BUILDING GLOBAL CITIZENSHIP COMPETENCE THROUGH A SERIOUS GAME IN A VIRTUAL LEARNING ENVIRONMENT TO MAKE HIGHER EDUCATION STUDENTS BETTER EMPLOYABLE CANDIDATES IN THE GLOBAL WORKPLACE

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Abstract
There has been a lot of rhetoric attached to the Global Citizenship construct especially since it was heralded as one of the three education priorities and key education objectives of the United Nations Educational, Scientific and Cultural Organization (UNESCO) for the 2014-2021 time frame. This paper, besides building on state-of-the-art theoretical frameworks for Global Citizenship, takes a more practical perspective and shows through experiential how-to guides and serious gameplay the ways Global Citizenship becomes most relevant to Higher Education students as future employees since the Global citizen mindset overlaps with the Global business mindset. Close connections are therefore built between Global citizenship competence and better employment prospects in workplaces infused with competition. To build Higher Education students’ Global citizenship competence (knowledge, skills, attitudes and values pertinent to the Global Citizenship mindset) a highly interactive serious game was designed and developed in a Virtual Learning Environment, the 3D Social Virtual World of Second Life (SL). The game design of apt²W.I.N. (applied psychology on teaching and technology War Interactive Negotiation) brings game-based learning, Global citizenship competence and a Computer Supported Collaborative Learning (CSCL) script under one thread. The storyline which draws on Thucydides’ recount of the Peloponnesian war, dating back to 5th century BC, ancient Greece, comes alive in a custom-made, high-interaction environment with thematic buildings and display fidelity. The underlying learning design relies upon mapping Toulmin’s argumentation model to De Bono’s 6 Thinking Hats creative method for problem-solving. Post-test results attest to enhancement of the VLE serious game players’ knowledge, skills, values and attitudes pertinent to Global citizenship.

Keywords: Global citizenship competence, Global business mindset, serious game, Virtual Learning Environment, Second Life, Computer Supported Collaborative script.

1 INTRODUCTION
The European Union work programme on future emerging technologies for 2014-2015 of the Horizon (2020) research and innovation programme [1] sets out as its mission to boost Europe on the leading edge of emerging technologies and turn its science base into a most competitive one. Technology is seen through the lens of a systemic approach that will sow the seeds for Europe’s industrial leadership and tackle societal challenges in novel ways. One of its main lines of activity focuses on Global Systems Science where cutting-edge technology is not seen as a stand-alone innovation but in tandem with societal responses to Global challenges. Games and gamification are seen as novel methods of learning delivery to stimulate societal responses and tackle issues such as empathy, development of self, social belonging and culture. The Horizon report for Higher Education (2014), cites a recognized game designer’s work [2], and drawing closely on it, recognizes the relevance of critical thinking, creative problem-solving and teamwork skills as skills and ways of thinking that when applied to real world problems can be most effective. These skills, game research has proved, are highlighted through educational gameplay [2], [3].

The important role education has to play in the individuals’ development and through it meet societal challenges is further taken up by the United Nations Educational Scientific and Cultural Organization, (UNESCO) [4]. UNESCO [5] in seeking to establish relevant and effective connections between education and societal challenges launched the Global Education Initiative in 2012 declaring Global Citizenship Education (GCE) as one of its 3 education priorities and key objectives spanning the 2014-2021 time frame. Global Citizenship Education becomes even more strengthened by the “Education 2030 Framework for Action” [4] which is further endorsed by the Organization for Economic Co-operation and Development (OECD) [6], a member of the steering committee for the
implementation of this framework. The aim is to support youth in becoming “citizens of the world” by imparting those skills that will further young people to function more effectively as citizens in an all-changing world. Citizens of a democratic world, it is declared, need to be equipped with those skills necessary to think critically and defend their positions rationally. Transformative pedagogies are also highly endorsed encouraging learners to a) analyse real-life issues critically seeking creative and innovative solutions, b) critically revisit mainstream assumptions, world views and power relations, c) focus on engagement in action and d) respect diversity.

The next section will discuss those aspects of literature review that are pertinent to the core concept of Global citizenship education. Following from this, the interdependence between the Global citizen and the successful Global employee will be shown.

