Learning in higher education while being at war

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Abstract

Learning in higher education while being at war is the topic of this paper. The investigation on the management of one's own learning processes by students living war conditions has been addressed through a survey that was conducted on a sample of 1,685 students at the Igor Sikorsky Kyiv Polytechnic Institute in Kiev during February-March 2023, one year after the Russian invasion. The aim is to understand the strategies adopted by students to oppose and counteract the informal learning processes that are produced by the war. Findings of the study show that, although people are immersed in adverse conditions, they can autonomously direct their own learning processes and defend themselves against the learning valencies of the war to counteract its effects. This is a possibility that might depend on the educational quality of social relations and the networks each student has and was able to build. The possibility to be trained represents the most common concern among students. It is more widespread than the precariousness of material living conditions. However, this attitude is not generalised. According to the authors, the different positions expressed by the students could be attributed to the different level of the capacity each student developed to control the learning processes they are exposed to in their daily life. Based on this capacity of control of their own informal learning processes it is possible to activate autonomous self-directed learning and tackle the challenges the war poses.

Keywords: learning in adverse conditions; self-directed learners; learning in war times.

1. Introduction and conceptual framework

Informal learning processes that are being developed while being in war can determine the quality of learning outcomes of any other forms of learning. While formal and non

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formal education may remain the same, informal education is inevitably determined by the conditions of daily life people live. Studies on informal learning processes in the "total institutions" (prisons, hospitals, army) highlighted how informal learning has a decisive influence on learning outcomes. Informal learning in turn depends fundamentally on the educational quality of interpersonal relations and the educational role plaid by people who are present in people's daily lives (prison officers, doctors and care staff in hospitals, etc.). Living in war first reduces the conditions of "freedom to learn" (Rogers, 1969).

Access to formal education opportunities is necessarily limited. Furthermore, collective learning processes of people living in war are determined by the war strategies and the resulting conditions of daily life. These contexts impose extremely adverse learning conditions that can be nonetheless opposed by youngsters and adults themselves. More specifically, our hypothesis is that this is possible as long as people possess the capacity of identifying and oppose positive and negative "learning valencies" that are embedded in war contexts. Learning valencies are meant as the positive or negative *quid* of educational relevance, that is embedded in any experience people live in and produce transformative effects on the individual's growth and development depending on the kind of response and reaction individual takes (De Sanctis, 1976).

In this way people can autonomously direct their own learning processes and defend themselves against learning valencies of war in order to counteract the effects of war (sense of isolation, sacrifice of individual freedoms) and develop their own life and learning paths.

This is the research hypothesis we intend to explore in this essay.

We will start with a short review of the theoretical foundations our approach to learning processes in extremely adverse conditions and specifically self-directed learning are based on (§ 2). The focus is on the meaning of self-directed learning meant as the control over learning processes imposed by pedagogical contexts and powers. We then propose a desk analysis of higher education programmes dealing with conflicts -either armed or not-, prevention, management and historical evolution (§ 3).

This is followed by the presentation of the methodological frame (§ 4) and the results of the survey addressed to students at the Igor Sikorsky Kyiv Polytechnic Institute (Kiev) (§§ 5 and 6). The survey is focused on the challenges Ukrainian students have been facing since the Russian invasion (February 2022). It aims to analyse the informal learning processes that are activated in adverse conditions.

This study concludes with the presentation of indications that emerged from the survey as for the possibility people have to autonomously direct their own learning processes against the learning valencies of war to counteract its effects (§ 7).

2. Literature review

Literature this essay is based on is related to the issues on learning in adverse or extreme conditions, informal learning, total institutions, freedom to learn, capacity of identifying

and oppose learning valencies that are embedded in daily life. We shortly analyse it highlighting elements that are relevant for the survey and our interpretative proposals.

Learning in adverse or extreme conditions.

Consequences on learning processes that take place in extreme or adverse conditions (i.e. COVID-19) are related mainly to the psychological, emotional, cognitive dimensions and the variety of adverse learning behaviours: i.e. anxiety, dysfunctional cognitions, distress, mental wellbeing, etc. (Dinu et al., 2021; Paechter et al., 2022). Educational perspective of learning in "adverse circumstances" (Bethell et al., 2014; Blair and Raver, 2012) still is not investigated enough. Further investigation is needed to analyse how adult education can contribute to oppose adverse learning conditions, meaning the learning experiences of any variety and forms, war included, that prevent people from reaching their development goals and building answers to their own aspirations for growth in a wide sense (Federighi, 2016).

