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Situating Skills: Emergent Dynamic Reconfigurations of Activities in the Transition from a Learning Environment to Another

Ion Copoeru
Thea Ionescu
Regina-Erna Rejto
Babeş-Bolyai University of Cluj-Napoca
Mindaugas Briedis
Mariano Navarro
Universidad Panamericana Ciudad de México

Abstract

The paper aims to provide a broad construct for understanding skills, what they are, and the ways in which they are situated, i.e., dependent on the conditions for their exercise. Adding to Hinchliffe's approach, we made skills' transferability not only a key aspect of their conceptualization but also a way of exploring their deeply embodied nature and their intricate relation with complex situations. While there is a growing body of research regarding concrete aspects of embodied cognition in learning environments, little attention is given to skilful performances while transferring them into different (mediatized and non-mediatized) learning environments. Our theoretical and empirical investigation offers a preliminary picture of how skills are reconfigured and redeployed in transitioning from one learning environment to another. Regarding the structure of skill, we enlarged Hinchliffe's approach, integrating the perspective of conversational analysis. The structure of skills can be made explicit if we follow their build-up from simple abilities and their integration into larger structures. According to our view, being skilful means that one can cope with scripted and unscripted interactions and move easily between them.

Keywords: phenomenology of education, skills, embodied cognition, learning environment, COVID-19 pandemic, conversational analysis, operational resource

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Introduction

While there is a growing body of research regarding concrete aspects of embodied cognition in learning environment, (Castro Alonso et al. 2024; Frith, Miller & Loprinzi 2019; Linkola et al. 2022; Malinin 2016; Newcombe and Weisberg 2017; Petsilas et al. 2019), there is little attention given to skillful performances while transferring them into different (mediatized and non-mediatized) learning environments.

Already Dreyfus (1980, 2014), relying on Merleau-Ponty, pointed out three different meanings of embodiment, which are corresponding in fact to three levels on which embodied processes are taken place: the physical embodiment of a human subject; the set of bodily skills and situational responses that we have developed; and the cultural abilities and understandings that we responsively gain from the cultural world in which we are embedded. The adequate description of their articulation, as the key of understanding skilful performance, requires extended empirical research regarding the transition from a learning environment to another, as well as theoretical investigation regarding the concept of skill as precisely situated at the interface of the learning process and the environment.

The literature on skills in education is vast and with many ramifications. Therefore, even in well circumscribed area of interest the term might be vague and leading to misunderstandings. Although it gained centrality in the discourses on higher education, some are considering it already to be overused and under-theorized (Spencer 2024).

The term "skill" is also controversial. This cannot be surprising if we take a look to current situation in the philosophical debates. Stanley & Williamson (2001) challenged Ryle'(1946, 1949)'s distinction between knowledge-that (propositional knowledge) and knowledge-how (practical knowledge), sparking off a fierce debate between intellectualism and anti-intellectualism about practical knowledge. Stanley & Williamson (2017) defended a form of intellectualism based on the idea that that skillful actions manifest propositional knowledge. Pavese proposed a radical intellectualist position which states that "it is because know-how involves propositional knowledge that has a special explanatory link to success."

(Pavese 2018, 24) Robertson and Hutto (2023), placing themselves in the opposite camp, claimed that Pavese's identification of "practical modes of presentation with motor representations […] is problematic on empirical and theoretical grounds." (142) Following another argumentative line, Cappuccio (2023, 84) affirms emphatically that "Dreyfus is right", because "habitual action control […] is the true hallmark of skill and the only veridical criterion to evaluate expertise."

Placed at the crossroads of epistemology and theory of action, the concept of skill still needs an adequate theoretical and philosophical treatment which will presumably offer it a proper locus. In education, skill's transferability became a major issue once achieving practical knowledge and professional experience were legitimated aims of the teaching process. This can be acquired by moving it away from the mere instrumental reason (Hinchliffe 2002, 189), connecting it to the embodied (agent) and the cultural environment and describing the way in which abilities and knowledge are configurated and re-configurated up to the point where they are becoming a coordinated ensemble.

Practitioners in the field of education, as well as philosophers of education asked themselves if the concept of skill is adequate for describing the challenges and the performance of teachers and students. (Court 1990; Spencer 2004; Hinchliffe 2002) Sometimes their inquiry amounts to more general outcomes concerning the definition of skill and to a deep problematisation of their connection with the situation that they have to handle.

