Citizen self-awareness assessment in elementary schools of Japan and Costa Rica through story-based media

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One of the goals of elementary school education is to provide children with the knowledge, skills, and attitudes they need to become active citizens, get involved in their communities, and seek solutions to social issues. Such citizenship can be effectively nurtured by integrating narrative learning in the development of a strong citizen identity. This paper describes the practice and assessment of learning activities in which Japanese and Costa Rican elementary school students use story-based educational media, such as animation and comics, to create stories representing solutions to problems related to school and community life. These activities included the viewing of short animated films and the creation of comics by the students. An analysis of the comics, based on the theories of spheres of action and character arcs, yielded information on the students' level of self-awareness as citizens, showing sizable differences between the two countries.

Keywords: animation, assessment, citizen self-awareness, comic, storytelling

Introduction

Democratic citizenship identity and Storytelling

The 21st-century skills draw attention to the importance of nurturing the students' self-awareness as citizens in both local and global contexts (Griffin et al., 2012). The fostering of specific knowledge, skills, and attitudes related to citizen consciousness requires, first, the identification of suitable frameworks for their systematic instruction and assessment. Several approaches to this issue emphasize the effectiveness of the use of stories in learning.

Digital storytelling allows students to tell short stories using digital tools, based on their own personal experiences. While doing this, they are expected to engage in deep forms of learning (Daniels, 2013). Furthermore, digital storytelling can provide the students with an opportunity to reflect on the issues affecting their communities (Truong-White & Mclean, 2015). De Groot (2018) points out that citizenship education should be concerned not only about the mechanisms of political and democratic institutions but also about the attitudes, knowledge, and skills young citizens need in order to become involved in the development of democratic cultures in their communities. For this purpose, she puts forth the concept of democratic citizenship identity (henceforth DCI) as a theoretical framework for approaching citizenship education through narrative learning.

DCI can be understood as the narratives individual students have about their own citizenship philosophy, civic self-image, and democratic learning experiences. While citizenship philosophy refers to the image the students have about the way citizens should participate in society, civic self-image includes the perception students have about the role they play in their local societies and their sense of commitment to the community. Democratic learning experiences refer to the students' personal experiences with democratic practices, and it is closely related to their understanding of how democratic communities are created (De Groot, 2018). This research regards the concept of DCI as a useful tool for the comprehension of the specific ways citizens view themselves and their communities, and consequently, as a valuable guide for the assessment of the students' self-awareness as citizens.

The role of stories in the construction of identity

De Groot's views on citizenship identity closely resonate with previous research on the relationship between stories and the structures of knowledge. Schank and Abelson (1977) define "scripts" as one of the main structures through which human knowledge is created and organized. Scripts are action sequences describing general or specific situations. We memorize these sequences through social interactions and then use them to comprehend both familiar and novel situations. Scripts can also involve chains of causally connected events. In this sense, scripts are little stories that can help us infer our own actions and the actions of others in everyday life.

Read and Miller (1995) stress that the function of stories in the structuring of knowledge goes beyond memory and the organization of information. Stories profoundly shape human knowledge, as they deal fundamentally with social interactions, which are of central importance for human beings. Stories also tend to describe the goals of the actors involved, the reasons to pursue those goals, the actions the actors take to achieve them, and the results of such actions. Human beings are natural experts in identifying and assessing these elements; therefore, they assign them intrinsic value.

Moreover, Mankowski and Rappaport (1995) assert that approaching knowledge as a form of storytelling allows an understanding of how personal and social identities are developed and changed. These processes involve, fundamentally, the integration of preexisting stories into new ones. While creating their own identity, individuals and communities use socially shared stories to answer questions about who they are, how they got to be that way, how they should be, and what they will be in the future. In this way, individuals and communities employ storytelling to create and maintain structured forms of knowledge about themselves, their past, present, and future.

