Towards Metacognitive Development through Simulation in Teacher Education

María Laura Angelini
Universidad Católica de Valencia “San Vicente Mártir”, Spain

Neus Álvarez
Universidad Católica de Valencia “San Vicente Mártir”, Spain

To cite this article:


International Journal on Studies in Education (IJonSE) is a peer-reviewed scholarly online journal. This article may be used for research, teaching, and private study purposes. Authors alone are responsible for the contents of their articles. The journal owns the copyright of the articles. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of the research material. All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations regarding the submitted work.

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
Towards Metacognitive Development through Simulation in Teacher Education

María Laura Angelini, Neus Álvarez

Abstract

Several studies have collected the voices of prospective teachers regarding their lack of metacognitive knowledge about problem-solving strategies. Although the practicum has long been the official procedure for pre-service teachers to learn and practice classroom teaching, it has been demonstrated that it does not always guarantee success in terms of safe practice experiences, repetition possibilities, feedback and reflection necessary for them to gain adequate knowledge and assertiveness in decision-making. The identification of strengths and weaknesses of one’s own learning process should be a cornerstone of any educational context (Daniel et al, 2005). The virtues of simulation in education have been described at length. However, it still seems there is a long way to consider it a central part in pre-teacher practice. A qualitative study was conducted to examine three consecutive years of final reports by all pre-service teachers who have followed a teacher training module framed under simulation methodology. Results revealed three interrelated areas within the simulation context that led to the development of metacognition: the valley of despair, affective involvement and the more knowledgeable other. Pre-service teachers had high metacognitive awareness of their ability to tackle the problems posed in the scenario. Pre-service teachers’ realisation of what they could do and their limitations were the starting point for the metacognitive development based on the simulation. The learning gain extended far beyond the content. It also included affect regulation and the valley of uncertainty, re-oriented through the presence of the more knowledgeable other, with whom there was interaction and dialogue. This study adds value to the literature thanks to the collaborative nature of the pedagogical proposal. This proposal brought together academics, in-service teachers and pre-service teachers through interaction in a simulation.

Introduction

This research comprises a 3 year-process of academic collaboration with other academics and in-service teachers from abroad in our module Didactic Resources of English as a Second Language (ESL) in the Official Master’s Degree in Teacher Training in Compulsory Secondary Education and Baccalaureate, Vocational Training, and Language Teaching. In this period, we have analysed how simulation methodology elucidated three components...
that helped enhance students’ development of metacognitive skills: the so-called ‘valley of despair’, affective involvement (AI) and the more knowledgeable other (MKO).

According to de Wijse-van Heeswijk (2021), the valley of despair consists of a period during the simulation in which participants perceive frustration about their performance, possibly due to lack of sufficient knowledge about the issue, or maybe about the impossibility to meet their goals. The valley of despair may evoke negative feelings and emotions which can potentially make participants feel overwhelmed toward the simulation itself and their own learning process (Carrera et al., 2016; Dieckmann, 2020; Jones, 1998, 2013; Kato, 2010; Kriz, 2010; Rudolph et al., 2014). The valley of despair is usually considered in the literature as a situation of blockage in the face of the discovery of the inability to solve a situation. However, placing the student in these situations of difficulty, even at the risk of blockage as many authors argue, can contribute to developing their metacognitive capacity by making the student aware of shortcomings at different levels: educational, social or emotional, among others (de Wijse-van Heeswijk, 2021; Van Laere et al., 2021). In the simulation, highlighting these shortcomings makes full sense by offering the student the scaffolding offered by the MKO, providing the student with the necessary help to overcome the fall into the valley of despair and helping them to start on the path of informed knowledge.

From a pedagogical perspective, the experiential learning model postulated by Dewey (1938) which is linked to reflection and understanding with action may encompass some kind of uncertainty and frustration while the actual ‘doing’. Educational researchers and theorists such as Lewin, Piaget, and Kilpatrick, Rogers and Kolb identified stress levels connected to action/performance (Aiello & Kolb, 1995). The authors coincide, however, in the importance of exposing students to realities that challenge their abilities and knowledge.

From a sociological and psychosocial perspective, being exposed to quasi-professional situations, may encompass stress on the one hand and elucidation of one’s capabilities and limitations, on the other. The feelings of performing a profile role in a simulation aligns with Morris and Feldman’s idea of “the effort, planning, and control required to express emotions in an organised way during interpersonal relationships” (1996, p. 987). The simulation practice provides evidence on how affective involvement enables or hinders participation. Through the simulation, participants are immersed in unpredictable and unrepeatable situations, which may cause some uncertainty, conflict and instability. Participants’ performance is unique and particular, reflecting the personal involvement of each of its members: idiosyncrasy, subjectivity, personal biography, education, and culture of origin (Badiee & Kaufman, 2015; Biggs & Tang, 2007).

Learning occurs when the participant is capable of understanding the internal affect conflicts dominating the performance. This could be an initial step towards the development of metacognitive skills: the ability to analyse what works for them, how they learn better, where they are at and what is still missing (Van Laere et al., 2021). The identification of strengths and weaknesses of their own learning process should constitute a milestone in any educational context (Daniel et al, 2005). It is only by knowing about oneself when the students are capable of unfolding all their potential to pursue their goal (Magno, 2010). When engaging in the simulation, students need to undergo specific metacognitive skills like monitoring their thinking process, checking whether progress is being made toward an appropriate goal, ensuring accuracy, and making decisions based on knowledge.
A third aspect that drives this research is the presence of the more knowledgeable other (MKO) during the simulation. The MKO is the participant in the simulation who has a better understanding and higher ability level than other participants, with respect to a particular task, process, or concept. The MKO can make the others learn effectively. The MKO is one of the most influential concepts to have arisen from Vygotsky's work (1978) linked the Zone of Proximal Development (ZPD). What Vygotsky argued was that learning led development and that there was a difference between what the individual had already mastered and what could be achieved with the assistance of more knowledgeable others (Safia & Mala, 2012). This difference was the ZPD. This was the zone he believed educators should be operating within to be able to identify and develop individuals’ learning (Crookall, et. al., 1987; Crookall & Thorngate, 2009; McAllister et al., 2013). By finding out the KO, it is possible to form an effective and efficient team where learning can be enhanced (González-Franco et al., 2021; Jarret, 2022).

