals
- **Learning to give and share:** This type of learning concerns all the processes and practices that promote solidarity, generosity and caring to meet human needs as learners gain a sense of purpose and meaning for their learning and civic engagement “
- **Learning to transform oneself and society:** The ability to integrate the essential values of SD to all features of learning to empower learner to shape their common future to be more sustainable (UNESCO, 2015).



**Figure 1: 21st century learning pillars**

As mentioned above that the volume of learning currently didn't achieve the aspired goals for sustainable development and the teachers all over the world have to reorient their methods to be matching with the 21<sup>st</sup> century skills to be able to overcome all the global challenges that humanity are facing now. From this point the Center of Education for Sustainable Development (CESD) as part of Heliopolis University is taking the initiative to establish an academic program for ESD tailored for HU Faculty teaching staff. This program intend to enable them to be effectively connected with the University vision which is: *"Heliopolis University is a pioneer scientific establishment that strives for the sustainable development of individual consciousness, economic solidarity, social justice, and environmental balance in Egypt and the world"*

The main goal of this program is to enhance their teaching and learning competencies based the principles of Education of Sustainable Development. This program is postgraduate on the job program as the faculty teaching staff are learning and studding while they are on the job. The main approach of the program is the participatory learning approach; as we, HU members sharing knowledge, skills and best practices & experiences together in dynamic, vivid and structured way.

The decision to begin an on the job postgraduate program is a tough one. In addition to all the activities and studies that the candidate has managed so far, he has now enrolled himself in a unique study program. For sure it will be an additional load and effort but to make it clear for you, it deserves to take this adventure for his significant participatory learning experience. In fact all candidates have taken the first steps when they joined the capacity building sessions and the weekly pedagogical meetings. Now all these pits and pieces will be grouped together in solid and dynamic structure.



## Procedures

We as **Center of Education for Sustainable Development - CESD** (Dr. Omar Ramzy, Mohamed Anwar, and Moamen Ghanem) followed these steps to conclude the structure of this Program:

- 1- Conducting a qualitative survey to be distribute to all Faculty teaching staff at HU
- 2- Conducting in depth interviews with the key persons and the head of the departments at HU
- 3- Do literature review to the similar on the job diplomas in the field of ESD
- 4- Taking in to consideration the vision and mission of SEKEM and Heliopolis University for Sustainable Development

The above hereunder courses will be taught within the normal schedule of the university as faculty teaching staff will enroll themselves in 2 courses at least by semester maximum.

The instructors will be from HU and external experts as well. The HU staff will arrange their schedule of teaching and learning in a way that could enable them to achieve the peak performance in both sides. The assessment tools will be diversified based on the course instructor and mainly the focus will be on the authentic methods. This structure of this program will be based on the credit hours system that we are approaching at HU. And it will be divided into 4 study fields as follows:

### **1. Study Field A: ESD Pedagogy & Andragogy (Teaching adult learners)**

In this study field; the learners will be introduced collaboratively to the learning theories and try to answer the main question of how people learn. The majority of the staff are coming from non-pedagogical disciplines; Pharmacy, physiotherapy, Engineering, Agriculture and Business. They are not prepare to be teachers for such critical age and they lake of skills and competencies in this dimension. This is fact and we have to deal with it. In this part of the program they will be introduced to basics of learning theories, they will do application in their subjects and the next step to go deeply into the principles and practices of ESD. Technology is taking great part in 21<sup>st</sup> century learning and teaching competencies and we focus on this in the ICT for ESD course. Innovative and interdisciplinary teaching methods are another extension to this study field. Having said that it is preferable for each candidate to complete ESD from a holistic view course in the beginning of the program. As this course pave the way to the other courses in the program.

### **2. Study Field B: Education: Theory & Practice**

In this study field we focus on the practicing of what we have learned in study field A. This means for the best scenario candidates of the program have to first pass by study field minimum 2 courses. The course basic of effective teaching is real example for this and we designed it based on the needs of teachers inside class rooms and in front of students. This course is being taught by different instructors with different formats. Evaluation is main part of learning process and evaluation within ESD approach has to authentic and in a process format. This course is one of the innovative courses we designed for different candidates in different faculties.

### **3. Study Field C: Arts & Aesthetics**

Art and aesthetics are main components of the human holistic development. At HU this is implemented in reality through core program activities and courses with HU students. In our program in study field C we offer 4 main art courses as follows:

- **Movement**
- **Music**
- **Fine Arts**
- **Acting**

The program as all postgraduate programs offers a variety of courses to meet all the needs of HU staff. In this regard we have some elective courses that we update on a regular basis to be up to date with the new and innovative methods and practices all over the world. In study field A & B we offer many courses to be selected after the mandatory courses.