Here it becomes crucial to propose a distinction between the concepts of story, storytelling, and narrative. A story is an account of events portraying specific actors engaging in specific actions. For example, a story about a student can describe his concrete actions during one day of his summer holidays. Storytelling refers to the act of telling a story. Telling an anecdote to a group of friends on the school bus and making a full-length film are both instances of storytelling. Finally, narrative, viewed from a semiotic perspective, includes the forms of discourse supporting stories and storytelling (Adam, 1992). Nevertheless, narratives, viewed from a sociological perspective, can also be understood as the "big stories," the themes that mold the perception individuals have of society and their personal identities. These narratives may include views on social roles (actors), recurrent events and anecdotes (actions) and moral issues (objectives and motivations). An instance of narrative, shared throughout most cultures and communities, is that parents (actors) take good care of their children (actions) because they love them (motivation) and want them to live happy and healthy lives (objectives). Most of the individual stories we can find in media, literature, and our everyday life conversations primarily consist of confirmations or subversions of the elements of previously established narratives. This research argues that the assessment of the students' self-awareness as citizens must focus on learning experiences in which they use the narratives they perceive in their communities to create stories that reflect their personal identity.

The spheres of action as representations of identity

Elementary school children attend Social Studies classes to learn about history, geography, and politics. They also participate in school elections, service-learning projects, and other activities designed to provide them with the skills and values they need for citizen life. Nonetheless, how children can use stories to think about solutions to their communities' problems and to what degree they consider themselves as current and future citizens, is rarely the object of assessment. When engaging in this sort of assessment, Propp's theory of *spheres of action* offers valuable insights.

Propp (1968) analyzed hundreds of folktales, focusing on the different functions performed by the characters depicted in them. He proposed that, in most stories, only seven distinct functions can be identified, and named the relationship between each of these functions and the characters present in the story as *spheres of action*. The seven spheres of action, as defined by Propp, are the *Villain*, the *Donor*, the *Helper*, the *Princess and Her Father*, the *Dispatcher*, the *Hero*, and the *False Hero*. Depending on the specific way they relate to the goals and challenges set for the Hero in the story, any given character may fall into one or more of the spheres of action.

The spheres of action display a high degree of adaptability, and they can be easily observed in the characters of novels, television series, comics, films, and other types of story-based media. They have been successfully incorporated into the analysis of American horror stories (Herman, 1999), indigenous Mexican tales, (Grosser, 2007) Disney's animated films (Santosa, 2003), and other forms of stories. In stories dealing with community issues, the allocation of the spheres of action among the different characters can yield information about the storyteller's personal identity. Specifically, by focusing on the spheres of action that elementary school children assign to the characters in the stories they create, it is possible to determine the social roles they perceive as valid or desirable for themselves and other children.

Research objective

Recent research on the assessment of the students' citizen awareness and social engagement relies on surveys and other data collection methods in which participants express their ideas in the form of descriptive or explanatory texts. Anson (2017) uses surveys to determine the impact of writing activities on the students' level of political awareness and their argumentation and persuasion skills. Bentahar and O'Brien (2019) employ questionnaires and structured

interviews to ascertain the effects of a community problem-solving curriculum on the students' abilities to engage with policy and think critically about community issues. Fukuyama et al. (2014) resort to digital storytelling to help children express their own personal stories and reflect on how current environmental issues may affect their own future. They utilize a survey to assess the children's sense of social responsibility, and their ability to envision the actions they must take in the present to secure the future they desire.

This research, on the other hand, highlights the ways citizen self-awareness relates to personal identities and narratives. It also points out the importance of facilitating learning processes that visualize these correlations. How can teachers and researchers design and support such processes? How can they recognize and assess the expressions of personal identity contained in the stories told by children? What results can be expected from applying unified assessment methods to stories created by students from different backgrounds? The objective of this research is to propose a method for the systematic assessment of children's self-awareness as citizens, focusing on how they hint information about their DCI while creating stories dealing with problems in school and community life.

By focusing on storytelling, the assessment method seeks to tap into universal interests and abilities shared by children all over the world. In this way, the proposed method should be able to yield valuable information on the citizenship identity of individual children, regardless of the specific political, cultural, and socioeconomic conditions of their national and local communities. Moreover, as it emphasizes the fundamental components and mechanisms of stories, the method can be adapted to any form of story-based media.

