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DEVELOPING ONLINE INTERACTION AND SHARED COMMITMENT IN VIRTUAL PROJECT TEAMS

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Abstract

The Covid pandemic has led to an increase in diverse forms of Virtual Exchange (VE) to nurture inter-university and university-stakeholder networks and to encourage cross-border innovation in virtual project teams. The success of such virtual collaboration projects and initiatives depends on how well the participants manage to build an encouraging team atmosphere and a sense of shared commitment to goals and tasks. This, in turn, is affected by the quality of the online interaction between project facilitators, virtual team leaders and team members, and potential external stakeholders.

This research was carried out in collaboration with two European applied research projects, Learn to Change and VALIANT, focused on developing digital interaction and co-learning in virtual teams and stakeholder networks. In this presentation, we explore the experiences of project facilitators, team leaders, and team members during a 7-week VE project and discuss how they, in their respective roles, can contribute to the quality of online team interaction in an international VE context. The data was gathered via critical friend observations and discussions between higher education teachers acting as project facilitators and researchers and via semi-structured interviews with in-service primary school and English teachers who participated in the VE project.

The results underline the need to support VE facilitators, team leaders, and team members in actively contributing to the creation of a positive and trusting team atmosphere through both formal and informal interaction. In their role as team leaders, participants felt the need for encouragement and strategies for team building, role distribution, and participation. As team members, participants expressed the importance of sharing not only professional but also personal and cultural experiences. They also appreciated continuous leadership on the part of project facilitators and team leaders and valued the hands-on support they got from both VE colleagues and local colleagues, external to the VE project, when engaging with their co-learning goals and tasks. To foster shared commitment in virtual teams, we propose practical forms of online interaction that support VE project facilitators, team leaders and team members to share responsibilities of team building and co-learning, to foster commitment to team goals and tasks, and to collaborate with relevant stakeholders outside of the immediate VE context.

Keywords: Innovation, technology, research project, virtual exchange, online interaction, virtual team.

1 INTRODUCTION

VALIANT (Virtual Innovation and Support Networks for Teachers) is an Erasmus+ KA3 project that brings together European teachers and experts through virtual support networks to address several forms of isolation and encourage online international professional innovation networks [1].

Virtual support networks in VALIANT take the form of thematic Virtual Exchanges (VE) for teacher education and continuous professional development of practising teachers over a period of four to seven weeks in which in-service teachers, student teachers and experts take part. The expectations are that inexperienced participants in virtual networks, such as student teachers, can learn about their future profession with more experienced teachers [2], while practising teachers may gain pedagogical technological knowledge and engage in collaborative reflection [3] [4] [5].

The pedagogical approach is collaborative, practitioner-based and takes place online using a range of digital tools. Participants come from a range of European countries and bring their different perspectives and experiences. The VE courses are participant-centred and expect students to collaborate and work on course topics. Content for the VE course comes in the form of actual problems or issues that teachers bring from European classrooms. Mediators or facilitators provide ongoing pedagogical, scientific and technological support.

While virtual exchanges can bring together geographically distant people, overcome participants' feelings of isolation, and develop respect and support for each other [5], there are many challenges for international participants' and facilitators' communication and teamwork. Cultural habits, scholarly practices, and school cultures may be widely diverse and disconnected, not to mention individual characteristics and experience.

As de Jong [6] shows, teachers are motivated to share reflections with other teachers in international contexts and collaborate with them towards innovative practices. However, online team interaction is not always easy, given the cultural diversity of participants and facilitators and their differing levels of confidence and different habits in using online communication strategies. On team building, Fisanick and Stakeley [7] recommend using web-based tools that encourage the development of workspaces and workflow (such as Google Docs, Forum in Moodle), regular whole-group and small-group communication, as well as mix of informal introductions with more formal activities.

Sauro et al. [1] advise VALIANT facilitators involved in implementing a VE to "take an active role mentoring and guiding participants in the Virtual Exchange through a variety of techniques including the provisioning of explicit guidance, regularly checking in throughout the Virtual Exchange, or through leading participants in guided discussions outside their comfort zones" (p. 12), besides implementing strategies that strengthen the bonds between participants. Participants in such a VE need to get engaged with co-learning and are expected to share experiences and expertise, consult with colleagues, collaborate with other participants, get support, and participate in conversations and meetings online, along with reflecting on their own practices in contrast and comparison with those of other participants. These patterns of communication are not always easy given the constraints of the medium (e.g. a Zoom conference session where people speak in turns in front of a screen), the participants' different ranges of teaching and learning experience, and their diverse educational contexts.