Informal learning.

Informal learning processes refer to learning valencies that are generated while people are engaged in social and productive activities or while being consumers of goods and services. Existing studies are aimed at understanding how intellectual development processes and knowledge and behaviours production processes take place and how the connected educational processes can be intentionally managed, both by the subject and by those who hold and exercise the powers for managing community, even in a covert manner (Federighi, 1997). Hidden curriculum (Jackson, 1968) represents the most pervasive and prevalent part of learning processes people are exposed to on a daily basis, in every moment that feeds their daily routine of educational actions and interactions (including virtual and war interactions). Through the hidden curriculum and the learning processes that are activated accordingly, social control occurs in the proposition of forms of socialisation that are based on dominant ideology and the maintenance of existing social, political, economic hierarchies. Insofar as they are deliberately concealed, informal learning processes can be unveiled and transformed into opportunities for the exercise of individual power for growth and development because not only is informal learning unique to the individual, but control of learning rests primarily in the hands of the learner (Marsick and Watkins, 1990).

Total institutions.

It is meant as "a place of residence and work where a large number of like-situated individuals cut off from the wider society for an appreciable period of time together lead an enclosed formally administered round of life" (Goffman, 1968, p. 11). Those living in conditions of war are subject to rules of operation that are determined by subjects who also exercise pedagogical powers: this is because through these rules they exercise the power to determine the learning conditions and educational contents embedded into the daily life of the country at war. Total institutions, by their very structure, elaborate

control procedures of a punitive character which ultimately have destructive effects on the persons' s self. This is the related educational risk, which can be mitigated by meanings that each person attaches to what Goffman calls "mortification processes" (1968), by the capacity to control the learning processes that are embedded into and induced by those exercising pedagogical power in total institutions and by the management of individual and collective struggles "against the submission of subjectivity" (Foucault, 1982, p. 782).

Freedom to learn.

Education and training represent a field of conflict and confrontation because powers are grafted in them and the development of individuals, subjects, communities, national entities depend on the exercise of these powers. The model is well known and recalls the role of educational and training apparatus (school, university, productive world) within the dominant ideologic apparatus (Althusser, 1970; Bowles & Gintis, 2003) that can be controlled and depowered by the Public of education (Dewey, 1927). Freedom to learn (Rogers, 1969) in war contexts, from the pedagogical perspective is the expression of freedom that is recognised to people to orient their choice towards learning opportunities that are consistent with their own intellectual development goals, without interference, even though the formal education supply is inevitably reduced. Since Dewey wrote "Democracy and Education" in 1916 much has been written about discourses of democracy and education. The question is particularly relevant nowadays where the new doctrines of war have chosen cognitive processes as their battleground (Roncolato, 2022; Clark, 2020; Defence Staff, 2023; Beauchamp-Mustafaga, 2019).

Capacity to identify and oppose learning valencies embedded in life environments.

This capacity can be defined as the combined set of the following capabilities (Dewey, 1938; Freire, 1970; De Sanctis, 1976; Bordieu and Passeron, 1977; Habermas, 1984; Brookfield, 1996; Giroux, 2001):

- *To get awareness of the learning valencies* embedded in life environments, workplaces, and consumption, induced by those possessing powers – also pedagogical ones – that are linked to the war;
- *To acquire the capacity to control powers that educate and miseducate people in their life settings, workplace, consumption of goods and services* as well as the learning valencies that are induced and embedded therein;
- *To exercise the power to respond to learning valencies embedded in war* as to modify intentionally learning meanings of behaviours and actions in which people are immersed (imposed silences that risk fostering low self-esteem, restrictions of freedom, submission, etc.);
- *To settle down the necessary instruments for self-directed learning and directing autonomously and intentionally one's own learning processes* that accompany every moment of social life of people, their social relations, also as an alternative to the dominant pedagogical powers.