Methods

Citizen self-awareness assessment in Japan and Costa Rica

This study applies the assessment method to the results of learning activities combining the use of short animated films and comics. The assessment was conducted in Japan and Costa Rica to verify its adaptability to different sets of conditions. In Japan, animated films and comics play a central role in popular culture, while supporting a strong entertainment industry that exports its products worldwide (Shiraishi, 2013). They are also extensively used in school and lifelong education settings (Institute of Advanced Studies in Education, 2018; Japan Broadcasting Corporation, n.d.). Japanese children, who are usually deeply acquainted with the language and conventions of animation and comics, can be expected to have a confident performance in learning activities introducing these media.

Costa Rica, as a mostly passive consumer of media, offers a very different scenario. Comics are scarce, and animation is rarely brought into the classroom. Most Costa Rican children are familiar with the themes and aesthetics of Japanese and American media, but they seldomly have the chance to see their own culture depicted in comics and animation. The assessment activities provide an opportunity to explore the ways Costa Rican children may react to novel situations, such as viewing animated films portraying characters and issues they can recognize in their communities. The assessment activities would also allow most children to have their first encounter with comics functioning as learning tools.

It is important to point out that while showing vast differences in their educational systems, culture, and economy, Japan and Costa Rica also share elements of relevance for this study. They are both stable democracies (The Economist Intelligence Unit, 2020) that have recognized the need to nurture citizen identity in elementary education (Ministry of Education, Culture, Sports, Science and Technology, 2017; Ministerio de Educacion Publica, 2013). Two public elementary schools were selected as the target for the assessment activities. The first school is in the Ibaraki prefecture of Japan, and the second one in the Alajuela province of Costa Rica. For the 2019 school year, these schools had a total of 338 and 312 students, respectively.

In each school, the students of a six-grade class (21 students in Costa Rica and 27 students in Japan) voluntarily participated in problem-based learning activities during three lesson periods. Specifically, the students participated in three learning activities: the viewing of an animated short film, the creation of a comic script, and the creation of a digital comic. The assessment was carried out based on the materials created by the students. In both countries, the study took place during the first half of the 2019 school year.
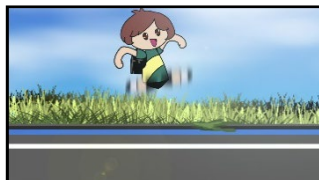
Animated film for Japanese Schools (02:02)

Animated film for Costa Rican Schools (02:39)

Japanese	Costa Rican
1. Wakes up late (action).	**1.** Wakes up late (action).
2. Street mirror is broken (infrastructure).	**2.** There is no sidewalk (infrastructure).
3. Leaves a first-grader behind (action).	3. The sidewalk is very narrow (action/ infrastructure).
4. Hops around the irrigation canals (action/ infrastructure).	**4.** Eats while riding the bike (action).
5. Plays in the rice field (action).	**5.** Electric poles are blocking the sidewalk (action/ infrastructure).
6. Walks in a double row (action/ infrastructure).	**6.** Puts pedestrians in danger (action).
7. Crosses the road on a red light (action).	**7.** Plays around and crashes (action).
8. Runs and trips on the broken road (action/ infrastructure).	**8.** Arrives late to school (action).
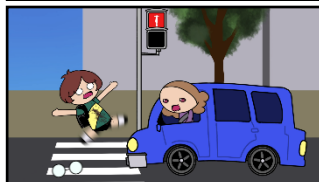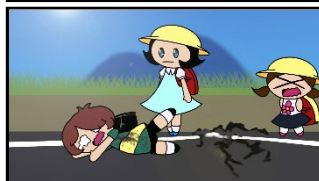
Figure 1. Animated short films for Japanese and Costa Rican Schools

Viewing of animated short films

In this activity, the students watch an animated short film, and with the guidance of the teacher, they identify the depicted issues while discussing with their peers. Two short animated films were produced for this study, one for each country. Both animated films depict various road traffic safety problems that may affect students and other actors of

the community. The animated short films fulfill the function of presenting the different problems the students may emphasize later in their own stories. Depending on their suggested causes, the problems presented in the animated films can be categorized as problems mainly related to specific characters' actions, and problems mainly related to the community's infrastructure conditions (Figure 1).