The other international project involved in this case study is Learn to Change - Collaborative Digital Storytelling for Sustainable Change, which is an Erasmus+ KA2 project that brings together European HE teachers and students and tourism and services industry representatives to collaborate on digital channels to co-create innovative digital content promoting sustainable changes in learning, living, travel, and consumption. The project provides support for building local, national, and international stakeholder communities of practice that aim to foster long-term digital collaboration and a shared commitment to sustainable change. The two projects, VALIANT and Learn to Change, can learn from each other's research findings and best practices of online and virtual team building.

Successful online team collaboration and interaction are key for creating successful and dynamic communities of practice [8]. For a community to become effective, all its members need to contribute to a sense of belonging to a learning community by sharing ideas, materials, and a sense of purpose. Every member's thoughts and suggestions matter, so the learning community needs to be observant and responsible, offering constant feedback and constructive criticism [7].

We need continuous research and development into these activities if we aim to engage future generations of learners and practitioners in purpose-driven virtual and online communication, collaboration and teamwork in order to support continuous learning and adaptation to change.

2 METHODOLOGY

Virtual Exchanges were designed according to VALIANT principles of the sociocultural approach to education whereby "teachers learn by being actively engaged in educational activity, forming part of communities of practice and having opportunities to reflect and theorise based on their own learning (p. 10) [1]. They were planned around themes of interest for European in-service teachers and student teachers.

In each weekly synchronous or asynchronous session participants are given tasks to perform in international groups. These tasks relate to concrete issues or problems of participants' classrooms. The VE takes place online on a Moodle platform and using videoconferencing apps such as Zoom for synchronous sessions. After registering on the Moodle platform and accessing the selected VE, participants are invited to start sharing details about their professional lives and classes.

There is an initial phase for participants to get to know each other, followed by a collaborative phase during which participants engage in a specific outcome of their joint exploration and learning, which is then presented to the whole group. This may be a set of recommendations, a summary, a discussion, or advice for other teachers. During this collaborative process there is a compare and contrast phase, whereby

participants share and compare situations, guidelines and other policy recommendations to understand how a problem or issue may be looked at differently in diverse contexts. In addition, there is a collaborative phase during which participants jointly develop a product, such as a set of recommendations, for other European teachers.

The case described in this article focused on a seven-week VE on the theme “Diversity and Inclusion in Primary Classrooms”, run over the winter semester 2021/22 in a total of 17 hours. Its educational focus was on “Teachers as co-learners”: in-service teachers from across Europe share challenges and problems on diversity and inclusion from their classrooms; they compare how these are being dealt with in different international contexts; and they create solutions to these issues based on their experience, expertise, practice and collaboration.

The 19 participants were all in-service European teachers, who registered for this particular VE. They came from Italy, Slovenia, Spain, and Portugal. The four facilitators were Portuguese and they were all experienced in running VEs with students in initial teacher education, but not in professional teacher development courses.

A Finnish colleague was invited to act as a critical friend for the VE, i.e. a trusted person who might look at the VE through another perspective and offer critique as a friend [9], who is invited to de-privatise practices by reflecting on them and negotiate shared understandings (p. 218) [10]. In this stance the critical friend had knowledge of and interest in similar contexts of online teaching and learning, given her involvement in the Learn to Change project, and was committed to sit in all sessions and give continued feedback [11].

The joint research interests and aims of the VALIANT and Learn to Change projects were focused on improving online interaction and developing a sense of shared commitment in virtual teamwork. The research questions (RQs) were the following:

- RQ1: How to facilitate team building and foster shared commitment to goals and tasks in virtual teams?
- RQ2: How to support VE learners in online interaction for digital co-learning purposes?

One of the authors of this article acted as a VE facilitator and the other as a critical friend. The essence of the critical friend method is “structured feedback and constructive criticism that can encourage improvement and self-reflection” (p. 73) [12]. The critical friend engaged in peer observation and had a supportive role as external observer. She raised awareness of any communication and collaboration issues that might have an impact on answering the research questions [12].