1.1 Citizenship education frameworks around the globe: The case of Australia

The Assessment Framework of Australia (2010) and Citizenship education [7] are centered on four discrete aspects which branch into content areas/processes as outlined below:

a) The Civics & Citizenship aspect comprises the following content areas: i) Government & Law ii) Citizenship in a Democracy iii) The Historical perspectives content area which is particularly pertaining to the Australian identity and influences on Australian Democracy.

b) The Cognitive processes aspect for understanding civics and citizenship includes the following processes: i) Knowing, which emphasizes the processes of being able to define and describe particular civic and citizenship concepts illustrating these with examples. ii) Reasoning & analyzing; with emphasis on the processes of Relating, Interpreting, Integrating, Justifying, Generalizing, Evaluating, Hypothesizing about citizenship-related points of view and actions to Solve citizenship problems and Understand civic motivation, continuity and change.

c) The Affective processes for civics and citizenship aspect: This aspect includes the values, beliefs, attitudes towards other people, the dispositions relevant to civics and citizenship understanding and the ways these can be communicated to others. Affective processes for civics and citizenship include: i) Civic identity & connectedness which comprise the civic-related behavioral dilemmas the individuals face, their attitudes towards such dilemmas and their tolerance towards diversity. ii) Civic efficacy which relates to individuals’ beliefs concerning their civic capacity to be effectively engaged in civic actions.

d) The Civic citizenship and participation aspect: This is the aspect pertinent to the participatory skills of the domain embracing both the actual behaviors and the behavioral intentions, the civic-related active contribution to the community and the possible range of contexts for participation.

1.2 Citizenship education in America-Partnership for 21st century skills (P21)

Partnership for 21st century skills in its mission statement of 21st century citizenship, envisions citizenship as resonating the social, financial, technology-infused context students all around the world live in and are expected to thrive. Civic life to P21 [8] therefore, should follow the escalating demands at work and school posed on students and as such, it requires a skillset of 21st century skills that will empower students’ careers and further their citizenship readiness.

The practices of 21st century citizens as explicated in P21 should be: a) Understanding of the knowledge and skills necessary to inform participation in civic life b) Engagement, pertaining to the affective aspect and in particular to the motivation, disposition and willingness to be involved in civic actions c) Action which refers to the actual participation and positive contribution of citizens to a glocal community.

1.3 Citizenship education in Europe

In alignment with the other great institutions-organizations, the Council of Europe also followed suit in issuing the Charter on Education for Democratic Citizenship and Human Rights Education. Citizenship and human rights education is seen as the primary way of “equipping learners with knowledge, skills and understanding and developing their attitudes and behaviour” so that they promote and protect human rights and fundamental freedoms [9].

The charter acknowledges Citizenship education as a lifelong process encouraging partnerships and collaborations amongst all stakeholders so as to develop the learners’ knowledge, skills and understanding as well as their attitudes and behavior to exercise and defend their democratic rights.
and responsibilities, to value diversity and to engage actively in democratic life so as to promote and protect democracy.

### 1.4 Citizenship education transcending borders-From citizenship to Global citizenship

The emerging technologies in ICT over the past years have unfolded on many fronts and have led to people around the globe living in a connecting and interconnected world. This interconnectedness, however, blurs the lines between national and international boundaries but also brings citizenship under a new light talking about *citizens of the world* rather than citizens of any single country as restrained by physical borders. Acknowledging the expanding and shifting nature of Citizenship however, involves a concomitant shift in education so that students develop their Global citizenship competency and understand the political forces that affect societies, resolve social, political and Global issues and help towards social justice and peace. The term has received prominence especially since the United Nations Secretary-General’s Global Education First Initiative (2012) when she declared fostering Global citizenship as the third priority area of Global initiatives. In the same line, a few years later, UNESCO declared Global citizenship as a global indicator to attain in the “Education 2030 Framework for Action” [4]. Below, the case of Oxfam International and UNESCO, which set Global Citizenship Education as the overarching goal in their program missions to inspire students to be proactive citizens, are outlined:

#### 1.5 The case of Oxfam

Oxfam International is an international federation of 17 organizations in more than 90 countries with a strong commitment to human rights. Its vision is a world without poverty and sees the emphasis on Global citizenship education as one of the ways to work towards this direction and hence, a priority. While NAP and P21 (as mentioned above) see citizenship within national boundaries, Oxfam takes a step further so citizenship spills over circumscribed territories broadening to Global citizenship.

According to Oxfam [10] the focus should be on Global citizenship. A Global citizen is someone who:

a) is cognizant of the world context around them and is sensitized to their role as world citizens
b) acknowledges and respects diversity
c) is intolerant of social injustice
d) participates in community actions from local to global level
e) is willing to take proactive action that would change the world into a more equitable place
f) feels accountable for their actions.