Creation of comic script

In this task, the students freely select one of the individual problems depicted in the animated films and create the script for a comic presenting a solution to the problem. In other words, the children think about how to complete the story. They receive a worksheet that explains the way comics resort to actions and dialogues to tell stories. The worksheet includes a table in which the learners can define the actions and dialogues of the characters involved in the story they want to create. The worksheet suggests a basic structure of four panels: one panel showing the problem and its causes, two panels sketching the actions and dialogues aimed to solve the problem, and one panel illustrating a new situation in which the problem has been solved (Figure. 1). The children engage in the viewing of the animated film and the creation of the comic script in one single lesson, which allows them to have a clear image of the problems while they work on proposing the solutions.

Creation of digital comics

In this stage, the students utilize *Voicing Board* (henceforth VB) for the span of two lessons to create their own comics based upon the contents they had previously organized in the comic script worksheet. VB is a computer-supported collaborative learning system that allows the learners to engage in polyphonic thinking, using dialogues to express the points of view and attitudes different characters may have towards a specific issue (Suzuki et al., 2009). While telling a story about how a problem of the community is solved, the students can not only express the voices of different actors they identify as part of their communities, but they can also appropriate some of those voices and make them their own. In this way, VB provides students with an opportunity to express their citizen self-awareness through the actions of the children involved in the story.

In VB the students compose their own comics, using the characters and backgrounds depicted in the animated films. Name tags and speech balloons can be freely attached to the characters. New characters, that while not present in the animated films, could be needed in the new stories proposed by the students, were prepared and previously added to VB. In both countries, these characters include parents, police officers, local politicians, and construction workers. Even though the comic script worksheet suggests a four-panel structure, the students are encouraged to add new panels and expand their stories in any way they see fit.

Assessment of citizen self-awareness through comic analysis

On a fundamental level, the comics the students create are stories dealing with problems and their solutions. First, they show an initial situation (a problem) which, through the actions of the characters (solution), turns into a new, final situation (solved problem). The events of the story start from the problem and move towards the solution. The characters working to fix the problem follow this path, moving the story towards the solution. The characters causing the problem or hindering the solution, move in the opposite direction, trying to bring the story back to the problem. The analysis of the comics created for the students involves discovering how the different characters in the story move along these paths. The spheres of action introduced by Propp (1987) can be adapted to this task.
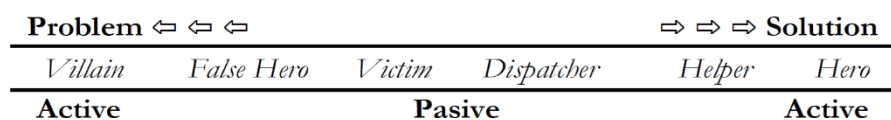
Problem ⇐ ⇐ ⇐				⇒ ⇒ ⇒ **Solution**	
Villain	*False Hero*	*Victim*	*Dispatcher*	*Helper*	*Hero*
Active		**Pasive**			**Active**

Figure 2. Adapted spheres of action

Based on the analysis of the specific functions defined for the seven spheres of action presented by Propp, and their relationship with the recurrent actions displayed by the different characters in the stories created by the students, a set of six spheres is proposed (Figure 2). These adapted spheres of action are specific for the analysis of the stories in which the children suggest solutions for problems in their schools and communities. Furthermore, since the focus of this study is the way children view themselves and their peers within the dynamics of citizen life, the object of the analysis is limited to the child characters depicted in the stories. For this reason, even though they are suitable for analysis through the spheres of action's framework, the adult characters, such as teachers and parents, are excluded

from the assessment.

A rubric, available in both English and Japanese language, was applied to the individual analysis of each story (Table 1). In each country, two researchers assessed all the comics. In the cases in which differences emerged between the two evaluators' assessment results, the divergences were clarified, and a final assessment result was defined. Additionally, for every comic, a matrix describing and organizing the individual actions of the characters was prepared. In this assessment, the comics depicting children's characters in positive and active roles (Hero) are considered as expressions of high citizen self-awareness. The cases in which the children play positive but mostly passive roles (Helper and Dispatcher) or negative but mostly passive ones (Victim and False Hero) are regarded as examples of somewhat high self-awareness and somewhat low self-awareness respectively. Finally, the comics allocating children to a negative and active action sphere (Villain) are viewed as instances of low self-awareness.