### **4. Study Field D: Guest Speakers and short seminars**

As HU hosts regularly experts from all over the world, we offer in the ESD program short and condensed seminars in different fields by these experts. These seminars are added to the credits of the ESD program. One of these seminars is Gotheanism that we offer for pharmacy & Physical Therapy

#### **Cross Cutting Themes (within the courses)**

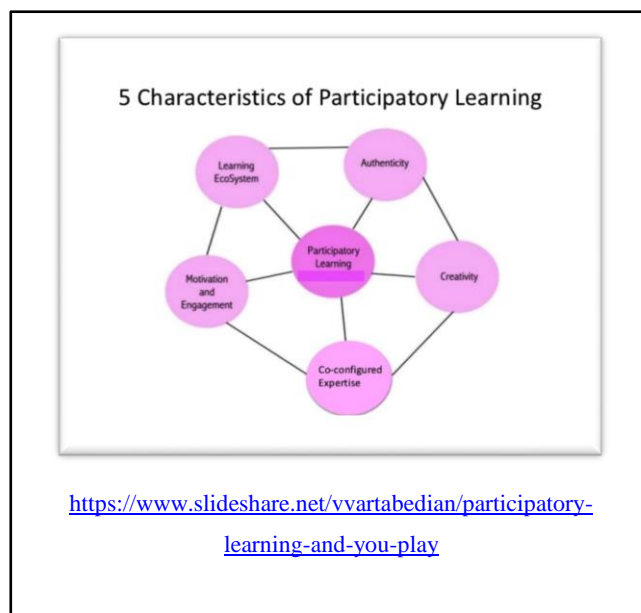
Within all courses and seminars the hereunder topics are embedded directly or indirectly as part of ESD principles and practices.

1. Teambuilding
2. Communication and Cooperation
3. Teaching Competences
4. Leadership Skills
5. Critical and Creative Thinking
6. Emotional Intelligence
7. Human Development
8. Community Based Learning

#### **Participatory learning approach:**

The Participatory Learning Approach (PLA) will be the main approach of teaching and learning during the estimated two years of the diploma. It is about engaging learners as active participants in the full life cycle of study, projects and practices. PLA's core idea is that learners design the questions or projects, execute them, and then assess and evaluate their peers' solutions and products and vice versa. PLA has the following two major objectives.

- To increase learning of course materials (primarily) and assessment skills (secondarily).
- To provide and evaluate a systematic, collaborative approach to learning assignments, projects and analyses, focusing on active participation and peer evaluation.





## ESD Program Regulations

### Article 1 Degree Awarding

The full time candidates from HU staff upon the completion of the ESD program requirements will receive a certificate of completion the ESD program. This certificate will support his or her promotion at HU.

### Article 2 The Educational System for the ESD program

Credit-hour system is applied for the ESD program. Accordingly, the program is divided into 4 study fields with mandatory and elective courses of different weights regarding CHs. The Credit-hour is a standard unit of measurement used to specify course load and in general 1 CH equal 1 contact hours/week within the entire semester (12 weeks). In addition to these contact hours, the course participants have to work on assignments, presentations and other requirements relevant to the course.

### Article 3 Graduation Minimum Credit Hours

In order to graduate from the ESD program you have to complete efficiently 18 CHs within 8 semesters (2 years and half). Surely, it is possible for anyone to complete the 18 CHs before the end of the 8 semesters if he or she can.

### Article 4 ESD Program Curriculum

The curriculum of the ESD program is a vivid curriculum as the ESD team revises it with support from experts all over the world on a regular basis based on the feedback we receive from the participants and the updates in ESD field. Meanwhile, the current version of the program in 2020 includes the following collection of courses:

## Mandatory Courses (14 CHs)

Course Code	Course Name	Credit Hours
<b>Study Field A: ESD Pedagogy &amp; Andragogy (Teaching adult learners)</b>		
ESD.A01	Education for Sustainable Development from a Holistic View	2
ESD.A02	The Usage of Information Communication and Technology for ESD	2
ESD.A03	Innovative & Interdisciplinary Pedagogical Methods for ESD	2
<b>Study Field B: Education: Theory &amp; Practice</b>		
ESD.B01	Basics of Effective Teaching	2
ESD.B02	Educational Assessment & Authentic Evaluation	2
<b>Study Field C: Arts &amp; Aesthetics</b>		
ESD.C01	Fine Arts for Creativity	1
ESD.C02	Drama and Speech	1
ESD.C03	Movement and Body Awareness	1
ESD.C04	Music as a Global Language	1