Oxfam acknowledges the following as the core ideas whereupon its Global citizenship framework is built:

a) Knowledge and understanding which comprise Social justice and equity, Diversity, Globalization and interdependence, Sustainable development, Peace and conflict.

b) Skills which include Critical thinking, Ability to argue effectively, Ability to challenge injustice and inequalities, Respect for people and things, Co-operation and conflict resolution.

c) Values and attitudes comprising Sense of identity and self-esteem, Empathy, Commitment to social justice and equity, Value and respect for diversity, Concern for the environment and commitment to sustainable development and Belief that people can make a difference.

#### 1.6 The case of the United Nations Educational, Scientific and Cultural Organization (UNESCO)

As already mentioned, UNESCO sees Global citizenship education as a way that will empower learners with the knowledge, skills and attitudes to become responsible Global citizens so as to tackle Global challenges. Albeit a hotly contested term as to its nuances and breadth, UNESCO [11] explicitly defines Global citizenship as referring to: “a sense of belonging to a broader community and common humanity. It emphasizes political, economic, social and cultural interdependency and interconnectedness between the local, the national and the Global”.

Drawing on conceptual frameworks, relevant literature review and existing curricula on Global citizenship education, UNESCO sees Global citizenship education as residing in 3 core conceptual dimensions:

a) Cognitive: referring to the building and acquisition of knowledge, understanding and critical thinking about issues on a range from the local to the Global sphere and the interconnectedness and interdependency of different countries and populations.
b) Socio-emotional: having social skills and a sense of belonging to a common humanity, sharing values and responsibilities, showing empathy, solidarity and respect for differences and diversity.

UNESCO sees Global Citizenship Education as the process through which learners and educators examine the roots and causes of events and developments at the local level and forge connections with the Global level identifying possible solutions. This fusion of frames between micro- and macro-level issues is a critical element in furthering learners to reach their full potential in an ever-changing and interdependent world context.

As follows from the frameworks exposited so far, it is evident that they all actually share common ground using terms only slightly differentiating as to scope of concepts or nuance attached. Detaching any local nuance and the diversity of terms to refer to the same concept, the four frameworks narrow down to one hybrid, core, new, framework comprising three main aspects (fig.1):

- **Knowledge** of core concepts pertaining to civics and citizenship and the cognitive processes involved in understanding civics and citizenship.
- **The skills** and affective processes required to better function with civics and citizenship concepts such as 21st century skills or arguing effectively, for example
- **Attitudes** for sparking involvement and active participation in civics and citizenship.

Since Global citizenship knowledge, skills and attitudes are involved, the emergent framework is actually a roadmap to Global Citizenship Competency. This emergent paradigm framework forms the basis for the questionnaire administered to the players of this educational intervention before and on completion of it to measure the citizenship thread of the educational intervention that is described below.

**Functional Terms of Global Citizenship Competence**

It is thought expedient at this point to give definitions of the functional terms pertaining to Global citizenship competence as used in this paper to outline the educational intervention through the design and development of the serious game aptW.I.N. (applied psychology on teaching and technology War Interactive Negotiation):
**Competence and mindset** are used interchangeably to refer to knowledge, skills and attitudes as a cluster.

**Knowledge of Global Citizenship Competence**: It refers to understanding social injustice, peace and conflict.

**Skills of Global Citizenship Competence**: They refer to arguing effectively, critical thinking and respect for people.

**Attitudes and Values of Global Citizenship Competence**: They refer to commitment to social justice, empathy, the belief that people can make a difference.

It would be sensible for the reader so far, to have made strong associations between Global Citizenship education and a theoretical, humanistic viewpoint since close reference has been made to theoretical frameworks as set out by acknowledged organizations. This however, would severely detract from the practical perspective of Global Citizenship Education which is closely connected to the workplace since the Global citizen mindset overlaps with the Global business mindset [12], [13]. This way, the Global Citizenship mindset becomes relevant and meaningful to every Higher Education student as a job candidate.

**How the Global Citizen makes for the “ideal employee”**

But how can the rhetoric cited so far be most relevant to Higher Education students as future employees in a congested labor market?