Table 1

Citizen self-awareness assessment rubric

Adapted spheres of action	Citizen self-awareness level
Hero (6 pts) Decides the solution strategy, and acts towards the solution on their own initiative. Its actions trigger the solution. **Decides solution/ Engages in actions toward the solution/ Requests others to engage in solution actions**	**High self-awareness (4 pts):** Children are assigned spheres of action that are both positive and active.
Helper (5 pts) Responds to the Hero's actions and provides the tools (things) or methods (ideas, procedures) needed for the solution, or engages in the solution following the Hero's instruction or another helper. **Provides/ Engages in requested actions towards the solution/ Follows instructions/ Assists victims**	**Somewhat high self-awareness (3 pts):** Children are assigned spheres of action that are positive but passive.
Dispatcher (4 pts) Orders someone else to solve the problem or points out the need to solve the problem. Does not engage in the solution actions. **Does not provide nor acts towards the solution/ Asks for a solution/Scolds/Warns about danger/ Praises or thanks the hero**	
Victim (3 pts) Is directly affected by the problem. Does not engage in the solution in any way. **Affected by the problem/Causes the problem and apologizes**	**Somewhat low self-awareness (2 pts):** Children are assigned spheres of action that are negative but passive.
False Hero (2 pts) Fails in the solution and worsens the problem, or unfairly takes the credit for the solution. **Acts recklessly/ Fails/ Worsens/ Brags/ Betrays**	
Villain (1 pts) Causes the problem or deliberately hinders the solution. **Causes/ Deliberately hinders/ Treats badly/ Mocks**	**Low self-awareness (1 pts):** Children are assigned spheres of action that are both negative and active.

Based on the acknowledgment that any given character may perform actions related to multiple spheres of action, the analysis considers every action performed by the characters in the comic. In this way, the analysis also acknowledges the concept of *character arc*, which refers to the internal changes a character experiences as a result of the difficulties and challenges he or she faces throughout the story (Bell, 2004). A character may learn valuable lessons or gain new abilities. It may also lose things along the way and end up in a worse situation.

Depending on the nature of these changes, character arcs can be positive, flat, or negative (Weiland, 2016). The animated films portray children in mostly negative or passive roles, such as Dispatchers, Victims, and Villains. It is because the animated films only portray the problems; therefore, the spheres of action usually related to the causes and effects of the problem are predominant. The appearance of more positive spheres of action requires moving the story forward into the solution. In order to portray more positive and active roles for the characters of children, the students must provide them with positive character arcs. Taking these points into account, even though the analysis identifies all the spheres of action expressed by the characters, particular attention is placed on the spheres of action expressed at the end of the story. In other words, the assessment emphasizes the finishing points of the characters' arcs.

Results

The assessment of the students' citizen self-awareness focuses on two points. The first point is the identification of the highest sphere of action expressed within the story. By doing this, it is possible to score every comic on a scale from 1 to 4, depending on the positiveness and activeness of the roles played by the characters (Table 1). This score is called *citizen self-awareness score*, and it is the main value used to determine the level of citizen self-awareness of the students. For example, in the cases in which at least one of the children's characters expresses the sphere of Hero, the comic is considered to display a high level of citizen self-awareness and given a score of 4. Figure 3 shows an example of a comic suggesting a high level of citizen self-awareness. In this story, the children notice a street mirror is broken and discuss that it is a safety hazard. Then they inform their teacher about the problem and get the help of other people of the community to solve it while acknowledging the importance of being careful themselves.

Figure 3. Comic created by a Japanese student

The second point is the definition of the *sphere of action average score*. Fixed values from 1 to 6 are used to rate the different spheres of action, Hero being the highest with a 6, and Villain the lowest with a 1. The sphere of action average score offers additional insights on how the students creating the comics view the children´s role in citizen life. Namely, it offers information on the internal configuration of the different characters within the story. For example, a comic may include a Hero, and accordingly, be assigned a citizen self-awareness score of 4 points. That same comic may also include several Helpers. It could also include no Helpers at all but introduce a large number of Villains. Each of these configurations reflects qualitative differences between the comics that can be opportunely visualized through the sphere of action average score.