### Elective Courses (4 CHs)

ESD.A04	Research Methodology & Scientific writing	2
ESD.B03	Statistical Software for Educational Research	2
ESD.B07	Principles of Sociology	2
ESD.B04	Educational Psychology & Adolescence' Characteristics	2
ESD.B05	Philosophical Inquiry	2
ESD.A05	Inter-Cultural Competencies for ESD	2

### Study Field D: Guest Speakers and short seminars

ESD.D01	Gotheanism (Dr. Axel Ziemke)	1
ESD.D02	Lively Learning (Dr. Ulrich Muller)	1
ESD.D03	Human Variations (Dr. Said Haleem)	1
ESD.D04	Community Based Learning (Dr. Omar Ramzy & Mr. Mohammed Anwar)	1
ESD.D05	Leadership Competencies (Dr. Omar Ramzy & Mr. Mohammed Anwar)	1
ESD.D06	Modern History (Dr. Ahmed Ghobashy)	1

### Total CHS of the ESD Program

**18 CHs**

### Article 5 Pre-requisite Courses

The 14 CHs of the mandatory courses in study fields A, B & C have to be completed as a part of the graduation requirements. The remaining 4 CHs are to be chosen from the elective courses or short term seminars. It is not allowed to start in the elective courses before completing 2 main courses; **ESD.A01 & ESD.B01**.

### Article 6 The ESD Program Coordination

The Centre of Education for Sustainable Development (CESD) is the entity that assigned by the university council for organizing the registration process and its requirements as well as the responsibility of facilitating the communication among the staff, the instructors and the different faculties and departments concerning all academic issues.

### Article 7 ESD Program and Blended Learning

It is possible that some courses can be taught through blended learning facilities. This includes all ICT facilities like Moodle, podcasting, online lecturing and all other digitalized materials. All this, in addition to some face to face interaction in case the instructor will apply blended learning rules (25 % Face to Face & 75 % online and distance interaction)

### Article 8 Participants' Attendance Policy

A participant is required to attend all classes for all courses which he/she registers in by himself according to his or her availability of time. A participant who is absent for more than





20% without a valid excuse will be prohibited from completing the course. He or she can register for it in the coming rounds

#### **Article 9      Maximum Study Period for the Program**

The available courses each semester allow the participants to complete their study program in the optimum time which is 2 years and a half for the full-time staff at HU.

#### **Article 10    The Staff Who Teaches in the Program**

If one of the HU staff will teach in the program this will be calculated for him or her as CHs in his or her 18 CHs record. It will be calculated as double of the courses credit. For example, one staff will teach 1 course with 2 CHs, he will get 4 CHs in his record (once in the entire program)

### **Summary of Course Contents**

#### **Study Field A: ESD Pedagogy & Andragogy (Teaching adult learners)**

##### **ESD.A01    Education for Sustainable Development from a Holistic View**

To enhance your professional awareness, knowledge and commitment to Education for Sustainable Development (ESD), it is necessary to understand the philosophy behind ESD and how it is the approach to integrate the concepts and principles of Sustainable Development. The first step to reorient the teaching methods to be aligned with ESD is to know exactly what ESD is and how it is a holistic approach for teaching and learning. To move from the old teaching model to the new pedagogy aligned with ESD, teachers and TAs need to go deeply into the principles and methods of ESD. They do that in order to reflect on what they are practicing now comparing to ESD. Later on they will be able to decide which direction they should go based on authentic experience and solid knowledge.

The participants will reflect during the course on the following questions:

- What is my personal understanding of Sustainable Development (SD)?
- How it could be beneficial to embed this understanding into my daily work and praxis?
- What is ESD? Why is it crucial for me to master this approach for teaching and learning as HU member?
- Do we have to share best practices? How far is the participatory learning approach beneficial for this program?