3. Learning in adverse conditions in higher education. A desk analysis

The survey deals with the modalities through which university students manage their learning processes in times of war. Research on this specific topic is scarce. There is, however, a significant amount of training programmes offered by higher education institutions that focus on the management of learning processes in conflict situations. To this end, we refer to a selection of higher education activities on the topics of conflict, including armed conflict. It is a broad offer that nevertheless has the limitation of being oriented towards the development of individual, notional, technical and disciplinary learning. The object of the offer we consider is content, topics, techniques and not the exercise of control on behalf of students over the negative learning valencies that are induced by conflicts, including war. It is an offer mainly oriented towards *learning* and not towards *awareness*, *control* and the ability to build up answers, responses and actions that are useful to activate processes enabling the transformation of the sign of war-induced learning valencies. It does, however, provide us with a picture of how higher education institutions today deal with the timing of managing learning processes in conflict situations. Based on the desk analysis we carried out we identified higher education interventions and paths enabling participants to promote tools, mostly cognitive, for dealing with conflict situations, whether or not they lead to armed warfare.

To this end, we analysed higher education programmes related to the themes of war and conflict, which enable the development of different competences. From the multiplicity of the existing offerings, we have selected 22 curricula of degree programmes (master level) from universities in Italy, Europe and internationally. The selection was made on the basis of the recurrence of contents linked to the different types of conflict, to conflict resolution, to conflict management, in the curricula and/or in the title of degree programmes and/or courses. We used web sources available in English as primary data.

The analysis of the second-level curricular pathways was aimed at identifying the characterising elements that qualify the students' learning experience in relation to the acquisition of the ability to understand the different dimensions of war and conflict.

The analysis shows that in the sample considered, academic, second-level education is structured according to three main disciplinary approaches:

1. political-legal linked to a multidisciplinary dimension of war in a context of international relations;
2. sociological and anthropological related to conflict and the causes from which it originates in different forms of social interaction;
3. related to conflict management as a cross-sectional area of personal competence.

We now move on to the analysis of each of these approaches by defining their salient and distinguishing features that help us understand the kind of learning outcomes they

are able to promote, mainly linked to notions and behaviours that are closer to pedagogical approaches of acculturation more than the ones of emancipation, democratisation and construction of possible actions in response to informal education ongoing processes.

3.1 Political-legal approach linked to the conflict and war dimension

Those who attend this type of university course have the opportunity to develop knowledge about war from a semantic point of view through the in-depth study -also in a historical dimension- and the use of the different terms and concepts of war, conflict, armed conflict, which help to frame them within new meanings: "new generation of warfare", "information warfare", "irregular war", "non-military conflict", "non-traditional war", "hybrid war". The subject area of law, political science and international cooperation is where this type of offering proliferates. In the Master's degree courses, war, conflict and conflict resolution are approached from a historical-institutional perspective and treated as state-building, security-building, post-conflict peace-building tools, through which the inextricable links between peace, conflict and development and security are addressed. The economic and legal implications of conflict are also explored.

There are ten degree courses under consideration:

1. Peace Studies and Conflict Resolution at the American University of Rome (USA)[4],
2. Conflict, Security and Development at the University of Birmingham (United Kingdom)[5],
3. War and peacebuilding of the University of Leiden (The Netherlands)[6],
4. Conflict, Security and Development at London King's College (United Kingdom)[7],
5. Conflict and state building at the University of Oslo (Norway)[8],
6. War and Conflict Studies offered by the University of Postdam (Germany)[9],
7. International Security Studies offered jointly by the School of International Studies-University of Trento and the Sant'Anna School of Advanced Studies (Italy)[10],
8. Conflict, Security, State-building offered by the University of Turin (Italy)[11],
9. War and the Military in Society at George Mason University (Virginia)[12],

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[44] https://aur.edu/ma-peace-studies-course-descriptions
[5] https://www.birmingham.ac.uk/postgraduate/courses/taught/govsoc/conflict-security-and-development.aspx
[6] https://studiegids.universiteitleiden.nl/courses/111562/war-and-peacebuilding
[7] https://www.kcl.ac.uk/study/postgraduate-taught/courses/conflict-security-and-development-ma
[8] https://www.uio.no/studier/emner/sv/statsvitenskap/PECOS4010/index.html#course_content
[9] https://www.uni-potsdam.de/en/studium/what-to-study/master/masters-courses-from-a-to-z/war-and-conflict-studies
[10] https://www.sis.unitn.it/3321/masters-degrees
[11] https://www.didattica-cps.unito.it/do/corsi.pl/Show?_id=ur9i
[12] https://mais.gmu.edu/programs/la-mais-isin-wms

10. Conflict, Peace and security offered by the United Nations Institute for training and Research (remote modality)[13].