Table 2 shows the citizen self-awareness score and the sphere of action average score assigned to the comics created by the students. It also lists the spheres of action assigned to the characters depicted in each one of the comics. A Wilcoxon signed-rank test was conducted to compare the score results of Japan and Costa Rica. It determined that the differences in both the citizen self-awareness score (W=137, p < 0.05) and the sphere of action average score (W=131, p < 0.05) are statistically significant between the two countries.

Table 2
Citizen self-awareness score, spheres of action and sphere of action average score

Japan				Costa Rica			
n=26				n=19			
Student code	Self-awareness score	Spheres of action	Sphere of action average score	Student code	Self-awareness score	Action spheres	Sphere of action average score

JP01	4	A6, A4	5	CR01	3	A1, A4	2.5
JP02	4	A6, A4	5	CR02	3	A5, A4	4.5
JP03	4	A6, A4, A4	4.6	CR03	3	A5	5
JP04	4	A5, A6, A3	4.6	CR04	3	A5, A5	5
JP05	4	A6, A4	5	CR05	3	A1, A5	3
JP06	3	A5	5	CR06	1	A1	1
JP07	3	A1, A5	3	CR08	2	A2, A2	2
JP08	2	A3, A3	3	CR09	4	A6	6
JP09	4	A6, A5, A5	5.3	CR10	1	A1	1
JP10	3	A4, A5	4.5	CR11	4	A6, A6, A5, A5	5.5
JP11	3	A1, A5	3	CR12	3	A1, A4	2.5
JP12	3	A1, A4	2.5	CR13	3	A5, A4	4.5
JP13	4	A6, A0	6	CR14	3	A1, A4	2.5
JP14	1	A1, A0, A0	1	CR15	3	A1, A4	2.5
JP15	4	A6, A5	5.5	CR16	3	A1, A4	2.5
JP16	4	A6, A5	5.5	CR17	2	A3, A0	3
JP17	4	A6, A4, A4	4.6	CR18	3	A5, A4	4.5
JP18	3	A5, A5, A0	5	CR19	4	A6, A4	5
JP20	4	A5, A6	5,5	CR20	3	A1, A4	2.5
JP21	4	A5, A6	5.5				
JP22	4	A6, A5, A5	5.3				
JP23	3	A4, A4	4				
JP24	4	A5, A6	5.5				
JP25	4	A6, A5	5.5				
JP26	2	A3	3				
JP27	4	A6, A4	5				
M	3.46		4.51		2.84		3.42
SD	0.81		1.21		0.83		1.51
Mdn	4		5		3		3

Discussion

This research argues that because of the universal nature of storytelling, a story-based citizen self-awareness assessment method can be successfully applied to stories of elementary school children of any nation. More specifically, it can be adapted to different geographical and cultural contexts because it acknowledges the ubiquity of storytelling in the construction and modification of personal identity. Accordingly, it incorporates into the assessment key principles useful to comprehend the stories' fundamental structure such as spheres of action and character arcs. The assessment was performed in Japanese and Costa Rican elementary schools to observe how the results may vary in different countries.

The results of the assessment show that Japanese students were able to express a high level of citizen self-awareness in a much higher proportion than Costa Rican students. Likewise, by focusing on the configuration of the different spheres of action present in each story, it is possible to identify Heroes and Helpers as the predominant spheres of action in the comics created by Japanese students. Mostly passive spheres of action, such as Dispatcher and Victim, and deeply negative spheres of action, such as False Hero and Villain, are either absent or scarcely represented. In contrast, although only three of the stories created by Costa Rican students depict a Hero, nearly half of them include a Villain. The predominant spheres of action in Costa Rica are the Dispatchers, closely followed by the Helpers. These configurations suggest that while Japanese students tend to assign the children in their stories mostly positive and active roles, Costa Rican students generally provide them with more passive or negative roles. Does this mean that Japanese students, in general, have a higher citizen self-awareness level than Costa Rican students? Do the assessment results reflect specific traits of Japanese and Costa Rican media and school culture? Can Japanese and Costa Rican teachers benefit from knowing the tendencies in the stories told by their students?