As agreed between one of the facilitators of the VE and the critical friend, the latter gave immediate structured feedback after each session, engaging in discussion, which enabled joint reflection on each session and on how to improve action. This was complementary to reflection in isolation between the in-house facilitators when planning each session. The feedback provided by the critical friend was focused on task design and the processes of communication and collaboration online between VE participants in their different roles (VE facilitator, virtual team leader, virtual team member).

The VE learner teams were approached as virtual project teams (VPTs), which according to Ortega et al. [13] “have become a basic unit of work in many organizations in response to the pressure to innovate, to foster inter-organizational alliances, and also to respond to the globalization of business and the adoption of new information technologies.” Such teams are characterized as using virtual tools to organize their processes and carry out team tasks through virtual interaction, benefiting from the informational value of the tools and platforms used (p. 269).

To gather experiential data on VE interaction and task design from VE learner perspective, the critical friend put together a set of interview questions (IQs) for semi-structured thematic interviews to be held with some of the VE participants. The questions were related to their experiences of co-learning, team building, online interaction with colleagues, digital skills development, and collegial sharing and support:

- IQ1: What did you learn from your colleagues during the VE?
- IQ2: What digital skills and online methods did you learn and what insights would you take away to your own teaching?
- IQ3: How would you analyse your main successes and challenges of online team building during the VE?
- IQ4: How would you improve the online interaction for the purposes of cross-cultural teamwork, team motivation, and co-learning?

- IQ5: Have you shared your VE experiences with your local colleagues? If yes, what have you shared and how and if not, why not?

During the last VE synchronous online session, nine participants volunteered for the interviews. The 30-60 minute interviews were held online via Zoom conferencing app, either individually or in pairs to accommodate schedules of participants. All interviews were recorded and both interviewers took notes on salient topics and features. A thematic analysis in line with the research questions was conducted to extract and categorize the most salient themes and sub-themes arising from the data, following the step-by-step process of qualitative content analysis and thematic analysis [14] [15].

In the final stage of data analysis, relevant trends arising from critical friend observations, class materials (such as VALIANT Tips for Participants), and interview data were brought together, discussed, and interpreted from the perspective of developing competencies in virtual team communication, digital collaboration and co-creation, and building long-term and purpose-driven communities of practice.

3 RESULTS

Results of interviews are organised in four thematic subsections: team leadership, team building and online interaction, co-learning, and using digital tools. In the fifth subsection, key insights from critical friend observations are summarized with special focus on improving online interaction to create a sense of shared commitment to common goals and tasks in virtual project teams.

3.1 Team leadership

Interviewees highlighted some needed strategies for group leaders that would facilitate their interaction and teamwork at the level of organisation, such as a clear identification of the learning goals for each task. They reported that the initial awkwardness some of them felt as group leaders could have been better overcome if they had had information on what the group was supposed to be working on beforehand and what their role as team leader would imply. This would have enabled them to organise before meeting the group. They advised VE facilitators to communicate group tasks to virtual team leaders before doing so to the rest of the group. One interviewee also mentioned that the virtual team leader has to accept that they will have to be more involved in managing the team and less involved in other tasks.

In terms of team leadership procedures, interviewees recommended regular check-ins of VE facilitators with VE participants to support and trouble-shoot, for example through regular email to the group. Concomitantly, this role was extended to the virtual team leader, who was expected to support virtual team members individually once they have identified individual needs (e.g. challenges with the use of digital tools).

Participants recommended preparing information on easy-to-use tools and platforms, sharing them in the group or introducing them to the virtual team members to find out which the team would like to use. They considered that the virtual team leader's tasks were to: remind the team of tasks and deadlines regularly; distribute roles and tasks; create a list of the roles of people within the team (such as note-taker, time-keeper, etc.); identify team members' interests and strengths (through ice-breaking activities); facilitate sharing and engagement; and foster team motivation and participation.

3.2 Team building and online interaction

Team building is essentially about getting to know each other. Since the VE synchronous online sessions through video conferencing apps may not be enough to build the cohesion a team needs to work together, VE facilitators should create opportunities for informal small group (max. 5 people) chats at the beginning of the VE course about concrete topics, so participants can share their experience in small groups through informal discussions.