To sum up, the relationship among cognition, metacognition and affectiveness has been described by Schraw, Crippen & Hartley earlier in 2006. They presented a model of self regulation and learning where all three were interrelated and co-dependent: 1) knowledge (e.g., how to solve domain-specific problems); 2) metacognition (e.g., knowledge about oneself as a learner, goal setting and strategy implementation); and 3) affection-motivation (e.g., self-efficacy beliefs that affect engagement and persistence on a task). Ott and Pozzi (2010) defined a system integrated by cognition, affection and metacognition to foster creativity understood as defined per Anderson & Krathwohl (2001) as the ability of “putting elements together to form a novel coherent whole or make an original product”. In addition, the contribution of the MKO to the enhancement of the metacognitive skills is, according to Baker (2006), essential as the social system constructed by the MKO and the student promotes internalisation and independent thinking.

This work, thus, analyses through the participants’ reports three interrelated components in the development of metacognition by using simulation in teacher education: the so-called ‘valley of despair’, the affective involvement and the more knowledgeable other. We aim at responding if simulation as a pedagogical strategy can be effective to develop metacognition in teacher training.

**Simulation Methodology**

To better understand simulation methodology, it is important to describe how each of its phases work: briefing, action, and debriefing.

The briefing (Phase I) consists of the preparation of the simulation. The trainer, from now on the facilitator, must provide all the necessary information and rules that pave the way for the Action (Phase II). The briefing sessions are prior to the simulation action, where participants discuss issues related to the simulation scenario. It is important to stress the value of research in this phase. Participants should document and research the different issues or situations that will be dealt with in the scenario. They will be better prepared in terms of content and language to be able to dialogue and discuss during the simulation (Figure 1). The specific profiles can be strategically assigned to the participants after they have analysed the scenario situations from the different
perspectives of the profiles. In this phase, the general objectives of the simulation are presented. The facilitator forms the teams and then assigns the profiles to the individual team members.

Figure 1. Classic Simulation Procedure

The action (Phase II) is where the simulation takes place. All participants have objectives and responsibilities that are clearly specified in their profiles. The team leader can start the activity by thanking the members for their presence and addressing the problems that need to be solved. Debates, discussions, negotiations and decision-making are expected.

Debriefing (Phase III) takes place after the action. All participants (intra or inter-group) reflect on the experience, their role and their learning process. It is the phase of reflection, sharing and evaluation at individual and group level, in which participants analyse the different tasks and results of the previous phases. For a better understanding of the simulation (see Annex with simulation model).

It is worth considering the simulation advocates’ findings. According to García Carbonell et al. (2012), simulation does not dissect knowledge and communication skills, but promotes professional competence through a global cognitive process, which optimises results and justifies the full integration of simulation in curriculum design. Authors such as McCrary and Mazur (2010), and Murphy and Cook (2020) have indicated that dialogic learning can be achieved by integrating simulations into education. Dialogue is central to classroom simulations. It leads to new understandings and new knowledge. This exploration through simulation, in which pre-service teachers construct meanings through dialogue, rather than having meanings imposed from outside, leads to powerful learning. Most importantly, learning through dialogue leads not only to content knowledge, but also to improved language, thinking skills and intercultural awareness (Álvarez, 2023; Angelini, 2021; Angelini & Muñiz, 2023; Burke & Mancuso, 2012; Michelson & Dupuy, 2014; Ranchhod, et al., 2014; Scarcella & Crookall, 1990). These studies agree that simulations provide more clearly structured interaction, more comprehensible input for learners, affect regulation and reduced learning anxiety.

Moreover, since the simulations are inspired by reality, pre-service teachers will have had the possibility to analyse and make decisions about some of the educational challenges described in the scenario before exposure to real
situations. This contributes to the development of critical thinking skills. Starting from a logical organisation of information, future teachers are then encouraged to develop their creativity to find appropriate solutions to the problems presented in the scenario, to take responsibility for assuming a role and, finally, to develop metacognitive skills to reflect on their own learning process (Daniel, et al., 2005).

Last but not least, another challenge, of which facilitators should be aware of, is the development of social skills. Simulations fit well with Vygotsky's social learning theory, according to which learners first engage in learning at the social or group level and then at the individual level (García-Carbonell et al, 2012; Kolbe et al., 2015). Pupils progress in stages, from what they can do by themselves, through what they can do with help, to what they cannot do. Future teachers find it difficult to progress through the zones of proximal development (ZPD) if social interaction and collaboration with other educators and peers is lacking (Vygotsky, 1978). During a simulation, pre-service teachers assimilate discipline-specific knowledge and develop social skills that they can transfer to professional settings (Havnes et al., 2016; Kourgiantakis, et al., 2019).

Method

This study was based on three year-long courses (2019/2020, 2020/2021 and 2021/2022) and university students enrolled in the Didactic Resources module of English as a Second Language (ESL) in an Official Master’s Degree in Teacher Training in Compulsory Secondary Education and Baccalaureate, Vocational Training and Language Teaching in Spain [N= 106]. Mixed teams were formed with foreign university students and in-service teachers [N= 97], as well as academic facilitators [N = 16] from America (United States and Canada), Europe (Norway, The Netherlands, Austria, Romania and Spain) and Africa (Tunisia). Except for one expert from The Netherlands and two experts from Spain, the academics were not familiar with simulation. The vehicular language was English.

All participants had ties to the field of education. They were pedagogues, primary and secondary school teachers from different areas, and students of educational sciences. The simulation was “The School of Valtance” version 2 (see Annex) during the year of the pandemic. Each participant was assigned a specific profile or role. Teams had 5 or 6 participants each (see Figure 2).