The assessment method visualizes the students' ideas on how children can participate in solving community problems. In this way, each story expresses mainly the students' personal interpretation of how children should behave as citizens of their communities. Nonetheless, the stories are also expected to reflect, in a transversal manner, the predominant narratives of the learners' communities. For example, every community has shared narratives about the roles the government, civic organizations, and individual citizens play in society, and these narratives are very likely to differ among communities. For this reason, when assessing the stories of children from different countries, or even from different communities of the same country, the citizen self-awareness results are also expected to show variations. The disparities in the results observed in Japan and Costa Rica may be related to the predominance of contrasting

narratives in the specific communities in which the study was conducted.

Media culture is also expected to influence the way individuals express their citizen self-awareness. Most Japanese children and Costa Rican children participating in the study may have no previous experience in creating their own comics. Nonetheless, through regular contact with comics in both home and school, Japanese children may have a deeper grasp of the basic functions characters display in comics. As a result, Japanese participants may find it easier to allocate positive spheres of action to the characters in the stories, either intentionally or subconsciously. Likewise, general differences in the learning environments of the two countries and individual differences in the instructional practice of the teachers participating in the study are also possible factors. For instance, class periods are 5 minutes shorter in Costa Rica than they are in Japan. Furthermore, in Costa Rican schools, a recess of between 5 and 10 minutes is placed after every block of two class periods, allowing children to leave the classroom and play freely in the hallways and sports facilities. At the end of the recess, they take some time to go back to their classroom, and it is not unusual for the next class to start with a delay of a few minutes. These practices contrast with the use and allocation of time in Japanese schools and affect the actual amount of time available for the learning activities in each country

Unlike the performance scores in Reading, Mathematics, and Sciences, the citizen self-awareness level score cannot be used to rank the educational achievement of different countries. However, it can be an appropriate tool to determine the view students of specific schools and communities have about their own DCI. Namely, it provides information on what issues of the children's DCI teachers should address in the classroom, and by doing so, allows them to engage in the planning of learning activities suited to address these issues. For example, in the cases where students express mainly negative and passive spheres of action, teachers could implement service-learning activities or classroom exercises in which students infuse themselves in the stories depicting community problems. While working with student groups that already include active and positive spheres of action in their stories, teachers could focus on the creation of stories showing more complex solutions, through the nurturing of problem-solving and critical thinking skills. Moreover, by reapplying the assessment method, it becomes possible to grasp how the students' self-awareness level may change through time, either as the result of these specific forms of instruction or as the result of developmental changes.

The animated films and comic creation software utilized in this study may not be available nor suitable to work with children from communities with different issues and technological environments. Nonetheless, by developing customized story-based materials, any school can use the principles of the assessment method proposed in this paper to examine the citizen self-awareness level of its students. For this task, teachers can design comics, video dramatizations, or short tales depicting community problems, and then let the children use the same formats to suggest their solutions. In this sense, the methodology presented in this research may also help teachers and students to approach citizenship education in unique and creative ways.

References

Adam, J., & Adam, J. (1992). *Les textes: Types et prototypes: Recit, description, argumentation, explication et dialogue.* Paris: Nathan.

Anson, I. G. (2017). Audience, Purpose, and Civic Engagement: A Reassessment of Writing Instruction in Political Science. *Journal of Political Science Education, 13*(4), 389–403. https://doi.org/10.1080/15512169.2017.1340166

Bell, J.C.(2004) *Write great fiction: Plot & structure; techniques and exercises for crafting a plot that grips readers from start to finish.* Cincinnati, Ohio: Writer's Digest Books.

Bentahar, A., & O'Brien, J. L. (2019). Raising students' awareness of social justice through civic literacy. *Journal of Social Studies Education Research, 10*(1), 193-218.