Here the theme of conflict, framed within the framework of Security Studies, is combined with human rights protection and their impact on legal and political systems. Conflict and security represent two complementary aspects with respect to the safeguarding and protection of the rights of individuals and peoples. Interdisciplinary theoretical foundations of security are studied, also through the use of case studies selected from ongoing civil and interstate war conflicts. Security is seen not only as a state-centred issue to protect the territorial integrity but is focused upon human security and defence policymaking. Individuals and peoples have the right to be protected and safeguarded against external aggression, both when access to primary resources (e.g. water) is endangered and when it is the set of identity elements that people intend to preserve that is being challenged by outsiders. Conflict, in addition to being legally set as a defence device in the framework of international law, represents the instrument for asserting threatened human security. Related learning outcomes concern the possibility to develop notions useful to understand the various factors and actors having an impact on the global order and to analyse the dynamics of contemporary security in order to evaluate responses from national and international community.

3.2 Sociological and anthropological approach to conflict and its causes in different forms of social interaction

Students who attend this type of university course have the opportunity to acquire knowledge, including theoretical knowledge, about social conflicts: their origins and the conditions that promote their formation, the participants and the ways in which groups are mobilised within conflicts, the dynamics, i.e. through which processes and with what consequences conflicts begin, develop, abate and come to an end. In these activities, conflict is the object of study, in its various forms and representations that recall inter-subjective and multi-subjective conflicts (with reference also to inter-state and civil conflicts), and conflicts that more generally engage more or less extensive social groups. Conflict or rather conflictuality is explored as a mode of social action and intersubjective exchange, in some cases contextualised within violent conflicts.

We highlight six Master programmes of this kind:

1. Sciences of Administration and Complex Organisations of the Magna Grecia University of Catanzaro (Italy)[14],
2. Science in Conflict and Development Studies offered by the University of Ghent (Belgium)[15],

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[13] https://learnforpeace.unitar.org/master-in-conflict-peace-and-security/
[14]   https://www.diges.unicz.it/web/wp-content/uploads/2021/07/Format-Syllabus-Sociologia-dei-conflitti-Montesanti-2021-2022.doc.pdf
[15] https://studiekiezer.ugent.be/master-of-science-in-conflict-and-development-KMCODT-en

3. Conflict and Coexistence Studies offered by Osaka University (Japan)[16],
4. Anthropology and History of the Contemporary World of the University of Modena and Reggio Emilia (Italy)[17],
5. International Relations of the University of Perugia (Italy)[18],
6. Peace Sciences: Conflict Transformation and Development Cooperation University of Pisa (Italy)[19].

The educational opportunity to be grasped in these curricular activities is linked to the possibility that students have of also theoretically grounding themselves in the knowledge of conflict as an integral element of the socialisation process, present in every type of relationship - even virtual - and as such to be conceived as part of the social interaction process. Nothing new or unexpected, but a component of social and virtual relationships to be known. Participants develop management competences, out of the academic setting.

3.3 Approach to conflict management as a cross-sectional personal competence area

Conflict is a constitutive dimension of the human condition and concerns every time, space and type of relationship in which the person is involved. This is the basic assumption that inspires the master programmes of this third cluster.

Those who participate in this type of activities have the opportunity to develop conflict analysis skills as a useful competence for the management of relationships within different life contexts: civil, criminal, family, school, community, workplace, web. The study perspective here is focused on the possibility of using conflict management to mediate between different positions and points of view and generate a space for dialogue where people can bring positions closer with the help of a mediator. This can be a specially trained professional mediator or someone who acts as a mediator.

In both cases they are people who are aware of the continuous transversality of conflict and are able to analyse the potential causes of conflict between two or more different positions (of individuals or groups) and devise strategies for a possible mediation considering social and ethical responsibilities, also with a view to win-win negotiation.