Our approach takes into account the skills of students in overcoming difficult learning situations, how they make sense and adjust to challenges raised by "critical incidents in their own practice". (Lundgren, Morrison and Sung 2023) Students (and instructors) respond to unscripted moments in the learning process and their engagement with the novel situation show "how co-emergence plays out in intra- and interpersonal interactions with the surrounding ecosystem." (ibid.) Although the youth was the least affected in terms of physical health (Broner et al. 2022; Preetz et al. 2021), the introduction of restrictions, such as social distancing and the lockdown, respectively the transition of higher education in the online

learning environment, resulted in many changes in the lives of the students (De Bruyn & Van Eekert 2023; Halliburton et al. 2021; Preetz et al. 2021). Studies report among students an increase in mental health problems (e.g. depression and anxiety), respectively a decrease in life satisfaction and an increased prevalence of stress and feelings of loneliness (Broner et al. 2022; Halliburton et al. 2021; Huang & Zhang 2022; Preetz et al. 2021; Reyes-Portillo et al. 2022; Vaterlaus et al. 2021), as well as career concerns and financial instability (Broner et al. 2022; Nuckols et al. 2023; Prattley et al. 2023).

The first Section of the paper will discuss the articulation of skill and situation. For that we go back to the concepts of "situational understanding" and "situational transfer", (Hinchliffe 2002; 2006; see also Elliott 1993) and we will confront them with recent theoretical developments which are emphasizing the situational (embodied, collaborative) aspects of the exercise of skills: the "interactive situation" (Varga & Gallagher 2022) and the "ecologies of skill". (Sutton & Bicknell 2022) The second Section analyses the emergent dynamic configurations of skills as they came into sight in an exploratory study investigating students' adjustment to the transition from face-to-face learning to online learning and back. In order to understand the skills and the environmental factors required for coping with the new learning environments during and after the COVID-19 pandemic, we used a qualitative method: the focus group. We gained a first-person view about the required skills to adapt to the major educational challenges. The third Section will evaluate the theoretical implications of the proposed conceptualization of skills and will offer a new conceptualization of skills and their structure.

1. Transferring skills from one learning environment to another

The discussion about embodied skills in learning (O'Loughlin 1995; Barsalou 2003; Black 2010; Briedis 2019; Macrine 2021) opened up a field of investigation which contributed to our understanding of learning as practice and suggested ways for the conceptualisation and design of learning environments. Based on previous theories, many of

the difficulties encountered by the students and teachers were studied they were immediately observable (anxiety, changes in levels of productivity, concentration, motivation, etc.). In the transitioning back from the online learning environment to the in-presence setting another series of difficulties have arisen. For a significant number of students, the re-integration of classrooms was difficult and they took into account to make a break in their studies, which would be in fact a form of abandonment. The difficulties are manifested now mostly as communicational and inter-relational.

There is a certain need for extended research, both conceptual and empirical, regarding the skills required for coping with the transitions. One can presume that, on this occasion, it will be unveiled a set of skills that have been usually taken for granted, like those related to communicating with peers and teachers, of synchronizing yourself with the others to create a learning group. From a theoretical point of view, one can identify the need to problematize the concept of (embodied) skill in close connection with the transitioning between different learning settings. A series of interrogations is arising: what was lost and/or gained in going there and back? are transitioning skills regular skills or could we speak of meta-skills? how can we make use of this new acquired know-how to improve learning and teaching? Most importantly: are there universal transferable skills, independent from context, or skills are what they are only in interaction with the specific contexts in which they are deployed?

In a time when there are significant changes in what is to be educated and divergent views on how to educate the others (and yourself), our proposal is to start the discussion about skills from a theory which takes fully in account the situation in which skills are deployed.

1.1. Situational understanding and situational transfer

Drawing from John Elliot's model of situational understanding (Elliot 1993), Hinchliffe (2002, 194) drafts an approach deemed to "cover any situation that requires an interpretative understanding allied to a series of actions—a

performance—orientated to producing a publicly defined outcome or process."

His exposition of the concept of skill involves the following aspects:

i) "The exercise of a skill is dependent on the interpretation of context by the practitioner."

ii) "In any complex situation it is likely that a range of possible skilled performances will meet criteria of adequacy: there can be no simple checklist approach to assessment."

iii) In the course of exercising a skilled activity, the theory emerges as interpretation.

iv) "A skilful performance is not (necessarily) a seamless execution of technique."

v) "Whilst a novice may need to learn a set of techniques, a practitioner will have certain capacities whereby those techniques can be deployed. It is these capacities which ultimately need developing". (Hinchliffe 2002, 194-5)

Hinchliffe's view has uncontested virtues in describing situated skills of a practitioner/performer: the focus on how they are effectively deployed and exercised, the taking into account of complex situations, the differentiation of skilled performance from mere execution or technique. However, the fact that he is seeking the clarification of a particular set of skills, i.e. those which are dependent of the interpretation of the context, induces a limitation regarding the possible generalisation of the concept of skill and possibly obfuscate some of its essential aspects. Pursuing this interpretation, we arrive not only to integrate theory into skill – which might be problematic, but not necessarily wrong – but also to acknowledge a kind of primacy of knowledge and to eventually make skills dependent of it. We may have been led, on this path, to accept the idea of meta-skills or metacompetencies, which cannot be otherwise than intellectual.