One of the big challenges of team building and online interaction is creating a friendly atmosphere in the team online. This can be done through: offering guidelines or tasks to engage people in talk; sharing strategies to overcome language barriers by using all linguistic repertoires to communicate with others; being open and participating in decisions through agreeing or offering constructive alternatives; and accepting that people are different and work in different educational and cultural contexts.

The main challenge of team building is not creating a network, but keeping it alive through email or other platforms for communication. Team members need to find easy ways to collaborate digitally online with each other to share documents or canvas. But more important is the quality of online interaction.

Specifically on online interaction, interviewees raised some issues that concern online communication for virtual team collaboration that had been shared with them during the VE, such as: looking into the camera so that others feel that you are looking at them; being expressive and paying attention to the facial expressions and body language of others; favouring direct questions to specific participants by name to help keep the conversation flowing when it is not going smoothly; asking for the opinion of those who find it more difficult to intervene; and keeping in mind that communication and interaction strategies (social, ethical and cultural norms) vary across cultures and that online many of the contextual and body clues may be invisible.

Not every culture finds it easy to share personal and cultural experiences willingly. This reservation can be circumvented through: sharing commonalities and differences from your personal and professional experience; developing a sense of connection to others through interaction online; engaging with others and committing to tasks; and striving to identify your interests among others' interests.

One further issue raised by interviewees concerned finding time for synchronous sessions, which were considered essential for team building while working on a virtual team project together, as written communication is more time-consuming and less flexible when it comes to negotiating content, reaching agreements or discussing an item. Recommendations from interviewees stressed the following: team members should strive to keep regular weekly sessions for synchronous video conferencing, use a known video platform such as Zoom, and use several means of communication online that complement each other.

3.3 Co-learning

Interviewees valued the first-hand experience in international collaboration and co-learning provided by their VE experience. They felt that it was useful to experiment with digital co-learning themselves first, as the experience made them better equipped to guide their students to do the same. Having to manage the complexities of project and team work both virtually and online gave VE participants personal insight into how to motivate and guide their students for sharing responsibility, managing time, and committing to common goals when collaborating in digital environments.

The international aspect of VE collaboration was seen as adding value to the co-learning experience. First of all, interviewees felt that it was important and meaningful to have a wider European context for professional development. They also repeatedly brought up how enriching it was to meet and get to know colleagues from other cultures, and the Covid-induced increase in using video-conferencing apps makes such intercultural contacts easier to organize than before.

Actively sharing and comparing experiences arising from diverse cultural and educational contexts made VE participants realize that they are not alone with their local challenges of diversity and inclusion. Furthermore, they came to understand diversity in depth, both across cultures and within their own national borders and educational cultures. As one interviewee put it, "I learned that there is diversity within diversity."

To improve the efficiency of co-learning, interviewees suggested the following: being active and proactive in asking questions about and listening to experiences from other cultures; being respectful of and sensitive to people's cultural, professional, and personal contexts; courageously practicing one's intercultural communication skills despite language and digital interaction challenges; learning by doing through hands-on digital collaboration and co-creation activities and tasks; and organizing and practicing mutual support throughout the project both synchronously and asynchronously. The importance of collegial support was especially valued in connection with learning to use and manage new digital tools.

3.4 Using digital tools

Interviewees were highly aware that in their profession as teachers they need to keep up with digital developments despite the lack of time and resources they may experience and encounter in their professional contexts. As one interviewee put it, it is not only a question of jumping onto a moving train, but it often feels as if one were chasing after a moving train. Teachers need to be constantly prepared to learn new digital methods and apply and manage a multitude of digital tools. For example, one interviewee mentioned the acute need to get to know mobile apps, as mobile learning is heavily on the rise among students.

To motivate themselves to learn, select, and manage new tools, apps, platforms, and interactive methods, interviewees highlighted the need to work on real-life challenges with a clear purpose. This way, one is motivated to collaborate with others and it becomes easier to experiment with new and varied tools and not just with the ones one knows already. Interviewees also felt that joint experiments focused on specific hands-on challenges supported their efforts of building commitment to common goals and tasks during virtual and online collaboration.

When describing their experiments with digital tools, interviewees often reported having to get to know and test many different alternatives before gradually finding viable solutions suited for their needs and purposes. However, the experiments, even if sometimes frustrating, were not necessarily seen as having been in vain, as interviewees felt it was important to have the courage to try out new tools in different contexts and go out of their digital comfort zones.