University education in the field of conflict resolution and mediation covers a very broad field of activities at the master's degree level, both as individual courses and as a degree course. It encompasses training regulated by national laws (e.g. civil and

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[16] https://www.hus.osaka-u.ac.jp/en/graduate/
[17] https://www.dslc.unimore.it/site/home/didattica/corsi-di-laurea-magistrale/antropologia-e-storia-del-mondo-contemporaneo.html
[18] https://www.unipg.it/didattica/corsi-di-laurea-e-laurea-magistrale/archivio/offerta-formativa-2023-24?view=elencocorsi&idcorso=261&annoregolamento=2023&tab=PRE
[19] https://www.unipi.it/index.php/lauree/corso/10976

commercial mediator) and that aimed at the acquisition and development of skills useful in resolving a conflict, wherever the real or virtual forum in which it is likely to occur.

Here are six examples of curricular activities:

1. Conflict Mediation offered by the Universitat de Barcelona (Spain)[20],
2. Conflict Resolution and Cohexistence offered by the Brandeis University (Massachusetts)[21],
3. Negotiation and Conflict Resolution offered by the Columbia University (USA)[22],
4. Mediation of conflicts within the CdL in Clinical and Health Psychology and Neuropsychology offered by the University of Florence (Italy)[23],
5. Workshop of Conflict Mediation in School and Family within the CdL in Developmental Psychology and Educational Processes at the University of Milan-Bicocca (Italy)[24],
6. Mediation and Conflict Management offered by the University of Valencia (Spain)[25].

These training activities range from the theoretical aspects of negotiation and mediation as conflict management practices to the potential of mediation related to specific professional fields. Related learning outcomes concern the possibility for students to analyse the dynamics affecting conflict prevention, acquire methods and techniques for preparing for the negotiation phase, and develop the skills to act in the role of mediator.

Higher education programmes selected highlight the variety of contents and thematic approaches on conflicts, war included. Empirical materials collected do not provide evidence of the possibility for participants to acquire capacity to understand and oppose learning adverse conditions as well as learning warfare induced by contexts where they live and by pedagogical powers managed by others.

4. Methodology

4.1 Statement of the problem

In order to take some steps forward in studying the learning processes of people living in a state of war, we carried out a survey among university students at the Igor Sikorsky

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[20] https://web.ub.edu/en/web/estudis/w/masteruniversitari-M2B04

[21] https://heller.brandeis.edu/coexistence/

[22] https://sps.columbia.edu/academics/masters/negotiation-and-conflict-resolution

[23] https://www.unifi.it/index.php?module=ofform2&mode=1&cmd=3&AA=2022&afId=637147&lang=0

[24] https://elearning.unimib.it/course/info.php?id=45085

[25] https://www.uv.es/uvweb/college/en/postgraduate-courses/official-master-s-degrees/official-master-s-degrees-offered/master-s-degree-mediation-arbitration-conflict-management-private-law-1285848941532/Titulacio.html?id=1285860835209&p2=9-1

Kyiv Polytechnic Institute during 2023. The study was guided by the subsequent research question in the field:

Q1. Which kind of responses do university students implement to oppose – positive and negative - learning valencies that are embedded into the war settings where they live. The conflict inflicted substantial educational setbacks, as the deteriorating security situation detrimentally impacted students' psychological well-being, consequently affecting their academic performance. Furthermore, the imposition of martial law curtailed academic mobility prospects for male applicants.

The object of the survey is connected to the challenges faced by Ukrainian students after February 2022 when the war started.

4.2 Sampling

Our study was based on anonymous surveys conducted via the Computer Assisted Web Interviewing (CAWI) method using Google Forms. It involved 1,685 participants from Igor Sikorsky Kyiv Polytechnic Institute's students during February-March 2023 (out of 25 thousand[26]). The sample guarantees the trustworthiness interval that is the level of safety of the results obtained by the survey, equal to 95% (2,31).

The sample is made of students from Igor Sikorsky Kyiv Polytechnic Institute, mostly aged between 18 and 21 (76,26%). Students were 49,26% men and 50,74% women. Their academic background is different: more than half are Bachelor students (87,81%), whilst there are less Master (10,71%) and PhD students (1,49%). Students enrolled in the first and the last year of the Bachelor degree programme are 29,03% and 12,08% respectively. Students enrolled in the first year of the Master degree programmes are 8,63%.

Sampling helped in selecting a number of students from the total population of the higher education Institute in Kiev that were quite representative (ie men and women, Bachelor and Master students). This method of sampling gave every student a fair chance, so the resulting sample was unaffected by the researchers.