<table>
<thead>
<tr>
<th>TEAMS</th>
<th>Participants’ NAMES</th>
<th>EMAILS</th>
<th>PROFILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEAM 1</td>
<td>1 (Spain)</td>
<td>1 (Spain)</td>
<td>Profile 1: Head of the School of Valtance</td>
</tr>
<tr>
<td></td>
<td>2 (Spain)</td>
<td>2 (Spain)</td>
<td>Profile 4: Valtance English Department (VALED)</td>
</tr>
<tr>
<td></td>
<td>3 (Argentina)</td>
<td>3 (Argentina)</td>
<td>Profile 2: Valtance Pedagogical Advisory Board (VALPE)</td>
</tr>
<tr>
<td></td>
<td>4 (Tunisia)</td>
<td>4 (Tunisia)</td>
<td>Profile 3: Valtance Parent Association (VALPA)</td>
</tr>
<tr>
<td></td>
<td>5 (Romania)</td>
<td>5 (Romania)</td>
<td>Profile 4: Valtance English Department (VALED)</td>
</tr>
<tr>
<td></td>
<td>6 (Romania)</td>
<td>6 (Romania)</td>
<td>Profile 6: Special Education Department (SEDE)</td>
</tr>
<tr>
<td>TEAM 2</td>
<td>1 (Spain)</td>
<td>1 (Spain)</td>
<td>Profile 4: Valtance English Department (VALED)</td>
</tr>
<tr>
<td></td>
<td>2 (Spain)</td>
<td>2 (Spain)</td>
<td>Profile 1: Head of the School of Valtance</td>
</tr>
<tr>
<td></td>
<td>3 (USA)</td>
<td>3 (USA)</td>
<td>Profile 2: Valtance Pedagogical Advisory Board (VALPE)</td>
</tr>
<tr>
<td></td>
<td>4 (Tunisia)</td>
<td>4 (Tunisia)</td>
<td>Profile 4: Valtance English Department (VALED)</td>
</tr>
<tr>
<td></td>
<td>5 (Norway)</td>
<td>5 (Norway)</td>
<td>Profile 4: Valtance English Department (VALED)</td>
</tr>
<tr>
<td></td>
<td>6 (Greece)</td>
<td>6 (Greece)</td>
<td>Profile 6: Special Education Department (SEDE)</td>
</tr>
</tbody>
</table>

Figure 2. Mixed Team Example

The sample for this study consisted only of the 106 Spanish students. The sample comprised students from the
year courses 2019/2020 (35 students), 2020/2021 (33 students) and 2021/2022 (38 students). Of these students, 71.7% were women and 28.3% were men. The average age was 27.3 years (SD = 5.416). The age range was 22 to 57 years. With regard to previous education, most students had studied English Literature (68%), Translation and Interpretation (29.1%) or Teaching (2.9%) in Spanish universities.

**Procedure and Instruments**

In this exploratory longitudinal study, data were collected using Spanish students’ answers to the open question ‘c- final comments’ in the final report which consists of a guided account of the whole experience:

- **a- Reflections on learning.**
  1. notions and concepts about teaching language skills
  2. notions and concepts about classroom management
  3. games as pedagogical strategies in English classes
  4. lesson study in English classes
  5. simulations in teacher training
  6. notions and concepts about adapted teaching (special learning needs)
  7. Learning community: importance of parents and community participation in school projects- Service learning
  8. intercultural exchange with participants from abroad (educational differences, ...)

- **b- Relevant literature consulted. Sound justification of the material consulted.**

- **c- Final comments**

A convenience sampling procedure was used, with students enrolled in the aforementioned master’s degree. The study calendar spanned eight to nine weeks during which a thorough briefing or preparation of the simulation scenario and pre-mentoring guidelines were provided. Pre-service teachers from Spain and from abroad attended participatory lectures that explored the related topics that would appear in the educational scenario. They did not know either the scenario itself or their profile roles. This approach guaranteed impartiality whilst providing a deeper understanding of the issues from different perspectives. Figure 3 shows the study calendar we followed.

<table>
<thead>
<tr>
<th>Week 1-3</th>
<th>Briefing, lectures</th>
<th>Class discussion</th>
<th>Specific literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeks 4-7</td>
<td>Mixed teams, simulation scenario, profile roles</td>
<td>Action: synchronous meetings per team via Microsoft TEAMS; asynchronous interaction via UniCollaboration Platform</td>
<td></td>
</tr>
<tr>
<td>Week 8</td>
<td>Debriefing</td>
<td>Report</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3. Calendar of the Study
Synchronous communication took place once a week. They were recorded for later study. All synchronous meetings were also supervised by the facilitators who entered the room but did not interact in the simulation. The role of the facilitator was to check that the meetings were conducted properly by the ‘Head of the school’ and the quality of interactions. The facilitator took notes to later discuss during the debriefing sessions.

In case any member of the team failed to attend any synchronous session, another member took over and led the meeting. Notes were taken by one of the members assigned by the chairing person. During the asynchronous communication, all members could read the notes and add more information on a specific topic in the scenario. UniCollaboration platform was recommended for this kind of interaction.

**Data Analysis**

First, the data was analysed using the software Dedoose version 9.0.17 for the categorisation of participants’ discourse through their final comments. Qualitative studies have become particularly popular in the social sciences where the role of participants and their perceptions through their discourse (Goetz & Le Compte, 1988; Harris, 2005; Krippendorff, 2019; Kvale, 2011; Martínez, 2000; Rodríguez et al., 1996; Sandín, 2003; Vallés, 1997, 2002; among others. Responses to the open-ended question are coded, i.e., they are organised and reduced to saturation in order to elaborate the categories, in terms of their properties and dimensions.

**Results**

The pre-service teachers’ perceptions on simulation yielded three categories of analyses:

1) ‘uncertainty and anxiety’ which we link to de Wijze-van Heeswijk’s (2021) and Van Laere’s et al., (2021) ‘valley of despair’.