Hinchliffe prevents, in fact, such an over-intellectualistic interpretation by re-interpreting Bridges (1993) account of metacompetencies as an idea of a skill as just containing many different patterns of activity, which "range from IT skills (many of which are by definition transferable across contexts) to those skills that are more

context-dependent. (Hinchliffe 2002, 195) He even suggests that we might "think [- skills] in terms of arts (viz. the art of communication, the art of problem solving and negotiation, even the art of team-building)." Pursuing this line of thinking, he is led to see the deployment of skill as "a contrivance, a performance that is constructed […]. A skill may also be seen as 'artful' insofar as the accomplishment is a purposive endeavour […]. And finally, a skill may be seen as an art in the sense that it is the harnessing of a series of techniques and knowledge in order to achieve some demonstrable accomplishment." (195-196)

Since skills are evaluated primarily from the point of view of their context-dependence, the issue of skills' transfer has to be clarified. Hinchliffe distinguishes two kinds of transfer:

(i) the direct transfer, "where a technique is used in different contexts in the same way" (199-200), but having nonetheless a limited applicability for understanding skills, and

(ii) the situational transfer, where it is done using situational understanding. (200)

While very promising, this second type of transfer shows nevertheless some important limitations, namely, as Hinchliffe himself put it, it "presupposes an agent undertaking some intentional activity against a background that is understood in a certain way. In particular, the background is understood in terms of its similarity or dissimilarity to situations already encountered." (201, we underline)

Hinchliffe's strongly affirms that the learning of skills is situated within a context, since it depends structurally of the "situational understanding". Therefore, there are no "all-purpose generic skills". (Hinchliffe 2002, 188) This position has strong implications regarding skills seen in the context of their exercise, or, to put it shortly, skills in action. Taking up Ryle's distinction between habitual practice and intelligent practice, he underlines that practice is not "simply the mindless application of procedures. (194) On the contrary, the practitioner has "to be able to create and improvise, [we

underline – IC et al] and this depends on a contextual understanding allied with a willingness to experiment using a repertoire of understandings and techniques in order to find the best 'fit' for the problem to hand." (ibid.)

1.2. Skills, socio-cultural environment and learning context

The exercise of skills usually involves complex situations, in which social interaction usually plays an important role. As Gallagher, Sparaci & Varga (2022) noticed, "social interaction can be viewed as a form of embodied-situated performance." For that, cognitive and embodied motoric processes have to be fully integrated. The model of a meshed architecture, first introduced by Christensen et al. (2016) aimed to describe a vertical-hierarchical integration of higher-order (cognitive) and lower-order (automatic motoric) processes. Nevertheless, a horizontal integration of social-cultural components is strongly required in order to explain the skilled performance. Gallagher (2021, 357) elaborated a more complex, enhanced model of the meshed architecture, in which he gave a significant place to "a horizontal integration of environmental, social, and cultural-normative factors, consistent with 4E (embodied, embedded, extended, and enactive) approaches in cognitive science."

Socio-cultural environment and the learning context have to be acknowledged as integral parts of the process of education. Education is, from this standpoint, "a process of embodied cognitive assemblage of guided perception and action.". (Videla, Aguayo, and Veloz 2021)

A greater number of authors are expressing the need for "a broad enactive approach as a theory of embodied mind, a dynamic co-emergence theory, and a method of examining human experience" (Zorn, D) Recent research on human behaviour found way of taking into account the variety of ways in which individuals are individuals that are acting and thinking while tackling particular issues in unique settings. Sutton & Bicknell (2022, 4), for example, describe the skilled performance by taking into account its embodied nature, the forms of collaboration that are involved in it, the cognitive

aspects and is 'ecological' dimension. In sum, we may speak of "cognitive ecologies of skill" (ibid., 4). The framework is encompassing and allows the coalescing of a series of dimensions of the performance setting: cognitive, emotional, social, cultural, technological, and technical. (ibid.) Although it encompasses a vast and uneven domain of resources for the skilled performer, the concept brings forward the mutual dependence among the elements of an ecosystem (see Hutchins 2010, 706) The skilled performance can be seen ultimately as a form of flexible, embodied and collaborative intelligence. The series of activities and abilities that the agent condenses in a skill are in fact driven by external factors (physical, environmental, technological and social) and finally can be envisioned as "operations in interactive systems." (ibid. 5) The success of the skilled action is highly depended on the attention that is given to changes, the capacity of seeing new action opportunities and to rapidly shift the course of action. All these aspects form a coherent and dynamic ensemble of components able to describe the action of a skilled performer in a real-world context.