The transformational journey towards ESD is hard and requires more efforts of each participant to reflect on his or her own beliefs and values to see if they are fitting or he or she has to transform to ESD. This transformation has to be based on real understanding and solid knowledge and real persuasion and conviction

##### **ESD.A02    The Usage of Information Communication and Technology for ESD**

Teaching in the 21st century is riddled with ICTs that make it possible to offer students opportunities to access knowledge at anytime, anywhere from any device for course work. But is this opportunity as efficient as the traditional face-to-face learning experience which is



debatable discourse the last two decades? Anyhow, comparison of online versus offline learning is no doubt of substantial interest to students, educators and all sorts of professionals. Despite the clear demonstration of the benefits of using technology in education, they continue to be a marked unwillingness by students and academics to engage with online learning which is approved by many researches. This unwillingness is due to the lack of training, inadequate infrastructure and the resistance for change. However, learners don't like to learn by one single method as they are classified into many styles of learners. Each one has his or her own way of learning.

Technology has become part of our life and hence embedding it in education is crucial mandate. So, to blend both, face to face and distance learning provides a new approach to satisfy all different learners' styles, this mode called blended learning. Blended learning is like most of the learning terms takes some time to be a clear concept. Roger Schank's definition could clarify some of this ambiguity. "Blended learning means that there will be some e-learning and some classroom learning. It is trend now for a simple reason; No one wants to spend that much on e-learning and people in general want to preserve what they have, so they have made up this nice name for not changing much and called it blended learning." (Donald Clark, 2010)

During this course we will go through this journey of investigating ICT tools that could be helpful to facilitate the learning practices to the students. To make it clear there are endless tools that we could use, but the professional approach is to use the suitable one for your field and which is matching with the students' skills related to ICT tools

### **ESD.A03 Innovative & Interdisciplinary Pedagogical Methods for ESD**

What does interdisciplinary approach mean?

The concept of interdisciplinary approach was one of the trends in ESD competences as the previous literature highlighted. Klein (2008) stated that Interdisciplinarity has become a general —mantra for research — and consequently researches focused on this approach have grown. Oksen (2009) as cites in (Aktas, 2015, P. 355) emphasized that the need for interdisciplinary is acknowledged by the most. The Science Education Research Centre (SERC) defines interdisciplinary instruction as —the use and integration of methods and analytical frameworks from more than one academic discipline to examine a theme, issue, question or topic. (SERC, 2017). Dealing with complex and multifaceted issues like global warming, poverty and genetically modified foods requires interdisciplinary perspective to adequately address the complexity of these problems (SERC, 2017). Eisen & Barlett (2006) notified the importance of interdisciplinary engagement as the —issues and problems in the environment and sustainability are complex—and the most effective way to address these problems is through an interdisciplinary approach. This diversity of intellectual backgrounds provides the obvious benefit of various perspectives. Having said that participatory approach of multiple disciplines could help in taking the challenge of being effective and engage in moving towards sustainability (Eisen & Barlett, 2006, p. 12). On the other hand Aktas (2015) confirmed that one of the main hinders for promoting sustainability in education is the —the traditional silo approach— that was prevailing for long time into the higher education curriculums and researches. He steered the crucial need for interdisciplinary approach for taking complex problems and issues of sustainability; this approach goes cross boundaries by the —strong interdisciplinary working teams— (Aktas, 2015b, p. 363). During this course we are going to investigate more innovative teaching methods that could support interdisciplinary approach for ESD.





## **ESD.A05 Inter-Cultural Competencies for ESD**

Understanding cultural differences supports and leads to accomplishing goals within communities or institutions having international teams. Through this course, we are targeting to develop intercultural competences to enhance intercultural dialogue. How culture plays an important role that affects the performance of the teams is another part of this course. Investigating the intercultural competencies and how the cultural differences are considered as ice-berg and require more practice. The ability to deal with diversified approaches of thinking within different contexts is another part of this course as well. Finally, we will try to find how sustainability is connected with aspects of intercultural communication and intercultural relations.

## **Study Field B: Education: Theory & Practice**

### **ESD.B01 Basics of Effective Teaching**

During this course participants in collaborative learning settings will investigate possible answers for the following questions:

Who I am as a teacher, who I am in daily life, is there a difference?

How we achieve high demanded level of self-reflection and installing an observing self?

What do you want from a teacher, how should a teacher be like?

How to describe yourself as a teacher, how are you, how do you know that?

What are your deepest fears as a teacher?

### **ESD.B02 Educational Assessment & Authentic Evaluation**

Assessing ESD means to facilitate learning and providing comprehensive evidence of learners' knowledge, skills, values, and attitudes related to sustainable development. As ESD topics are interdisciplinary and multidimensional; Assessment approaches for ESD must be aligned to these principles and characteristics and reflecting the interconnectedness of SD. Performance-based methods could support in this regard as student demonstrate their skills for ESD by providing future scenarios, creating something or engaging in community based activities as authentic methods for assessment. This course supposed to investigates all these hot topics in participatory manner.