2) ‘attitudes and behaviour’ which we link to Vlachopoulos and Makri’s (2017), affective involvement

3) ‘mixed teams’ which we link to Jarret’s (2022) the more knowledgeable other.

As for the first category, the uncertainty and anxiety pointed out by some of the participants respond to the initial plan. Any activity that students in general and pre-service teachers in particular carry out at the request of a teacher, if it is well planned, should involve a learning challenge. From the teaching point of view, learning involves confronting students with challenges and, at the same time, guiding them to be able to solve them. Simulation fits perfectly within this model, and moreover, due to its idiosyncrasy, it allows the integration of multiple opportunities to challenge the student in all his facets, namely linguistic, cognitive, affective, social, moral, to mention some (de Wijse-van Heeswijk, 2021).

“I felt frustrated at times. The simulation has increased my knowledge about ESL especially when I got blocked with topics such as CLIL or service learning”.

“I was a little anxious at first but everything worked out fine in the end”.
“I enjoyed the experience. But it was hard to take responsibilities as a head of the school. With this role I didn't feel quite comfortable sometimes”.

“This experience has been very enriching. However, I felt that I needed some more preparation for my role”.

It may be inferred that the manifested frustration and anxiety perceived by some of the participants confirm the lack of simulation practice in the teaching degree. This is evidence of the still low popularity of simulation in teacher education. Likewise, the stress caused by the simulation could be possibly due to the lack of preparation of the issues presented in the scenario or the impossibility to meet the profile and simulation goals. This so-called valley of despair may evoke negative feelings and emotions which can potentially make participants feel overwhelmed toward the simulation itself and their own learning process (de Wijse-van Heeswijk, 2021).

Some pre-service teachers indicate that the virtual interactions were not sufficiently educational. However, the pressure of being exposed to other participants, amongst whom there were academics and experienced teachers, boosted their interest in research about the issues presented in the scenario.

“I know that the meetings were not the most enriching, but thanks to the simulation I read about different topics and I believe that I would not have done that otherwise. Normally, when professors ask us to read articles, we do not do that unless it is compulsory, but the simulation made me want to read”.

It is interesting to mention that some pre-service teachers had plenty of experience with people from abroad. Either by travelling or by interacting with people virtually, the proposal itself may not have led to conscious learning.

“I don't think the VE helped me to be more culturally aware since I already was. [...] I also think that I haven't learned that much about teaching English or helping special needs students since the participants in my group did not engage much on these topics or just gave personal opinions. Now, I know I’d like to learn more about these issues as I’m sure I will encounter similar situations in my daily practice in the future”.

The ‘valley of despair’ experienced in cases like this may be also provoked by the interaction (lack of interaction) with the others. It may not necessarily occur out of lack of sufficient knowledge to come to terms with the other voices in the team.

The second category ‘attitudes and behaviour’ can be associated with affective elements such as social development, self-esteem or self-assurance. These elements may raise in the participants’ different stages of satisfaction or uneasiness with their performance in the simulation. Vlachopoulos and Makri (2017) refer to affective involvement to the participants’ perceptions during and after the simulated experience.

“At the beginning I was a bit afraid about doing the simulation as I did not know the rest of the
participants but after the first session in which we all introduced ourselves, it was great”.

“When you presented the activity to us, I thought it was going to be hard but I really enjoyed it”.

“I had always been looking forward to experiencing an international project in which I could get to know different cultures and people from all over the world. I strongly believe it is a very fulfilling experience that now with the pandemic can be implemented more and in different areas such as e-tandem to practise the English language or any language we want and meet people from all around the world, along with their interests, cultures, way of thinking and way of living”.

Despite a certain discomfort in the face of the unknown, it is true that the motivational/attitudinal parts are central in the success of any educational proposal. On the contrary, when social abilities are not practised enough, some participants may encounter some stiffness in the flow of conversations.

“I hope I would have done better during the meetings, but it was hard for me to cope with the silence of the group. I did not want to talk too much, but I believe I did”.

This confirms that simulation poses social-communicative challenges to learn how to manage in professional situations.

Finally, the third category ‘mixed teams’ indicate another relevant challenge perceived by the participants. This study presupposes challenging the participants to draw on the most from them. An added value of the methodological proposal is the presence of the more knowledgeable other (Jarret, 2022). According to some testimonies:

“This experience has been extremely enriching and has made us mature as future teachers. Furthermore, I have questioned things that I would have never done before and the expert helped me understand or clarified my ideas. All in all, I did learn and grow a lot thanks to this simulation project”.

“This course has helped me to broaden my perspective on education. I have seen education in other countries and how it has affected them both positively and negatively. It has helped me to open my mind a bit more in various aspects, learn more about education not only in the subject of English and the different perspectives of different areas”.

“I find the simulation was overall positive. I would say we were lucky to have been working with people having very different backgrounds, which made the experience more enriching for all of us”.

The study has also proved that the MKO exerts a pressure that is directly proportional to the level of preparedness of the participants. The more presence of experts, the more preparation of the pre-service teachers. In turn, the more they know, the more aware they are of what is still missing out.
“[...] I have heard a lot of experiences from the other teachers from abroad. After we had this simulation, I realised I still have a long way to go. As a teacher, we should use our whole life to learn from others”

“After this virtual exchange, I’ve realised that simulations are key to experiencing situations that we are going to face in real life, so it is a perfect way to prepare us. I have learned from the people in my team”.

“This initiative allowed me to interact with teachers from other cultures and learn how they teach”.

“Sharing moments and experiences with people from other countries and cultures who are involved in education open for us a new door to knowledge”.