Merely training for competency in a particular, narrow, rigidly disciplinary context seems at least lame and short-sighted at a time when unemployment has reached soaring rates. Moving towards a pragmatic “bottom line”, stakeholders have clearly expressed their views on the **ideal Global graduate**. The International Association of Universities has expressly declared that the focus should be on “better preparation of the students as national and Global citizens and productive members of the workforce” [14]. This practical perspective brings further added value to the Global Citizenship mindset as strong ties are built between the workplace and academia. The table below (table 1) is a compilation of the most sought-after skills the 2015 graduates should have according to Bloomberg [15], Forbes [16] and the American Psychological Association (APA) [17] so as to be employable. Both Bloomberg and Forbes are Global business and financial news leaders with a heavy impact of their publications on the business world. Bloomberg’s report is based on a survey of 1,320 job recruiters; Forbes’s report is based on a survey of 260 employers including many “heavy” names in the job industry like IBM and Chevron while APA’s report is the compilation of national surveys of employers. These skills are mapped against the skills Global citizenship education aims at developing in individuals and against the skills apt to W.I.N. can develop/enhance.

**Table 1. What makes a successful, global candidate**

<table>
<thead>
<tr>
<th>The skills necessary to the Global business mindset</th>
<th>The skills necessary to the Global citizen mindset</th>
<th>How these skills sets are enhanced through W.I.N.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ability to work in a team structure (Forbes, 2015; Bloomberg, 2015)</td>
<td>communication &amp; collaboration (P21, 2015; Oxfam, 2013; UNESCO, 2015)</td>
<td>Players work in teams (Miloans-Athenians) throughout the game to develop arguments.</td>
</tr>
<tr>
<td>making decisions, (Forbs, 2014)</td>
<td>making judgments and decisions (P21, 2015; UNESCO, Education 2030 Framework for Action)</td>
<td>Making decisions and judgments is an integral part of the argument development/rebuttal process.</td>
</tr>
<tr>
<td>analytical thinking (Bloomberg, 2015)</td>
<td>reasoning &amp; analyzing (NAP, Australia, 2010, UNESCO, Education 2030 Framework for Action)</td>
<td>Besides the argumentation skills where reasoning and analyzing are inherent, players use reasoning and analyzing skills when they give feedback to their peers for the argument they developed.</td>
</tr>
</tbody>
</table>
appreciation of diversity and individual differences (APA, 2013)  

**strategic thinking (Bloomberg, 2015)**  
- use systems thinking (P21, 2015; UNESCO, Education 2030 Framework for Action)  
- use top-down & bottom-up approaches to make connections between concepts (UNESCO, 2015)  

Players use a bottom-up approach to work on Toulmin’s argumentation pattern (micro-level of the argument development) and a top-down approach with De Bono’s 6 T.H.s (macro-level of the argument threads)

**critical thinking (Forbes, 2014)**  
- reason effectively (P21, 2015)  
- critical interpretation (UNESCO, 2015; UNESCO, Education 2030 Framework for Action)  
- critical thinking (UNESCO, 2015; Oxfam, 2013)  

The argumentation skills players need to fall back on and refine to achieve the game’s sub-goals and the overarching one, defending their city-state effectively, are based on critical thinking and effective reasoning

In the light of the above table, added value is attached to GCE as it becomes the means to employability. How can all stakeholders make the most of it? What are the right GCE delivery practices to effect?

## 2 METHODOLOGY

### 2.1 Effective teaching/learning practices for GCE

For the effective implementation of GCE, UNESCO [18] proposes the following teaching/learning practices as effective and deemed as actually transformative pedagogies:

- a clear connection should be forged between Information & Communication Technologies and effective teaching/learning practices with the use of distance and online platforms, virtual classrooms and virtual field trips for GCE to establish a community of practice that transcends physical borders and continents through online learning.
- alignment of learning goals, teaching/learning practices and assessment by promoting learner-centred and interactive teaching and learning approaches (e.g. collaborative learning structures, media literacy, reflection and self-assessment, peer feedback).
- embedding authentic performance tasks
- use of top-down and bottom-up approaches and resources that will allow learners to make connections and explore relations between local and global issues.

As follows from the above, an educational intervention should be designed to bring together the threads of game-based learning in a virtual classroom for the learning design and the Global citizenship mindset as relevant and meaningful content and context to equip Higher Education learners with an effective mindset necessary to cope in an ever-changing, interconnected world and workplaces infused with competition. Hence, apt2W.I.N. was developed and playtested in 3 development cycles using agile methodology in a 3D Virtual world (Second Life). apt2W.I.N. is a highly interactive serious game designed to pull players into the game and enhance their global citizenship competence along with their creative thinking, negotiation skills under pressure and team building through a Computer Supported Collaborative Learning (CSCL) script.