Daniels, K. (2013). Exploring the impact of critical reflection through the use of service-learning and digital storytelling. *Journal on School Educational Technology, 9*(1), 1–9. https://doi.org/10.26634/jsch.9.1.2396

De Groot, I. (2018). Narrative learning for democratic citizenship identity: A theoretical framework. *Educational Review, 70*(4), 447-464. https://doi.org/10.1080/00131911.2017.1344191

Fukuyama, Y., Shigeta, K., Nakazawa, A. & Makino, M. (2014). An Evaluation of Digital Story Telling Course Dealing with Environmental Problems and Self-History (Published in Japanese). *Japan Journal of Educational Technology,* 38 (Suppl.) 53-56. https://doi.org/10.15077/jjet.KJ00009846855

Griffin, P., McGaw, B. & Care, E. (2012) *Assessment and Teaching of 21st Century Skills.* London: Springer.

Grosser, E. (2007). Análisis semiótico-narrativo de El Sapo y la Culebra. *Anales De Antropología, 41*(1), 205-237. Retrieved from https://search.proquest.com/docview/871226963?accountid=25225

Herman, D. (2000). Pragmatic constraints on narrative processing: Actants and anaphora resolution in a corpus of North Carolina ghost stories. *Journal of Pragmatics, 32* (7), 959-1001. https://doi.org/10.1016/S0378-2166(99)00071-5

Japan Broadcasting Corporation. (n.d.). NHK for School. Retrieved May 15, 2020, from https://www.nhk.or.jp/school/

Mankowski, E. & Rappaport, J. (1995). Stories, identity and the psychological sense of community. In R. S. Wyer (Ed.), *Knowledge and memory: The real story. Advances in social cognition* (211-225). Hilldale, New Jersey: Lawrence Erlbaum.

Ministerio de Educacion Publica (Costa Rica) (2013). *Proyecto de ética, estética y ciudadanía. Programas de estudios sociales y educación cívica. Primero y segundo ciclos de educación general básica.* Retrieved from https://www.mep.go.cr/sites/default/files/programadeestudio/programas/esocialesecivica1y2ciclo.pdf

Ministry of Education, Culture, Sports, Science and Technology (Japan) (2017). *Curriculum Guideline Description. Period for integrated study (2017 bulletin)* (Published in Japanese). Retrieved from http://www.mext.go.jp/component/a_menu/education/micro_detail/__icsFiles/afieldfile/2019/03/18/1387017_013_1.pdf

Propp, V. (1968). *Morphology of the Folktale.* Austin, Texas: University of Texas Press.

Read, S. J. & Miller, L. C. (1995). Stories are fundamental to meaning and memory: For social creatures could it be otherwise? In R. S. Wyer (Ed.), *Knowledge and memory: The real story. Advances in social cognition* (139-152). Hilldale, New Jersey: Lawrence Erlbaum.

Santosa, V. (2003). The grammar of Disney long animations: A structuralist reading. *K@ta, 5* (2), 187-198. Retrieved from https://search.proquest.com/docview/236677093?accountid=25225

Schank, R. & Abelson, R. (1977). *Scripts, plans, goals and understanding: An inquiry into human knowledge structures.* Hilldale, New Jersey: Lawrence Erlbaum.

Shiraishi, S. (2013). *The globalization of Japanese manga and anime* (Published in Japanese). Tokyo: Gakujutsu Shuppankai.

Suzuki, H., Kubota, Y., Mochiduki, T. (2009). Effect of Manga-Representation Method on Enhancement of Multivoiced Reflection: Theoretical Background and a Supporting Strategy (Published in Japanese). *Research report of JSET Conferences 2009 (3)*, 131-138.

The Economist Intelligence Unit (2020). *Democracy Index 2019: A year of democratic setback and popular protest.* Retrieved from https://www.eiu.com/topic/democracy-index

Truong-White, H., & McLean, L. (2015). Digital storytelling for transformative global citizenship education. *Canadian Journal of Education, 38* (2), 1-28. https://doi.org/10.2307/canajeducrevucan.38.2.11

Weiland, K. M. (2016). *Creating character arcs: The masterful author's guide to uniting story structure.* PenForASword.

Waseda University Institute for Advanced Studies in Education (2018). *The possibilities of manga in school education* (Published in Japanese). Tokyo: Gakubunsha.