Conclusion

Our results indicate a substantial degree of correspondence between three possibilities: one possibility is that participants in the simulated condition did not rely exclusively on their knowledge but rather were able to improvise their reactions to the point that they could actually feel something in response to the duties of their profiles and the discussions in the simulation. Another possibility is that their knowledge and preparation accurately represent, or are constitutive of, actual emotional reactions. Finally, it is possible that both of these processes were occurring and that the obtained convergence provides hints on affect involvement. It is this third possibility that we favour the most. As one of the testimonies poses:

“The most important accomplishment of this project was gathering students and teachers across cultures and providing a safe virtual space for communication and learning. Focusing now on the experience itself, as students and future teachers, we should jump at the chance with this kind of opportunity. Rarely is it possible to improve if we do not speak with professionals with experience. In fact, I found this opportunity really enriching because of the combination of people from different cultures speaking about important educational topics. On the whole, I thought that we run the risk of not understanding each other properly because of the multiculturality of our team, but we had no problem at all. In any case, I really admired their patience and politeness. In conclusion, the potential to participate in exchanges of this kind is undeniable. Not only do they make you reflect on your notions about teaching, but also, they give you the opportunity of being aware of other realities. These exchanges definitely broaden your horizons”.

Thus, the interrelation between AI-MKO has been identified, as well as the participants' discourse, in order to arouse V.D in the students. Future studies along these lines of research will be necessary to refine the contributions of the integration of simulation and virtual exchange, mixed team formation, and the impact on metacognitive development of the combination: affective involvement, the more knowledgeable other and the valley of despair (AI+MKO+V.D)

To sum up, this study elucidates the confluence of the individual affective involvement and the MKO which lead participants to place themselves in the ‘valley-of-despair state of mind’, in a more accentuated way than if the
challenge were simply the cognitive one. Moreover, the awareness of MKO contributes, as some participants point out, to raising the self-demand in terms of the preparation of the problems analysed in the scenarios, to performing more carefully during the interventions, both at the linguistic and academic level.

Notes

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request. Data collection complied with the university’s ethical standards. The students were informed of the objectives of the study, as well as data confidentiality and use. Thus, the study respected the ethical standards applicable to research projects of this type. The material and human resources necessary to carry out the research project did not interfere with the performance of other types of studies, and all participant data were anonymised. The purpose of the data collection and processing was solely to identify the natural persons whose data were analysed in the study. The researchers or research teams processed the data with security measures to adhere to the law to ensure the confidentiality and integrity of the data. To protect the real and true identification of participants, the research team dissociated (anonymised or omitted) the data so that no participant could be identified.

- Funding and/or Conflicts of interests/Competing interests: Not applicable
- Acknowledgments: Special thanks to Prof. Marieke de Wijse-van Heeswijk, Radboud University, for her advice and clarifications on simulation ‘valley of despair’.

References


scenarios. In Intersections in Simulation and Gaming (pp. 15–29): Springer.
Dewey, J. (1938). The determination of ultimate values or aims through antecedent or a priori speculation or through pragmatic or empirical inquiry. Teachers College Record, 39(10), 471-485.
Kolbe, M., Grande, B., & Spahn, D. R. (2015). Briefing and debriefing during simulation-based training and beyond: Content, structure, attitude and setting. Best Practice & Research Clinical Anaesthesiology,


Microsoft Teams. version 4.2.4.0.


UniCollaboration Virtual Platform: https://www.unicollaboration.org/index.php/about/


**Author Information**

<table>
<thead>
<tr>
<th>María Laura Angelini</th>
<th>Neus Álvarez</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="https://orcid.org/0000-0001-5972-5039">https://orcid.org/0000-0001-5972-5039</a></td>
<td><a href="https://orcid.org/0000-0001-6215-0029">https://orcid.org/0000-0001-6215-0029</a></td>
</tr>
<tr>
<td>Universidad Católica de Valencia “San Vicente Mártir”</td>
<td>Universidad Católica de Valencia “San Vicente Mártir”</td>
</tr>
<tr>
<td>C/Sagrado Corazón 5, Godella, Valencia, (46110) Spain</td>
<td>C/Sagrado Corazón 5, Godella, Valencia, (46110) Spain</td>
</tr>
<tr>
<td>Contact e-mail: <a href="mailto:marialaura.angelini@ucv.es">marialaura.angelini@ucv.es</a></td>
<td></td>
</tr>
</tbody>
</table>


Annex.

Simulation: The School of Valtance (version 2)

1. Team members: 5-6 participants. Multiple teams can participate at the same time.
2. Type of participants: pre-service teachers, in-service teachers, academics
3. Time allotted: Action: 40-60 minutes in 2-3 sessions

4. Learning outcomes

It is important to note that other learning outcomes than the ones presented below may be addressed in accordance with the general course goals.

Thematic approach. To learn and reflect about:

- the impact of decisions in primary and secondary school
- analysis of individual and group interests
- institutional policies in favour of active methodologies, special education, internationalisation, co-teaching.

Sociolinguistic approach:

- to develop social and language abilities to debate, negotiate and make decisions in higher education
- to control simple and some advanced grammatical forms
- to improve pronunciation at the segmental and suprasegmental levels
- to manage a wide range of vocabulary when speaking on a specific topic
- to produce extended stretches of appropriate language fluently

5- Briefing Sheet

At the School of Valtance we take our responsibility seriously in order to prepare students for life in the 21st century. The acquisition of fundamental values lies at the heart of everything we do and all areas of the curriculum are a vehicle for underpinning these values.

The school aims to expose every student, every day, to experiences that will help them understand the need for mutual respect, tolerance and understanding of people from different cultures. We pride ourselves on our success in this area as we see our students embrace difference with respect and integrity.

In order to achieve our values and goals, the School of Valtance will:

- maintain a school culture of excellence in teaching, student achievement, innovation and self-
advancement;

- maintain a supportive, healthy and secure environment for teaching and learning;
- utilise technology and innovative pedagogy to advance student learning;
- raise student awareness and engagement in social, environmental and inter-cultural activities, both within and outside the academic programmes of study;
- provide excellent facilities and resources to support the programmes of study, minimising negative environmental impact;
- recruit, develop and retain teachers and support staff, who inspire students, contribute to the professional learning community and are positive role models for our students;
- maintain stable and effective governance focused on financial soundness, operational efficiency and the long-term advancement of the school;
- engage parents, alumni and the local and wider community in support of the school.