The negotiating teams are writing arguments based on Thucydides’ original text. Only a hint of each original argument is given to the players who should develop the rest. No one can predict what the developed argument will be. Once a developed argument is uploaded, the other team should develop another argument to rebut it. Hence, this is a case of using authentic student-generated text in an authentic way.

Argument development is based on an innovative creative argumentation framework [19] bringing together creativity based on De Bono’s Six Thinking Hats method [20] and Toulmin’s argumentation
pattern [21]. In De Bono’s Six Thinking Hats method, each hat represents a different mode of thinking. “Wearing” a hat means that the same thinking mode is adopted by all group members at the same time (parallel thinking) hence, avoiding useless friction among participants and waste of time as would be when juggling with different perspectives simultaneously. In the proposed innovative, creative argumentation-based negotiation framework (fig.2) De Bono’s problem-solving hat sequence is applied while both sides argue for their vested interests.

Each hat thinking mode is matched to a component of Toulmin’s argumentation model and strengthens the argumentation procedure by giving it a way to design and argue forward. For the first two training sessions on survival skills in Second Life and familiarization with the creative argumentation-based negotiation framework, participants log in with their own avatar so as to familiarize themselves with the procedure of creating an avatar. Before the end of the second training session, the participants are randomly assigned through a custom script to either the Miloan or the Athenian group. Password and username are given to each to log in for the game sessions according to their assigned role.

![Figure 2 Mapping Toulmin’s argumentation framework to De Bono’s Six Thinking Hats method [19]](image)

2.2 The storyline

The compelling scenario is based on a true conflict in the history of ancient Greece as recounted by Thucydides, the great historian. It is during the Peloponnesian war, 416 B.C. (5th century B.C) when part of the Athenian fleet sails to Milos Island demanding support for the Athenians and their Delian alliance against the Spartans and their allies or the Miloans would face destruction. Miloans had blood ties to Spartans and therefore, did not want to go against them. Hence, their decision to remain neutral despite being military weak compared to the Athenians. Hard negotiation ensues between Athenians and Miloans in a diplomatic effort to resolve the dispute each side trying to advance their arguments and rebut the other’s trying to state their point of view and defend their vested interests.

To Athenians, it was a matter of prestige and a confirmation of their dominance over their allies at a time when their allies had started withdrawing from the Delian League, an association of city-states under the leadership of Athens. The Miloans themselves were not any power at that time but they would set a bad example to the rest of the Athenian allies, were they not to comply.

To Miloans, it was a matter of survival, defending their freedom and their island. If they didn’t persuade the Athenians that they should stay neutral, the Athenians would wage war against them and they would stand no chance of survival for they were but a minor power compared to mighty Athens.

This dialogue is considered as unique in showing the clash between ethics and power or the way power conditions ethics in international politics.

The particular storyline meets the criteria as set out in [3] for good storytelling. The outcome here is conditioned by the players/participants’ actions and the strength of their negotiation skills. The storyline as is, drives learners into the game and gives them a real-purpose to develop and redefine their arguments to effectively rebut their learning partners’ ones and reach negotiation. The students
take the roles of Athenians and Miloans as avatars dressed accordingly in a custom-made environment in Second Life.

2.3 Participants
The game was run on the Second Life platform on a custom-made, access-controlled sim built to have the look and feel of the island of Milos in 5th century B.C. with a cohort of 40 volunteering, undergraduate students in between the 3 iterative cycles of the agile development of the game. The participants were assigned to either the Miloan or the Athenian group, each group comprising 5 participants. Hence, there were 20 Athenians and 20 Miloans in total. Assignment to groups was random through a custom-made script developed inworld. The participants’ age range was clustered between 20-24 years of age.

2.4 The environment
Second Life (SL) has been lauded as the most mature virtual platform for educational purposes. It is a user-defined virtual world designed and owned by its residents. The residents are free to set their own rules on their parcels of land unlike other games e.g. War of Warcraft. Being an open-ended world where the users themselves design and manipulate the in-world environment with no established game objectives, gives SL an advantage over other 3D Multiple User Virtual Environments [22], [23]. Second Life is considered the most commonly used world in Higher Education [24]. Among the reasons Savin-Baden [24] lists as to why Second Life has been taken up inHigher Education, she focuses on two traits of SL: the value and compelling power of its visual nature to create an educational culture that focuses on the visual element and its immediacy as a synchronous learning space to carry the perspective of being and learning with others. [25] also report higher learning outcome achievements in students learning in SL as compared to the control group.