Survey includes students who took part in diverse modalities of higher education programmes delivery. Given the persistent jeopardy to the safety of educational participants, the resumption of in-person teaching during the first half of the 2022/23 academic year proved unfeasible. A mere 15% of educational institutions resumed face-to-face instruction, while 33% opted for remote learning and 51% adopted a hybrid approach, combining both in-person and distance education[27].

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26 https://kpi.ua/en/university (update 2024).
27 National Service for the Quality of Education in Ukraine (2023).

5. Data analysis

Based on the survey, the most complex challenges for students are related to the capacity to manage their learning processes connected to social isolation (72,1%, n=1,685) and to the conditions for studying (58,6%, n=1,685). On the other hand, the various components of the material sphere of their lives have less impact: i) decline of material conditions, ii) decline of living conditions, iii) need to adapt to new place of living, iv) lack of medical assistance. For each, the figure is less than 50% (out of the total of respondents, equal to n=1,685) (Figure 1).

Challenges faced after 24 February 2022 (n=1,685)

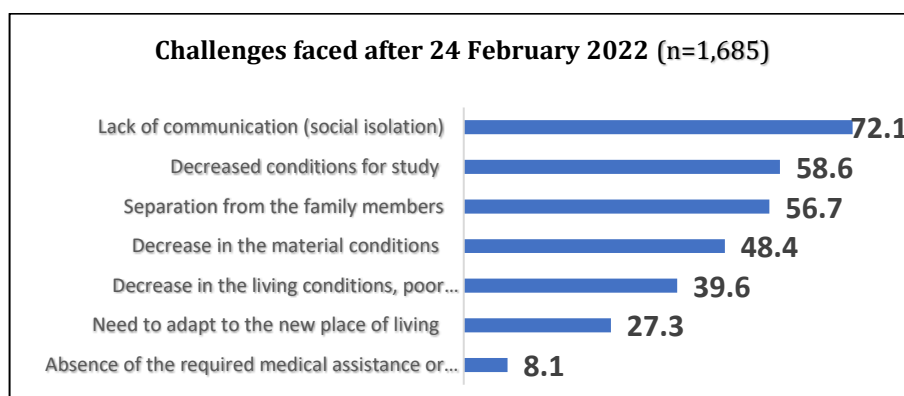| Challenge	Value
Lack of communication (social isolation)	72.1
Decreased conditions for study	58.6
Separation from the family members	56.7
Decrease in the material conditions	48.4
Decrease in the living conditions, poor...	39.6
Need to adapt to the new place of living	27.3
Absence of the required medical assistance or...	8.1

Figure 1. Challenges faced by students after February 2022.

Notably, 72.1% of respondents (out of 1,685) reported experiencing a sense of isolation due to lack of communication. Remarkably, social isolation emerged as the most influential negative factor for students, surpassing elements such as worsened learning conditions (58.6%) and separation from family members (56.7%).

Virtual mobility serves as a crucial tool for bolstering the psychological well-being of students, aiding them in maintaining their concentration on learning and personal growth within a wartime setting. As per the findings from the study participants, the mental state of 42% of respondents declined significantly, while an additional 36% declined somewhat in their psychological well-being (Figure 2). Engaging in communication and studies through virtual mobility not only helps in redirecting students' attention away from adverse external circumstances, which contributes positively to their overall psychological well-being, but also enables them to enhance their focus on learning.

How the conditions and circumstances of your life changed compared to the pre-war period. Psychological state (n= 1,685)

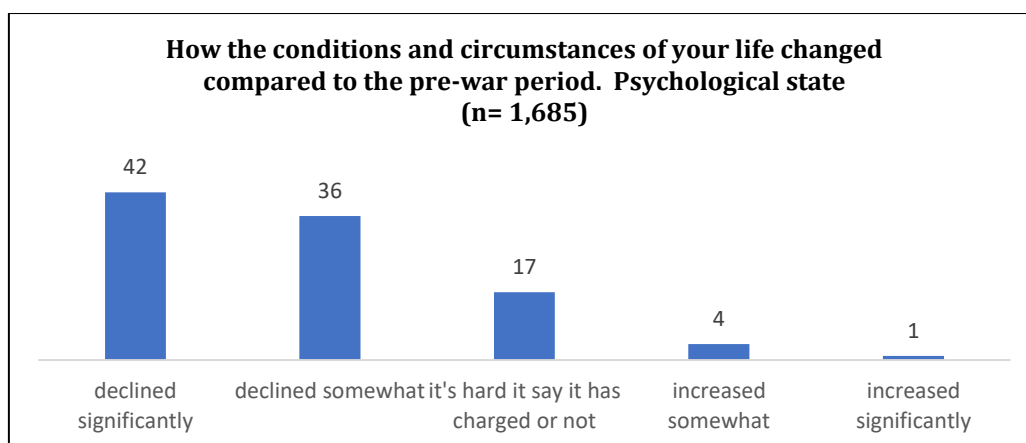| declined significantly	declined somewhat	it's hard it say it has charged or not	increased somewhat	increased significantly
42	36	17	4	1