Under pressure, performers of all kind often expand their repertoires and bring about creative responses to facilitate the emergence of a new order or to repair the trouble. (ibid., 6) Changes of the habitual course of action are susceptible to bring out the structure of a skill. Therefore, a study of the ways in which skills are effectively used and eventually re-configured during dramatic changes of the learning environment would certainly has the potential to unveil their nature and structure.

2. Adapting to a changing learning environment: a qualitative study

The restrictions associated with the pandemic and the transition of higher education to the online environment were associated with a number of changes in the students' social life. On the one hand, the majority of students were forced to leave college campuses and return to the 'family nest', which meant a loss in independence and lower levels of life satisfaction (Dotson et al. 2022; Prattley et al. 2023; Preetz et

al. 2021; Reyes-Portillo et al. 2022). Online learning and social distancing, on the other hand, also accounted for this group's decrease, or even loss, of contact with peers (Farris et al. 2021; Halliburton et al. 2021) and contributed to increased levels of loneliness (Farris et al. 2021; Halliburton et al. 2021; Huang & Zhang 2022; Reyes-Portillo et al. 2022; Song et al. 2022). In terms of the academic life, the existing research highlights a number of stressors among students: lack of routine (Halliburton et al. 2021; Vuletić et al. 2021), unfavorable learning environment (Farris et al. 2021; Vuletić et al. 2021), worries about academic and professional future (Nuckols et al. 2023; Reyes-Portillo et al. 2022; Vuletić et al. 2021); but also reduced or even missing social contact with peers and teachers (Baltà-Salvador et al. 2021; Besser et al. 2022; Farris et al. 2021; Hopwood, 2023; Reyes-Portillo et al. 2022; Vuletić et al. 2021), and consequently decreased academic engagement (Farris et al. 2021; Hews et al. 2022; Ştefenel et al. 2022).

Since a clearer understanding of the tensions and opportunities in the transition from an environment to another is needed, we designed an exploratory study which had a twofold aim: collecting data regarding ways in which students adapted to a changing learning environment during the recent pandemic and investigating which abilities were helpful. The outcomes of the research point to some changes of the configurations of students' abilities and to allows us thematize regarding skills and their structure as they appear in their unfolding.

In order to understand the skills and the environmental factors required for coping with the new old normality during and after the COVID-19 pandemic, we used a qualitative method: the focus group (see Miles, Huberman, and Saldana 2013). Specifically, we aimed to have a first-person view about the required skills to cope with the major challenges of the pandemics: moving abruptly to online schooling, and then moving back to face-to-face schooling almost as abruptly.

Based on the analysis of the research on the students' perceptions of online education and the transitions from the COVID-19 pandemic, we extracted several main themes, which

were the basis for elaborating guideline questions for the focus group (see the Annex I). Following the development of the questions, participants were recruited for two focus groups, with the intention of having a maximum of 10 participants per focus group. The participants were recruited from the master studies of two faculties: the Faculty of History and Philosophy and the Faculty of Psychology and Educational Sciences. As inclusion criteria, the participants had to be part of the 2019-2022 undergraduate promotion, i.e. to have been students in the second semester of the first year of study in March 2020, so that they were at the university level for both transitions. It was also required to be Romanian speakers.

In total we had 18 participants, 10 in one group, 8 in the other, of which 12 were female.[1] Each participant was rewarded with a voucher to a bookstore. They all gave their informed consent for participation. The two focus groups lasted approximately 90 minutes each and the conversations were audio recorded. The first part of the discussion concerned the experiences of the participants in the transition from face-to-face to online education, and the second part the return from the online learning environment to the face-to-face one (see Annex II).‡

After transcribing the recordings from the focus groups, we reached the first step of the content analysis, the thematic analysis of the focus groups. In the first phase, we used the descriptive coding, which were then checked and recoded if needed.

In what it follows, the analysis of the content will be directed towards the outcomes corresponding to the category "abilities" from the focus group guide, namely to the question "what abilities were helpful in adapting to the change?" (see Annex 1 Focus group guide). The moderator asked this question separately from the transition from face-to-face to online learning and from online to a hybrid form of learning.

‡ We publish only the research results. For the consultation of research materials, please contact the authors (see emails at the end of this article). They are required to show the materials for a year, no longer. [The editors of *Meta: Research*].