3 RESULTS
This educational intervention takes the cognitive processes approach of Game research which researches the knowledge gained from serious games [26]. The research question tested is: Is the players’ Global citizenship competence (knowledge, skills, attitudes) strengthened after playing the apt“W.I.N. serious game?

For the experimental design of the educational intervention presented herein, the same cohort of participants (dependent sample) takes a pre-test before the gaming sessions and a post-test on completion and debriefing of the game sessions. Two of the core question types were used for the 24 items of the questionnaire: multiple-choice questions for the demographic factors and a 5-point Likert scale for the rest of the items listed on the questionnaire. Value “1” corresponds to the lowest possible level, “absolutely disagree”, whereas value “5” corresponds to the highest that is, “absolutely agree”. t-tests were run to test the significance of difference of the “development of knowledge and understanding of Global citizenship democratic processes”, the “development of skills” relevant to the Global citizenship mindset and the “development of democratic values and attitudes” of Global citizenship variables before and after the educational intervention.

Concerning the results of the reliability statistics of the questionnaire of the current research, in the pre-test check for reliability of the questionnaire items, Cronbach’s Alpha is 0.706 which is an acceptable value. It is therefore confirmed that the data are reliable and valid to a satisfying degree. In
the post-test questionnaire administered a month after completion of the educational intervention, Cronbach’s α is 0.731 showing a marginal increase compared to Cronbach’s before the gameplay. The data also prove to be reliable and valid to a satisfying degree.

With regard to the pre-tests run (table 2, below), concerning the players’ “development of knowledge and understanding of democratic processes” variable, t=-1.792, p value >0.05, indicating no significant difference in the 2 means. Concerning the “development of skills” variable, t=-3.291, p>0.05, hence no statistically significant difference is indicated. No statistically significant difference is either indicated for the sensitization towards the “democratic values and attitudes” variable where t=-.554, p>0.05.

<table>
<thead>
<tr>
<th>Development of knowledge and understanding of democratic processes</th>
<th>40</th>
<th>3.6500</th>
<th>.47636</th>
<th>-1.792</th>
<th>.239</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills development</td>
<td>40</td>
<td>3.0650</td>
<td>.37179</td>
<td>-3.291</td>
<td>.267</td>
</tr>
<tr>
<td>development of democratic values and attitudes</td>
<td>40</td>
<td>3.1800</td>
<td>.30651</td>
<td>-.554</td>
<td>.379</td>
</tr>
</tbody>
</table>

By contrast, in the post-test run, concerning the “development of knowledge” variable, t=-1.817, p value<0.05, indicating a statistically significant difference in the 2 means. A statistically significant difference is also shown in the “skills development” variable where t=-2.169, p<0.05 and in the sensitization towards the “democratic attitudes and values” variable where t=-3.672, p<0.05.

<table>
<thead>
<tr>
<th>Development of knowledge and understanding of democratic processes</th>
<th>40</th>
<th>3.7875</th>
<th>.42195</th>
<th>-1.817</th>
<th>.023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills development</td>
<td>40</td>
<td>3.5300</td>
<td>.42859</td>
<td>-2.169</td>
<td>.047</td>
</tr>
<tr>
<td>development of democratic values and attitudes</td>
<td>40</td>
<td>3.3200</td>
<td>.28930</td>
<td>-3.672</td>
<td>.009</td>
</tr>
</tbody>
</table>

4 CONCLUSIONS

Hence, the results as presented above show that the players’ citizenship competence (knowledge, skills, attitudes) has been enhanced after the players’ participation in the apt2W.I.N. serious game.

It has also been shown that Global Citizenship competence paves the way to employability. It’s time Higher Education took this chance to help forge real/meaningful links between academic curricula and the workplace. Further, since playing games to develop soft skills and feel more productive is spreading fast at the workplace, apt2W.I.N. could target the workplace end-users, as well. Finally, another thread of apt2W.I.N which was not presented here, is the development of argumentation skills, a soft skill deeply appreciated at the workplace. It could be then, that apt2W.I.N is playtested for its efficacy on developing the players’ argumentation skills, too.

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