### **ESD.B04 Educational Psychology and Adolescence Characteristics**

This course will explore the topic of educational psychology which concentrates on key development theories related to the learning process and the classroom environment. It also introduces teachers and faculty staff to key concepts to deal with students' diversity, different learning abilities and disorders. In addition, it helps teachers to raise their level of consciousness around students' social and cultural contexts, hence, delivering learning in a more sensitive manner. Last but not least, it raises the teachers' awareness to theories around education for sustainable development, social justice and liberation. The course gives space and time for participants to reflect, based on the learning involved, on their teaching practices, classroom set-up, student-teacher relationship and students' participation in the learning process.



## Study Field C: Aesthetic & Arts

### ESD.C01 Fine Arts

Learning how to see what we really see. Observing what is really true, not what one thinks is true. Explore things around you, you never saw. Get away from fixed imaginations. Get a sense for harmony, beauty and form. Fine arts enhance courage for the unknown and non-expected issues and reduce the uncertainty. Painting animates the soul because we immediately create emotions. I am in a process of formation expressing my inner adventure.

### ESD.C02 Drama & Speech

Through drama we can deliver a serious message or concern and in the same time express thoughts, ideas, and the urgency to participate. Role play as real example of dram enable learner to enact a serious crisis which couldn't be tackled in reality. Through drama we develop and deepen our listening and presentation skills.

Theatre, drama, acting and speech which we call a Meta skills for self-awareness, self-learning, raising awareness in general, based on perception and reflection, getting the idea of a whole picture and all the different layers of interdependence while studying a scene or a play

Acting in the broadest sense offers absolute and immediate access to communication in its different aspects as well as in general. In this realm the meaning of communication is: "communicate to do something together". We need the others to communicate and we can start doing/working something together or vice versa. Acting itself needs and means working together – and this is: communicating which provide the sense of holistic perspective from aesthetic point of view.

### ESD.C03 Music and Choir

The singing voice is the original human instrument; it confirms our connection to the spiritual world, our origin, consciously or unconsciously. This brings joy and connects us to the roots of our culture. Music is the echo of the spiritual world and its harmonies. Through practicing music and the feeling for harmony, a balance is found and the observation of motives and phrases, time, structure and the dialogue in sound, in harmony and therapeutic effect.

### ESD.C04 Movement

Through movement we can express ourselves through our whole body and develop our sense and awareness of space and time. Moreover we could learn to make poetry and music visible through gesture and form of movements. Movement is about the development the sense for our own bodily space in relation to others. Through movement we could participate in a creative process in space and to learn how to become process oriented. Every movement we create ourselves, produces resounding in the space, since experiencing and listening is required. This resounding extends into the widths where space and time meets. Eurhythm demands total observation, we and the world become one. I find my true being in this unity



## References

- Aktas, Can, B. (2015). Reflections on Interdisciplinary Sustainability Research with Undergraduate Students. *International Journal of Sustainability in Higher Education*, 16(3), 354–366. <https://doi.org/10.1108/IJSHE-11-2013-0153>
- Clark, D. (2010). Blended Learning. *Epic Group Plc*, 44(0), 16. <https://doi.org/10.1093/elt/ccq043>
- Sterling, S. (2011). Transformative Learning and Sustainability: sketching the conceptual ground. *Learning and Teaching in Higher Education*, (5), 77–33.
- SERC. (2017). What is Interdisciplinary Teaching? Retrieved March 21, 2017, from <http://serc.carleton.edu/sp/library/interdisciplinary/what.html>
- Eisen, A., & Barlett, P. (2006). The Piedmont Project: Fostering Faculty Development toward Sustainability. *Journal of Environmental Education*, 38(1), 25–38. <https://doi.org/10.3200/JOEE.38.1.25-36>
- Klein, J. T. (2008). Evaluation of Interdisciplinary and Transdisciplinary Research. A Literature Review. *American Journal of Preventive Medicine*, 35(2), 116–123. <https://doi.org/10.1016/j.amepre.2008.05.010>
- Shen, J., Wu, D., Achhpiliya, V., Bieber, M., & Hiltz, R. (2008). PLA : Participatory Learning Approach PLA : Participatory Learning Approach, (January).