Interviewees stressed the importance of getting collegial help in learning to select, use, and manage new digital tools. Especially video-making tools were challenging to learn and apply without support from more tech-savvy colleagues. Video production activities were regarded as time-consuming, which is why many felt the need for peer mentoring and mutual coaching between team members and among their local colleagues. Collaborating on hands-on video-making with colleagues external to the VE was seen as rewarding in the sense that it provided a natural opportunity not only to learn digital skills but also to encourage others to make use of the many benefits of intercultural collaboration and co-creation provided by VE projects.

As development suggestions for learning to use new digital tools, interviewees recommended arranging time for peer coaching; using collegial collaboration not only for knowledge sharing but also for experience sharing; involving a wide range of colleagues in experimenting with the more demanding digital tools and methods to widen the impact of co-learning; and to exchange ideas and build networks with local colleagues to disseminate best practices from international VEs and create a sense of collegial trust, motivation, and shared commitment to keep up with digital developments.

3.5 Shared commitment to common goals

The aim of the critical friend observations and discussions was to identify successes and challenges related to team building and online interaction during the online sessions of the VE project teams.

At the beginning of the VE project, learners highlighted the importance of wanting to know each other well before embarking on their actual co-learning and co-creation journey. Finding time for virtual teamwork and for both formal and informal online interaction was seen as key to success, and participants were well aware of the risk of encountering time management challenges when organizing virtual teams across different time zones. Team leaders and team members felt that they needed encouragement and supportive tools and techniques to help them navigate the challenges of maintaining direction and sharing responsibilities during virtual teamwork.

The beginning of the virtual collaboration project is crucial in terms of establishing an inspirational atmosphere and a sense of shared commitment to common goals and tasks. As a best practice, the critical friend identified the VE facilitators' decision to join the learner teams in their small groups during the first VE online session to help them get started with goal setting, timetabling, knowledge seeking, and team role distribution. This made it easier for the team to understand the aims of teamwork, make their first decisions, and plan their next steps. Ice-breakers and other gamified team building activities were suggested as potential ways to support team leaders and team members in their early team building efforts.

Another best practice identified during the critical friend discussions was the use of various interactive platforms to make visible common goals, ideas, and arguments during team discussions. A shared online document was assigned to each team right at the beginning, so that they were instantly able to get started and collaborate online. Further into the project, more shared interactive tools were successfully introduced to visualize discussions, ideas, arguments, and decisions in different project stages. These joint visualizations are important to be able to maintain a shared vision of the project purpose and progress. As a development suggestion, a specific team canvas could be completed at the beginning of the project to clarify both personal goals and team goals of VE learners. This tool could be helpful for team leaders as well, as it would facilitate continuous communication about team direction and purpose, which is especially important in digital collaboration in terms of keeping virtually dispersed teams committed and focused.

4 CONCLUSIONS

The advantages of collaborating across the applied research frameworks of two Erasmus+ funded projects brought added value to both projects aimed at developing competencies in virtual team communication, digital collaboration and co-creation, and building long-term communities of practice. Based on the joint action research, both projects are better equipped to design pedagogical support for purpose-driven digital collaboration. The combination of VE learner interviews and critical friend discussions between VE facilitators and researchers proved to be an efficient method for identifying and analysing successes and challenges of online interaction and shared commitment in virtual project teams. The pedagogical conclusions comprise a set of critical reflections and recommendations on the issues raised in the results section above.

The results underline the need to support VE facilitators, team leaders, and team members in actively contributing to the creation of a positive and trusting team atmosphere through both formal and informal interaction. In their role as team leaders, participants felt the need for encouragement and strategies for team building, role distribution, and engaging team members in advancing team goals. As team members, participants expressed the importance of sharing not only professional but also personal and cultural experiences. They also appreciated continuous leadership on the part of project facilitators and team leaders and valued the hands-on support they got from both VE colleagues and local colleagues, external to the VE project, when engaging with their digital co-learning tasks.

As Zárraga and Bonache [16] point out, a team leader who is “actively involved” is one of the “most relevant factors to enhance a collaborative team atmosphere” (p. 675). To be actively involved in guiding the team, it is important for team leaders to hold prior information on tasks. They should have good observation skills to promote interaction among the whole team, identifying individual needs and supporting team members. At the level of team organisation, the team leader could create descriptions of roles available in the team and discuss them. Team members could then come forward and offer to take up the roles they feel are suitable for them.