Figure 2. Psychological well-being of students after February 2022.

The necessity for psychological support is particularly crucial, especially considering that 34.8% of the surveyed participants indicated their requirement for such assistance. Additionally, another 22.4% identified a need for increased communication, further corroborating the earlier findings of the study (Figure 3).

The kind of support that was needed by students (n=1,685)

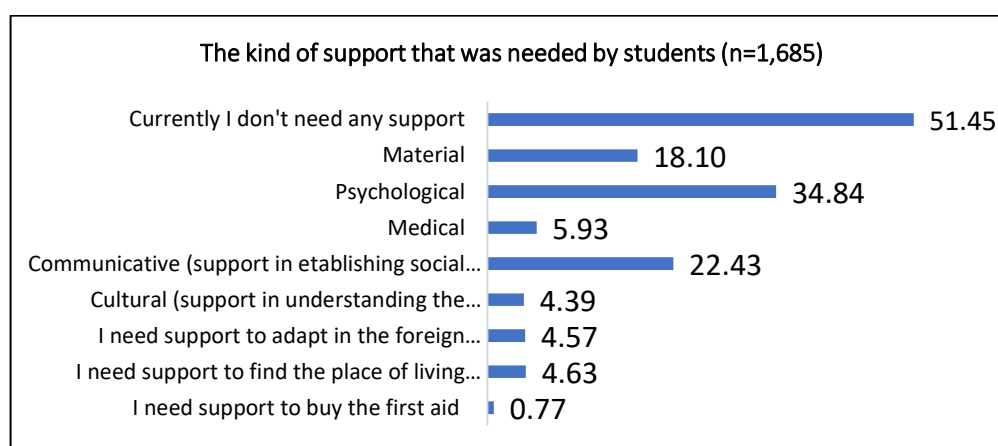| Category	Value
Currently I don't need any support	51.45
Material	18.10
Psychological	34.84
Medical	5.93
Communicative (support in etablishing social…)	22.43
Cultural (support in understanding the…)	4.39
I need support to adapt in the foreign…	4.57
I need support to find the place of living…	4.63
I need support to buy the first aid	0.77

Figure 3. Support needed by students after February 2022.

But while 72.1% suffer from a sense of social isolation, there are 27.9% of the respondents who 'somehow' are able to cope with the adversity of war conditions and overcome the sense of isolation induced by them. During the focus group taken at distance between Italian and Ukrainian researchers the hypothesis that emerged is that these are students who activated individual resources to oppose the sense of isolation induced by the war and modified autonomously the quality of informal education they received in other life settings. The 27.9% constitute the minority, but nevertheless this means that one in three students were able to react to this risk, to have somehow overcome the consequences it may have on their learning conditions.

The analysis of the findings of the focus groups highlighted the role to be assigned to the students' network of personal and professional relationships. Here below we report two quotations from Ukrainian participants:

> *The absolute majority of citizens have experienced direct or indirect consequences of the full-scale invasion. Noticeable for all Ukrainians were health deterioration and income loss, as regardless of how far a region was from the front line, the economic repercussions of the war, power outages, and the stress from anxieties could not go unnoticed. Overall, younger Ukrainians have suffered the greatest losses during the year of war, while older individuals have experienced more health deterioration (P2).*

> *The most difficult for people were the losses of loved ones, health deterioration, and forced migration, as those who have experienced such events often report having disorders and requiring psychological assistance (P3).*

An additional finding of the focus groups is the role of being part of structured associative networks. Here below we report two quotations from Ukrainian participants:

> *New prospects of the Nezlamni center are in terms of exploring new or promising methods of psychological rehabilitation of a person. We plan to design that and collectively deliver to ameliorate conditions for working life while being in war (P1).*

> *The Unbroken foundation has a lot of projects and goals to achieve. […] . The goal is to transform the old building of the polyclinic into a new, modern "Unbroken" Rehabilitation Center. For maximum recovery, rehabilitation halls with ceiling lifts (Guldman), a swimming pool, an occupational therapy apartment with a kitchen, halls with suspension systems (Red Cord), and robotics rooms will be created. Robotic rehabilitation tools, exoskeletons and walking simulators will be used in work with patients* (P5).

Data analysis showed the opportunity to consider differences that are likely to occur between students that had the possibility to share their representation of the armed conflict and the professional actions that could be taken in such a context. This mainly concerned students engaged in health services that are exposed to the consequences of war ("Nezlamni" Rehabilitation Center for victims of war" is an example of this kind of services).

> *For the first time, I interacted with foreign students from a university background similar to ours, who continue to study to work in a country at armed war. I saw how they manage time, internet connection, emotions, fears through the camera. The war they recounted through the analysis of a rehabilitation centre for war victims made me think of professional conditions within care services addressed to soldiers and civilians (P10).*

6. Findings

Some interpretative hypotheses may be drawn by the survey realised.

Although the survey was conducted in a country at war, adverse conditions are firstly of pedagogical kind. Perception of the deterioration of material conditions of life is documented by the survey. Nonetheless what mainly hinders the development of

individual learning processes is the lack of communication, the sense of social isolation (72.1% of respondents out of 1,685).

From the pedagogical perspective students require to reinforce networking (22.43%). They do not ask for better or diverse programmes that are being delivered at distance due to the ongoing war.

The precondition to develop further learning outcomes seems to be the possibility for students from Kiev of networking.

Simultaneously also in war contexts educational differences among adults still remain, according to the survey. Around half of the sample (51.45%) declared not to be in need of any kind of support, and to have personal and social conditions allowing the management of their learning processes in adverse and hostile contexts. We may say that these are persons possessing the capacity of managing their learning processes.

In a war context the whole society takes on illiberal features that belong to total institutions. It seems to be confirmed by the typology of needs of respondents, mainly existential.

We may add to that also the high percentage of respondents that show forms of psychological disorder (78%) asking for psychological support (34.84%).

7. Conclusion and future research development

Within adverse environments informal learning processes are being developed, that determine and hinder learning conditions. They are the condition for the formal learning itself.

Nonetheless people have the possibility to direct autonomously their own learning processes and to defend themselves against the learning valencies of war to counter its effects.

It firstly depends on the educational quality of social relations and networks each student has built up.

We could also hypothesise that this also depends on the ability to activate the skills for life students possessed.

In times of war this is particularly complex. Besides the restriction of freedom of movement and the constant exposure to lethal risks, students are also exposed to the new forms of hybrid warfare, cognitive and learning warfare. These contextual elements emphasise the exposure of individuals to informal learning processes induced and strengthened by the new doctrines of war. This makes persons vulnerable.

We believe the solution is by strengthening individual and collective capacities to control the learning processes everyone is exposed to. The capacity to control learning processes is based on the individual capacity to understand and decode the meanings of what other people intend to make learn, that is the real learning outcomes produced through the exercise of explicit and covert pedagogical powers. Based on these capacities

possessed by individual it is possible to activate effective and autonomous self-directed learning pathways.

Many efforts have been made by adult education research to understand how to improve participation of people to adult learning. Today we have a wealth of research that is continually, expanding, albeit slowly, and mainly covers both the supply side and the learning processes. On the other hand, research on how to strengthen people's response and resistance to learning processes induced by those with educational power through informal education of all kinds is still weak and should be further developed.

Lastly the survey confirms that the benefits of virtual mobility and exchange are truly invaluable. The integration of virtual mobility technologies into higher education brings forth a multitude of advantages, but their true significance becomes most apparent for institutions operating amidst wartime conditions. Virtual mobility provides the opportunity for obtaining a high-quality education while circumventing physical security risks. Undoubtedly, the tumult of war can disrupt the educational process, and even lead to the closure of academic institutions, resulting in substantial losses.

Acknowledgments

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