Synthetically, we can say that a variety of skills helped students to cope and readjust during the two transitions. Organisational skills such as planning, time management and information seeking were indicated as being very useful in this context as well. Likewise, self-efficacy, achievement and determination (the desire to finish university), helped students, again in this situation, to be more ambitious and engage in school and extracurricular activities for self-development. Social skills also played an important role, namely "the ability to make friends" (FG2, P1)[2] as one participant stated. At the same time, resilience was also noted as a skill that helped students to readjust, the idea of "taking the situation as it is" (FG2, P6).

Regarding skills, the enhanced thematic analysis of the transcripts shows the following:

- there is large variety of resources that the participants are accessing. The most frequent resources that are mentioned by the participants in the two focus groups are emotions and feelings. Obviously, at least a taxonomy is needed, if not a more elaborate theory of the ways in which they are deployed and re-deployed.

- many participants reported negative emotions or psychological states, like "depression" (P2, FG2), "I can't take it anymore", "I needed to have control over something" (P7, FG2), "I was sitting in the house like a vegetable" (P5, FG2), "I was still insecure", "it was much harder for me to do anything" (P2, FG2), "awful experience" (P3, FG2).

- these expressions have a descriptive value, giving us a valuable insight about the psychological impact of the isolation and other imposed norms on the participants. Nevertheless, surprisingly they have been seen as "abilities", but as affordances as well. One of the participants even asked, jokingly, "is depression an ability?". Anyway, it is evident that emotional responses played a major role in addressing the new situation. More generally, an active concern with the self and its affective states comes into discussion very rapidly and is collectively identified (by agreement to other participants to focus group) as an outstanding factor in dealing with the stressful situation. One of the participants even used the

expression "focus on myself" (FG2, P6), another declared that "I have to have control over the situation" (FG1, P2), while another one declares that "I already knew how to take care of myself" (FG1, P1). Therefore, we may say that, besides the fact that they "coloured" the situation in which the individual suddenly found itself, emotional resources had been operative, i. e. have been, directly or indirectly, the primer of a specific (and adapted) type of engagement with itself, which eventually mediated the engagement with the entire environment.

- while the majority participants have been inclined to put in forefront the emotional response, one of the participants mentioned the "abilities of planning" (P2, FG2). Two participants in FG1 mentioned the felt need at a certain moment of "being organised" (FG1, P5) and of not wanting "to waste your time there" (FG1, P8)

However, these "abilities" had as consequence the increasing of social activities: "I started planning outings in Cluj with several people". (FG2, P2,) This is, in our view, a case when a particular type of ability (in this case, technical) had been used to stimulate socialization. That is another major strategy, that can be dubbed as "focus on social relationships".

- the "focus on yourself" was part of the overall response that the actant put in act in this period, but it was not the only one. It seems rather to be the first response, a kind of rapid adaptation. More elaborate responses followed, as the participants accessed or "discovered" (FG2, P2) other type of resources, like those mentioned earlier. Cognitive abilities are also mentioned by many participants. One participant declared that she or he "noticed logical thinking in some colleagues, very well applied" (FG1, P9), while another one made reference to "how to argue some answers" (FG1, P6). These abilities have been used at the personal level.

- there is an active dimension, a doing, in uses of emotional and cognitive resources, as we showed. This dimension is even more distinguishable when the participants are discussing the role of bodily resources. Interestingly, a reference to its own body comes in connexion with normative aspects, like the restrict the use of public space: "as much as

my body wanted me to vegetate in bed" (FG2, P7). Another participant indicates, as response to the new normative environment, the gardening (and doing sport "again" (FG2, P5), while another one just "tried to do sport" and deplored the fact that "when the pandemic started, we went to the gym, but after that I couldn't do anything at home" (P2, FG2).

- another form of doing was related to accessing and deploying cultural resources. "Novelty seeking and inclination to do or pursue creative things" (P7, FG2) was the first answer given in FG2. Painting came twice in discussion (P7 and P2 in FG2) and it was associated more with a practical activity, with the need of doing something. Therefore, we may say that creative activities received an intense emotional aspect and they were a component of the reaction to restrictions. The sustained involvement in practical and cultural activities seemed to be a form of resistance, like getting the driver licence (FG2, P3).

- later on, when students were in the second year and get to be more familiar with the colleagues, the social abilities have been activated, like getting out in the city with the colleagues (FG2, P2).

3. Skills in action

Based on our analysis, we can draw the outlines of a conceptualisation of skills:

1. Skills are heavily depending on the environmental factors, such as physical space, interactions, bodily and psychological states. For example, the transition to online was dominated by the reaction to the new situation, characterized by restriction of the use of public space and the confinement to a limited physical space

2. There are certain necessary stages of the adaptation. The primary reaction was of the type "focus on myself", followed or doubled by the rediscovery the others.