“There is a friendly, almost village-school atmosphere. The pupils are well-spoken, well-behaved and treat each other nicely”.

Secondary School

Secondary School programmes of study build on the firm foundations established in the Primary School and begin to prepare students for secondary education. All programmes of study centre around PBL (Project-based learning) guiding questions that open up and develop thinking skills, subject knowledge, concepts and ideas. Technology is rapidly changing in our world and this stage of learning is a vital time for our students, who need to become skilled in its use and as a tool for learning.

The School of Valtance will be part of a consortium and will share the same principles. The School of Valtance has been providing accessible education since 2010. As a new model of education, several issues still have to be discussed and improved.

An elected Committee meets three times a year to discuss and share information pertaining to the whole school. This term, the Committee is meeting to deal with some inquiries presented to the Head of the school. This Committee is made up of the following people:

- Head of the School of Valtance
- ValPE, the Valtance Pedagogical Advisory Board
- ValPAR, the Valtance Parent Association
- ValED, the Valtance English Department (x2)
- SerVal: Service learning
- SpEd: the Valtance Special Education

The inquiries and requests for clarification are classified into:
1. Teaching methodologies in ESL-language teaching/skills
2. Classroom management
3. Shared teaching through lesson study
4. Literature, storytelling and drama in English
5. Multiple modalities in teaching & assessing
6. Crisis management: coping with crisis, online teaching (COVID19, ...)

Inquiries and requests for clarification

A. Teaching methodologies in ESL-language teaching/skills

Innovation characterises the School of Valtance. Teachers are annually trained in the latest methodologies and teaching resources. However, the school is finding it difficult to reach an agreement on which methodologies are actually best for the different areas. It is true that educational practices, teaching methods, and curriculum vary from school to school; nevertheless, in the School of Valtance, there exists a basic concept of education. Students are required by law to attend an educational institution whose responsibility is to impart knowledge and understanding of the traditional subjects: mathematics, official languages, literature, social studies, and sciences. A certain level of non-traditional teaching style and subject emphasis has been tolerated but recently non-standard educational movements have become broad, such as flipped schools, project-based approaches, service learning, thinking-based learning, and other active methodologies.

The ValPE, the Valtance Pedagogical Board, have criticised the lack of consensus as the students seem not to understand how to proceed in class and at home.

As regards English teaching, the ValED, the Valtance English Department, finds it difficult to carry out a real L2 approach. They rely on the differentiation of language skills and they assume they should develop more efficient techniques to address communicative lessons.

By adopting the C-Wheel approach in which they take account of the whole individual, they are likely to be more effective and successful in their work as language teachers. However, ValPE experts have compared the C-Wheel to the CLIL 4Cs in the way that content, cognition, communication and culture are embedded in a whole range of considerations about the student’s overall development and needs, and would be very interested to know what ValED teachers think about this.

Regarding skills, ValPE wonders why 75% of the students surveyed highlight listening and speaking as their biggest problems. Would it be partly because of the demands of listening and speaking and partly because of the way speaking is often taught and listening is not taught at times?

ValPE requires more specifications about the development of listening and speaking skills, and how they are both related. They maintain that it is important to plan and organise a listening lesson in order to support students and
help them succeed at listening in English. How can teachers help these students develop their listening skills and identify where they need to improve?

As for speaking, classroom-based speaking practice seems not to prepare students for the real world. It usually consists of language practice activities (discussions, information-gap activities etc.) or is used to practise a specific grammar point. Neither teaches patterns of real interaction. So what can ValED teachers do in the classroom to prepare students for real interaction?

Pronunciation is very often overridden. In line with developing speaking, how can pronunciation be improved and normalised?

Reading and writing can be especially hard for students. Can ValED consider a few approaches to making classroom reading more communicative? That is, by integrating reading with other skills, so that students can see its value.

Writing, unlike speaking, is not an ability people acquire naturally, even in our first language - it has to be taught. Unless L2 learners are explicitly taught how to write in the new language, their writing skills are likely to get left behind as their speaking progresses. But teaching writing is not just about grammar, spelling, or the mechanics of the Roman alphabet. Learners also need to be aware of and use the conventions of the genre in the new language. What stages are ValED teachers going to follow to teach grammar, vocabulary and writing?

**B. Classroom management**

Ten formal complaints have been passed about the ineffective learning environment during English lessons. Students are talking while the teacher is talking, moving around the room freely, and not attending to instruction. ValPAR, the Valtance Parent Association, has required measures to control discipline and the management of the classes during the English lessons bearing in mind that teachers are sought to maintain order and to keep the group on task and moving ahead. How can ValED teachers anticipate when misbehaviours are likely to occur and be proactive to prevent them? The most effective interventions must be subtle, brief and almost private. In addition, the teachers need to create a classroom environment with clear expectations and a welcoming tone. Classroom management should be integrated with classroom activities. Instruction must be engaging and ensure that students are active learners. Teachers must create a positive classroom environment where students can take risks and do their best work.

ValED teachers are to specify:

Class rules, students’ seating, eye contact, learning students’ names, teacher talk, drawing attention, giving instruction, using pair and group-work, setting time limits, tasks for early finishers, whole class feedback, and using whiteboard, amongst others.
C. Shared teaching through lesson study

The School of Valtance has a solid commitment to teacher development. Research shows how teachers learn best in collaboration, while addressing classroom-specific issues in local education contexts, and ValPE recommends lesson study to be one ideal way to support collaborative teacher development.

They argue that it is very common to see two or more teachers within the same classroom, which is already ideal for professional collaboration. Students seem used to being observed while they are learning. However, ValPAR, the Valtance Parent Association questions the presence of multiple teachers and practice teachers in the classrooms to just observe the learners, worrying that so many people inside a classroom may disturb some students with shorter attention spans. They are concerned that teachers have a hard enough time helping them focus on learning tasks, and having multiple adults in the settings would be further distracting. ValPAR is asking for educators’ reconsideration of the usefulness of shared teaching, arguing that students’ learning needs should outweigh this particular form of professional development. On the contrary, the ValPE and the Head of the School have expressed stronger support for lesson study and are ready to step forward with their plans. How could they communicate the benefits of lesson study to concerned parents?