In modern-day teams, team roles and activities tend to be agile and fluid, which means that team leadership roles and tasks become more self-directed in nature and they need to be shared among all team members [17] [18]. According to Wu and Cormican [19], shared leadership in project teams correlates positively with team effectiveness. This is why team leaders should “encourage group members to share leadership roles and responsibilities and provide them with adequate opportunities to interact with each other,” especially in the early stages of the project when the team is focused on project planning and team members “proactively participate in constructive communication and decision-making process.” (p. 9). Critical friend discussions brought up the idea of completing a shared team canvas to visualize both personal goals and team goals, to list roles and responsibilities, to clarify the purpose of co-learning, and to support shared commitment.

In what concerns team building and online interaction, interviewees recommended creating informal and friendly chats with guided activities to support active participation on the part of all team members, such as through finding commonalities and differences in their cultural, educational, and personal backgrounds and contexts. They also recommended strategies to commit to the teamwork by defining a regular timetable to talk and work with others synchronously online.

Critical friend discussions brought up the importance of having fun and relaxed activities to get to know each other better. Team well-being is especially important to team performance in complex and demanding contexts requiring high-level collaboration, creativity, and innovation [20]. As the challenges faced by diverse global teams are becoming more and more complex by the day, it is important to focus on such softer aspects affecting team collaboration as a friendly atmosphere and mutual trust. According to a literature review of challenges in virtual teams by Morrison-Smith and Ruiz [21], consistent and active communication, especially informal communication, between team leaders and team members increases trust and engagement in virtual teams.

To support team leaders and team members in co-learning, interviewees recommended an active and engaged approach to intercultural communication and collaboration virtually and online. Team members should be encouraged to share their cultural experiences to be able to explore and compare challenges and solutions. Action breeds action: providing shared support for shared problems generates new insights and a sense of not being alone with one's problems. This, in turn, motivates team members to share responsibility for further co-learning goals and tasks.

Critical friend discussions confirmed the usefulness of interactive canvases, tools, and apps designed for making project goals and steps visible to help VE facilitators, team leaders, and team members to

keep track of what has been achieved and where the project is headed. As Benishek and Lazzara [22] point out, the interplay between shared goals and their achievement affects team performance, interaction, and motivation, as it sets the direction for team collaboration and serves “as glue cementing the team together” (p. 5).

To motivate team members to commit to the continuous development of their digital skills, interviewees recommended experimenting with real-life project challenges requiring joint efforts of testing and negotiating suitable digital tools and ways to apply them. Such collaborative experiments can encourage team members to try out new digital tools in diverse contexts. Peer support was considered crucial for learning to use the more demanding digital tools, such as video editing programmes. Interviewees recommended arranging time for peer coaching and sharing of experiences, with more tech-savvy colleagues helping others.

In critical friend discussions, it was found that the role of external VE facilitators was instrumental in supporting and helping virtual team leaders and members in their collaborative efforts. Student interviewees also appreciated the approachable and friendly presence of the VE facilitators. Ortega et al. (p. 274) [13] point out the importance of psychological safety when it comes to successful team learning and performance. When team members are able to trust each other and reflect on their challenges and mistakes, they are likely to perform better as a virtual project team. To optimize outcomes and processes of team learning, external facilitation should be provided to support virtual project teams. As examples of facilitator interventions, Ortega et al. suggest team leader coaching; support for seeking feedback and reflecting on results; and being present in an initial team formation session to provide stability and help establish psychological safety.

Finally yet importantly, critical friend discussions pointed out the importance of involving colleagues external to the VE project in digital co-learning experiments and sharing of experiences. As Beelen and Jones [23] argue, through such shared exploration it is possible to widen the impact of VE results by sharing learning outcomes and intercultural insights with colleagues not directly involved in the virtual mobility experience (p. 65). This supports internationalization at home, and it can also lead to the creation of long-term communities of practice. In the best-case scenario, such action-oriented communities of practice can foster continued commitment to developing digital and intercultural competencies to be better equipped to solve real-life challenges and adapt to changes in one’s cultural, educational, professional, and personal contexts.

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