3. Deploying a variety of resources was pivotal for the shift of the type of engagement (moving from negative emotions and lack of activity to engaging the others and performing valuable activities). Throughout the social

activities the environment has been re-designed, made more favorable (open) to actions.

4. Non-educational aspects seemed to prevail. The learning environment was depending on other environments, which have been adjusted in order to make room for learning activities.

5. The transitions required different abilities and competencies. Also, they were distinct, although that people thought that it will be a coming back to normality.

6. Skills are related to the character of the situation, which are primarily assed affectively (emotionally). Therefore, the situation might be interpreted by the agents in divergent ways. That was particularly noticeable in the transition from online to face to face.

7. Skills are differently mobilized by the affective „colorization"

8. The dimensions in which the skills are emerging and are configurated are the following: (a) operative resource's: emotional (with positive or negative valence), social, cultural, technological (involving the use of equipment), technical (a kind of dexterity); (b) the background or the setting on which they are operating: normative (again, with positive or negative valence), physical, and social; c) an movement of scaling between personal (self- care in our case) and inter-personal (intersubjective).

9. Skills are requiring a sense of agency (or doing), authorship (or control and responsibility), and the feeling of real presence (being here: "Now I am really here")

Based on the data and the conclusions drawn from the exploratory study (see supra), we can say that contexts in which skills are deployed are as vital in their deployment as mastering the skills. In other words, we can assume that skills are constructed dynamically and also that adaptation is always dependent on context. In our data, transitioning form offline to online and back impacted skill enactment because of three aspects/types of contexts: physical, social, and academic.

Regarding the physical context, one can see in the responses of both focus groups that moving from face to face to online education changed the way they worked in group, paid

attention to the courses and seminars, and even learned the new contents. At first, all these skills were diminishing, and it is only working in groups that in some cases got better with prolonged online education. In this latter case, the optimization of working online in groups also depended on individual characteristics. Coming back to offline education all these changed back to better performance as the physical situation of being together in school influenced the way skills were enacted (e.g., one is more prone to pay attention if the teacher in present that when you can be just a "square" in an online meeting).

With regard to the social context, the huge changes brought by the interdiction to go out in the first months of the pandemics challenged the need for interactions of the students and left social skills unused. Coming back to offline education sparked social connections and the used of social skills both for academic purposes and for personal life.

Lastly, the academic or the learning context, which can be envisaged to rest upon the previous ones, left the subjects feeling that they were losing precious content while online, but regaining it when offline. In other words, even if it was the same participants with the same skills, going back home did not help them deploy learning skills, while coming back to school made them learn better again. In this learning context, teachers behaved differently as well, and as one participant has put it, we can say that even persons are situated: "the professor is another person while offline"! Student themselves felt as different persons in the two contexts, online and offline, and this has impacted their skills.

Emotions during the transitions also altered skills. The surprising fact in most of the responses was that of going from joy to sadness when adjusting from face to face to online, and from sadness to joy when adjusting back! These emotional dynamics might have affected the employment of skills: while at first happy so that they were prone for action, in a few weeks they became less prone to act which ultimately led to the idea that they were left broke (e.g., their attention and memory not working like before anymore). This sadness also contributed to their feeling of not wanting to come back to face

to face and after that to how awkward everything felt in the beginning when back in physical contact. However, these impressions vanished as they realized how different in a good way face to face learning was in the end, they have the feeling they are ready to face new potential crises in their lives.

4. Conclusions

4.1. Regarding what skills are

Hinchliffe is right when he insists that skills are deployed through action and "we are obliged to investigate the dynamics of agency in situations of change […]" (201). However, taken seriously, this task has in our view greater implications that that of opposing "to the mere mechanical transfer of procedures and practices" (Ibid.). We have now the conceptual (and practical) means to address much more complex and opaquer that those taken into account by Hinchliffe. Adding to his views an approach based on social interaction of embodied agents is, in our view, susceptible to bring even more light in the structure and dynamic of skill(s) as deployed in certain situations.

From the standpoint of their exercise, a skill is connected and has to be understood through the agent's capacity "to create and recreate performance in the light of one's understanding and to test that understanding itself in the light of response to a performance." (194)

Nevertheless, Hinchliffe's approach does not take into account the situations when the skill is strongly put to test and reveals its internal structure.

Also, Hinchliffe's approach is designed "to cover any situation that requires an interpretative understanding allied to a series of actions—a performance—orientated to producing a publicly defined outcome or process." (194) The fact that the performance is seen as a series of multiple actions helps us to understand that skills too are complex structures. Moreover, stating that the goal of the performance is a publicly define outcome opens the approach towards the possibility of joint actions, of collective contributions. We cannot speak now only of an individual agent, but of a plurality of agents, operating

sometimes individually, sometimes collectively. The outcome of their performance is offered to public evaluation, use and reuse and simultaneously takes advantage of these public resources.