D. Literature, storytelling and drama in English

Every year, the School of Valtance holds an annual ‘End of Year Course Ceremony’, enacted by its secondary students. This year, the Department of English (ValED) has been nominated by the Head of the School of Valtance to organise the performance. They have decided to incorporate the literary work they are to perform into their programmed classes so as to provide the students with a better understanding of the work, and to be able to explore it in a deeper literary context - allowing for a deeper engagement with the text, and therefore the language itself. This year, the literary work is ‘To Kill a Mockingbird’.

The Valtance Pedagogical Advisory Board (ValPE) have said that they are willing to accept the inclusion of this project into the programmed schedule, as long as the ValED provides them with more information about the specific goals and learning objectives of the project, focusing largely on the linguistic aspects of language acquisition. Meanwhile, the ValED argues that the dramatisation of texts in the EFL classroom serves more as a tool, focusing on learning through applying the learner’s experience to the text through discussion and responses to the text’s theme/topic, with a clearer focus on the students. Taking this information into consideration, an agreement must be reached as to how best to impart these classes, choosing specific aims and methodologies/techniques in order to accommodate everyone’s needs (the Valtance Special Education - SpEd - must be involved in this decision also). The Head of the School of Valtance must then be informed of any specific requirements or equipment that the ValED may need and will have to approve it if they see fit.

Considering the decisions made regarding these issues, the ValED must then also work with the ValPE in order to continue with the selected text or change to an appropriate text to study and then act out in class and then in the
performance. As active participants in the organisation and funding of the End of Year Course Ceremony performance, The Valtance Parents Association (ValPAR) must also be involved in this decision, and most members are arguing that it would be better to work with a well-known, canonical text, as these are texts that have endured the test of time and therefore will have important information to impart both morally and culturally. However, the ValED states that there are more important factors to consider when choosing a text to study as part of learning a second language, viewing literature as more of a relative entity, and argue that students should be presented with a text that they can better relate to, such as an adaptation of the original “To Kill a Mockingbird”, or a more modern text such as “The Curious Incident of the Dog in the Night-Time”, which uses more direct and straightforward language. A decision will need to be made and then presented to the Head of the School of Valtance, who will need to approve it.

Finally, in order to justify the use of this project, the ValED will have to present the ValPE with the method of assessment that they will use when evaluating whether their students have met the previously discussed criteria. Together, these groups will have to decide on a method of assessment that is accessible to all students and that can help them to show what they have learnt. They must also involve the SpEd representative in order to ensure that all students’ abilities are accounted for. Furthermore, in order to ensure that students are assessed fairly, a preliminary assessment must be carried out in order to evaluate the type of learners that are present in the classroom and therefore better understand each person’s needs. For this to happen, the ValED and the ValPE must create a form of identifying these learner types before the project can begin.

E. Multiple Modalities in Teaching and Assessment

At Valtance, we want to make sure we are reaching all of our students and leveraging their strengths in the learning environment. However, we have some students who are struggling in the English classroom and some who seem to be bored because they already know the content. Our students are all working at a different pace and have different starting points. We need to vary the way we are teaching and offer choices for how our students learn and how they show what they know. How can we teach in multiple ways at the same time so our students are all engaged in their learning? What can we do to give more instruction to our students who are struggling? Once we know what skills and knowledge we want the students to learn, how can we vary the way we assess the students so they are showing that they learned? For example, if we want students to retell a story, we can have them write, record a video, create a movie poster, or draw a graphic representation of the story. How else can we vary instruction so students have choices for learning and assessment?

F. Crisis management: coping with crisis, online teaching (COVID19)

The paralysing health crisis has put into question all the conventional teaching methods we used to employ at Valtance. It made us rethink our educational strategies with a special consideration of our students’ interest. We are now in front of two challenges; ensuring good quality teaching and learning and protecting our students’ health and our mental health under such stressful situations. At Valtance, we choose to raise these challenges and accompany our students throughout their learning journey in these hard times.
We as teachers are trying to balance our teaching responsibilities with our family responsibilities and trying to stay safe and healthy. Despite the scarcity of solutions in such a critical situation, we can still think of effective ways to cope with the crisis. Online teaching is one of them. However, it is not an easy or obvious task. It requires a lot of preparation and logistics. We should therefore consider the right tools and methods to make our students benefit from online learning. To this end, we should urgently prepare our teachers by enrolling them in an online teaching training. At Valtance we aim at providing a technological support team that is flexible and available to help with any issue that might arise so the teachers can feel backed up. It is essential to create a school-wide culture of technology integration so no one is left behind. We equally intend to train our students on how to use the Valtance Moodle platform. Would the use of technologies in teaching, such as the TRELLO platform or LINKR platform, be good alternatives for the students and the teacher to publish their class news, productions, or shared documents? Could they be used as a blogging space where creativity is promoted? Students may appreciate this technology simply because it reminds them of social media. Would digital field trips be another way to make our students discover new places and monuments despite the lockdown? Would they be able to develop their writing and speaking skills? Teachers are called to think of other technologies to help their students throughout the crisis. By setting a strategy for the current situation we are laying a sound and permanent crisis management policy.

Profile 1. Head of the School of Valtance

The Head of the School of Valtance must analyse the weaknesses in the approach to teaching and learning, the sanitary crisis amongst other issues that need a sound solution. Thus, the Head must draw on the experts at school in terms of English teaching and methodology, pedagogy, and educational community managers in order to satisfy the needs of each part, guaranteeing the high quality standards.

The Head of the School of Valtance rules an institution that places the wellbeing of its students and the interests of the community at the heart of everything the school does.

His/Her mission along with the school is of “Enjoyment, and Aspiration, Achievement”, where students thrive in a nurturing yet challenging environment.

Lately, the Head of the School of Valtance has received numerous complaints and inquiries about certain measures and decisions taken by the VaLED, the Valtance English Department. An important factor is that the Head of the School of Valtance is a linguist and has taught English as a foreign language for more than 15 years before becoming the Head of this school.

Profile 2. Valtance Pedagogical Advisory Board (VALPE)

ValPE, the Valtance Pedagogical Advisory Board must analyse different aspects concerning English teaching in light of the several complaints received by students, students’ parents and some teachers who require more guidance. ValPE, together with the School Committee, must urgently come up with sound solutions.
ValPE, the Valtance Pedagogical Advisory Board provides a range of services to the school and community in support of instructional activities that impact on student achievement and success. ValPE assists the school by providing:

- support and guidance in the implementation of active learning methodologies;
- training and support for teachers and principals in effective instructional strategies and models via workshops, symposiums and other professional activities;
- support to teachers in the development of learning and evaluation situations that can be used in the classroom;
  - examples of effective technology integration in the curriculum that enhance student learning;
- help in the writing of lesson plans, lesson studies, standards and procedures, professional development project proposals, and other projects.

These coming weeks are extremely demanding as they have to prepare ‘the Standards for Students’ Learning and Practise’ to be presented to the Council for Education Accreditation. Unfortunately, ValPE has been overwhelmed with several complaints regarding methodological aspects in the English classes. Now, an urgent meeting must help shed light on these aspects otherwise ValPe may not be able to finish ‘the Standards…’ on time. They have already taken too long in the initial draft. Time is tight.

**Profile 3. Valtance Parent Association (VALPAR)**

ValPAR, The Valtance Parent Association have detected abnormalities in behaviour during the English lessons that hinder students from learning more effectively. ValPAR has to elucidate the core problems and help find a reasonable solution.

ValPAR, The Valtance Parent Association is the structure through which parents/guardians in the school can work together for the best possible education for the learners.

ValPAR can advise the Head of the school and the School Committee on policy issues and incidents that may require a review of school policy, e.g. Bullying, Safety, Homework, Enrolment, Behaviour problems etc.

ValPAR is a support for parents in the school.

ValPAR can invite speakers to address the parents on issues which are topical or relevant.

ValPAR is not a forum for complaints against either an individual teacher or parent. The Complaints Procedure is the mechanism for this. Unfortunately, ValPAR has resorted to the Complaints Procedure by meeting with the Head of Valtance School and ValPE as students and some teachers from the English Department (ValED) have detected a sort of mild disagreement, some may suggest ‘irritation’ related to methodological and procedural
choices.

The main representative of ValPAR is a teacher of English in another school in the region and the Head of Valtance School trusts her/him.

Profile 4. Valtance English Department (VALED)

ValED, the Valtance English Department is dedicated to fostering student success by providing a solid exposure to the target language and maximising intellectual potential in each individual within a nurturing yet academically challenging environment.

As a result of studying at the National School of Valtance students will communicate effectively, access information by various means, think critically and problem solve in a timely manner, successfully meet state standards, and will achieve success through efficient organisational and time management skills. The rich educational experience provided by the English Department will produce children who will become active, fulfilled, and positive and resourceful young adults.

The great demands in today’s society to have a good command of the English language has led ValED to design a proposal for quality education in English. Some uncertainties, though, have brought about a cascade of inquiries and complaints from several sectors that may jeopardise the ValED programme. Action must seriously be taken to better clarify the different aspects under supervision. ValED representatives have enough experience in teaching English, some are planning to apply for an international scholarship to better learn about other educational systems.

Profile 5. Service Learning Department (SERVAL)

Providing sound arguments to establish Service Learning at the core of the school curriculum. Providing proposals for interventions that involve the students in community service in spite of the endless piles of curriculum to cover during the school year.

Service learning is a more student-centred approach than other forms of community service, such as volunteering. The focus is on student experiences, and the entire service project is designed around providing as much education as possible. You know the benefits are reciprocal with service learning. Students and members of the community can both be equally satisfied.

At Valtance, you are struggling hard to relate the activities and school projects with a service-learning approach. You feel very comfortable working with the ValED department as both agree on the virtues of service learning: communication skills, self-awareness and knowledge of community needs. However, the ValPe (Pedagogical Advisory Board) and SpEd (Special Education Department) require more specifications on your proposals as they seem not to be fully convinced with the methodology.
Profile 6. Special Education Department (SPED)

SpEd has concerns about the way the English department teaches students who need more support. The “one-way-fits-all” approach is not serving all students in the classroom, especially those who need more visuals and to be actively involved in their learning. Students with disabilities are capable of learning to high levels as long as they are receiving appropriate instruction.

SpEd collaborates with ValED, families, and the Head of school to create individualised goals for students with disabilities. They work together to determine appropriate accommodations and specialised instruction that will ensure that all students can master the English curriculum.

SpEd consults with the ValED on cases of struggling students or students who have off-task behaviours to creatively approach changes to instruction. They are experts on how to adapt instruction so students have more opportunities to be actively involved in their own learning. They consider the pace of instruction, modalities used, tasks and activities, and assessments to ensure that all students can learn the content at a high level.

Students with disabilities are fully capable of learning the English content, but they need a creative teacher who can be flexible and make changes “on the fly.” Many students with disabilities perceive the information in different ways than their classmates or teachers, so instruction has to value this “out of the box” thinking by welcoming multiple approaches to material.

6. Debriefing

1. What do you think of the simulation School of Valtance?
2. Comment on your team's interventions. Was everyone actively involved?
3. Do you think you understand the issues tackled more after the simulation? Why is this so?
4. How would you be able to solve similar challenges from now on?
5. How did you feel in your profile and why do you think you felt this way?
6. Would you have liked to have another profile within the simulation? Why?
7. What difficulties did you encounter in carrying out your profile?
8. To what extent have your personal interests interfered with the objectives of your sector?
9. What potential do you see in simulation as a training strategy for your future professional life?