So, one side, the understanding of skills has to be broadened in a way that, on one side takes into account the social and cultural dynamics in which skills are operating and, on the other side, it will include an internal dynamic of skills. These internal dynamics is not only detectable at the level of the individual agent, but also at the level of collective action. From this standpoint, skills are enacting a world, more precisely a world for each one and for virtually all of us. They belong to a system of actions which do not take the existing environment as such; they are complexifying the environment of the agents and transform it in a plurality of interpenetrated worlds, which are deployed on several levels (physical, cultural, social, normative).

In the light of recent literature on skills (enactivist and 'ecological') and of the insights gained in the exploratory study, we may adjust Hinchliffe's understanding of skills in the sense that the iinterpretation of context by the practitioner is indeed of highest importance and it cannot be separated from the performance as such. Nevertheless, it should not be placed in a prevalent role, as that unique factor of which the exercise of skill is dependent; it is rather one of many resources of the agent. Also, the interpretation is still a very general term. The exploratory study showed that the already available and newly created resources, taken individually, but also collectively at a certain moment, are enriching themselves gradually and reciprocally. Affective resources are entering the scene in the beginning, but they are re- interpretated and are leaving place for a wide palette of assets, plans and schemes. All the resources are developing throughout the exchange with the others and the ad-hoc experimentation and the feedback from the environing world.

4.2. Regarding what skills are

As David Bridges (1993, 51) remarked (and Hinchliffe seems to agree), an approach which includes an ability to

evaluate the settings and an ability to modify one's repertoire of competencies "takes us some way beyond what many have understood as skills." (Hinchliffe 2002, 195). It is not only that the understanding of skills does not require some "metacompetencies", but that they are part (an essential part, in fact) of a much larger and structured "conversation". The term is used occasionally and metaphorically, when Hinchliffe insists that "a skilful performance […] involves knowing-in-action, a 'reflective conversation with a unique and uncertain situation'" (195).[3] While deploying some skills in addressing a certain problem in a particular situation, the agent engages herself in a larger multi-modal conversation with her fellows.[4] Therefore, the perspective of conversational analysis is susceptible to unveil the internal articulations of the skill.

The Goodwinian approach to social interaction abandoned the idea of a generic "action" in favour of understanding action in its entire complexity and fullness. It took into account "affective and epistemic stance, semiotic and material properties, management of attention, embodied behaviour and participation (Deppermann 2018; *cf*. Goodwin 2000). Related to local actions, they are "objects" that can be described as relatively autonomous, i.e. not as the implementation of abstract types of actions or as the particularisation of some abstract knowledge. Therefore, skills are belonging the that class of actions which includes responsive uptake and variation as structural moments. Skills' analytic should be then grounded on "sequential actions" (Heritage 1984) and will be both "context-shaped" and "context-renewing" (see Deppermann 2018, 68). Their structure seems to be similar to that of the objects and process studied by conversational analysis (CA)

While "sentences emerge with conversation […] as the products of a process of interaction between speaker and hearer and that they mutually construct the turn at talk," (Goodwin 1979, 97-98) we may say that skills are emerging in interaction, more precisely in the interaction of the agent[5] simultaneously with materials, meanings, normativity and other agents' expectations and contributions.

The structure of skills can be made explicit if we follow their build up from simple abilities and their integration into larger structures. Calculating could be considerate an ability, while solving a problem of arithmetic is a skill. Several abilities are involved and they are intervening in a certain order. Moreover, in order to be a skill, they have to fuse into a single continuous action and form a distinct capacity. Fluency is a key trait of a skill, as well as the fact that they presuppose and incorporate a segment of learning. Calculating the dimensions of a wall and erecting it is an intelligent performance. Here you have to cooperate with others, observe and evaluate the terrain, etc. The skill of calculating is the core, but it is surrounded by other activities. However, their succession is not strict and the order is looser.

To build a house is a cooperative intelligent action; many skills are involved in there, but also many other activities, such as planning, negotiating with the constructor, getting authorization from the mayor's office, etc. In this build up, the agent relates to what you have already acquired as material, psychological, cognitive, cultural, and normative resources. One is skilful when she can easily cope both with scripted and unscripted interactions and move with ease between them. This aspect is the key for a skilled performance, not necessarily the repetition of learned sequences of behaviour. If one repeats an action, as much as it is loaded with theory and elaborated in the beginning, she is trained, but she is unable to fully take into account the context and adapt to the environment.

NOTES

[1] The Scientific Council of the Babeş-Bolyai University of Cluj Napoca granted research ethics approval for the project "Embodied learning in shifting mediatized academic environments: transitioning and interactive skills in education" under the reference number: 360/04.04.2024.

[2] FG indicates the focus group (1 or 2), while P means participant. We allocated randomly a number to each participant.

[3] Citing Schön (1983. 130).

[4] In some cases, also with no-human animals.

[5] There are also group skills, but for the sake of intelligibility we let this topic aside.

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Ion Copoeru PhD. is professor at Babeş-Bolyai University of Cluj-Napoca. His research interests are mainly in phenomenology (Husserl, Schutz, Merleau-Ponty, embodied cognition) and ethics in professions, with an emphasis on legal, health and social work professions. He is author of *Appearence and meaning* (*Aparență şi sens*, 2000) and *Structures of Phenomenological Constitution* (*Structuri ale constituirii*, 2001). He is co-editor of several collective works, such *Phenomenology 2005. Volume 3: Selected Essays from Euro-Mediterranean Area,* in 2 tomes (with Hans Rainer Sepp, Zeta Books, 2007); *Phenomenology 2010, volume 3. Selected Essays from the Euro-Mediterranean Area: The Horizons of Freedom* (with P. Kontos and A. Serrano, Zeta Books, 2011); *Recherches phénoménologiques actuelles en Roumanie et en France* (with Alexander Schnell, Olms, 2006).

Address:
Ion Copoeru
Centre for Applied Philosophy
Babeş-Bolyai University of Cluj-Napoca
1, M. Kogalniceanu
400084, Cluj-Napoca, Romania
Email: copoeru@hotmail.com

Thea Ionescu is an associate professor at the Department of Psychology, Faculty of Psychology and Educational Sciences, Babeş-Bolyai University, Cluj-Napoca. Her field of expertise is Child Psychology and she teaches Developmental Psychology at both undergraduate and master's levels. She is a researcher at the Developmental Psychology Laboratory at the same department, where she coordinates the Flexibility and Grounded Cognition group. Her research interests include: the variability-stability-flexibility pattern in development; the development of categorization; concept formation; Embodied/Grounded Cognition – implications for development and education; giftedness and the phenomenon of insight in creative problem solving; early education. She is the author of the books *Children and grownups: Ways for the optimization of human development* (2022, in Romanian), *Children who are different: Cognitive development trajectories: A critical analysis* (2014, in Romanian).

Address:
Thea Ionescu
Department of Psychology
Babeş-Bolyai University Cluj-Napoca
7 Sindicatelor Street,
RO-400029, Cluj-Napoca, Romania
Email: dorothea.ionescu@ubbcluj.ro

Regina-Erna Rejto is a graduate of the Psychology specialization at the Faculty of Psychology and Educational Sciences and the Master's program Counseling and Psychological Interventions in Human Development, at UBB. She is involved in activities with young people; her professional interest is oriented towards the different ways in which each person builds their own academic and professional path, in search of the meaning in life.

Address:
Regina-Erna Rejto
Department of Psychology
Babeș-Bolyai University Cluj-Napoca
7 Sindicatelor Street
RO-400029, Cluj-Napoca, Romania
Email: regina.rejto@ubbcluj.ro

Mindaugas Briedis, Ph.D. is Professor at the Escuela de Comunicación, Universidad Panamericana, Mexico City, and also affiliated with the Institute of Humanities at Mykolas Romeris University in Vilnius, Lithuania. With a background in Philosophy, he specializes in areas such as Philosophy of Communication, Embodied Cognition, Visual Communication, Religion and Media, and Philosophical Ethnography. His research explores the intersections of communication, cognition, and culture, with a particular focus on understanding how embodied experiences shape our perceptions and interactions within various media environments.

Address:
Mindaugas Briedis
Escuela de Comunicación
Universidad Panamericana
Augusto Rodin 498
03920, Ciudad de México
Email: mbriedis@up.edu.mx

Institute of Humanities
Mykolas Romeris University
Ateities 20
Vilnius, 08303, Lithuania
Email: mbriedis@mruni.eu

Mariano Navarro, PhD in Communication, is Professor at the Universidad Panamericana, Mexico City. His research focuses on the philosophy of communication and media, the historical origins of communication studies, and the intersections between media and religion. He is a member of the National System of Researchers of the National Council of Humanities, Sciences and Technologies of Mexico. He is the Dean of the Faculty of Communication at the Universidad Panamericana.

Address:
Mariano Navarro
Escuela de Comunicación
Universidad Panamericana
Augusto Rodin 498
03920, Ciudad de México
Email: mnavarroa@up.edu.mx

Institute of Humanities
Mykolas Romeris University
Ateities 20
Vilnius, 08303, Lithuania
Email: mnavarroa@up.edu.mx