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Author(s)	Chew-Hung Chang and Muhammad Faisal Aman
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The International Charter on Geographical Education – a reflection on published research articles on Assessment

Chew-Hung Chang[a], Muhammad Faisal Aman[a]
[a] National Institute of Education, Nanyang Technological University, Singapore, Singapore
Email: chewhung.chang@nie.edu.sg

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Abstract

The paper examines the 1992 and 2016 versions of the International Charter on Geographical Education with a view to provide a commentary on the extent that research on assessment issues in geographical and environmental education respond to the directions set out in the two documents. The authors started on a concern with an apparent lack of discourse on assessment issues in geographical education and endeavours to provide a reflection of issues within the geography education community by an exploratory inquiry based on an analysis of article titles published in 4 prominent geographical journals: Environmental Education Research; International Research in Geographical Environmental Education; Journal of Environmental Education and; Journal of Geography from 2010 to 2017. The authors believe that the number of journal articles and issues related to assessment and evaluations in Geographical Education provide an indication of the general direction that were previously proclaimed, have to varying degrees been reflected and enacted upon by geography educators and scholars. The findings show that while the published research articles contribute to achieving some of the action plan items on the International Charter on Geographical Education, areas of improvement include research on professional development and international exchange of ideas about geography assessment. Moreover, the authors believe that geography educators are key facilitators of knowledge-making for Geography Education in the 21st century classrooms. As a consequence, geography educators should be empowered to do research on issues that are "relevant" to them, be guided and mentored, be given the appropriate channels to "feed-back" and "feed-forward" inputs, and if needed, to (re) shape action plans to adhere to the spirit or intention of these declarations.

Keywords: Assessment, Environmental Education, Geographical Education, International Charter

1. Introduction

Brooks, Gong and Salinas-Silva (2017, p. 12) reported that there are "inconsistencies on how progression in geography is understood, how geography can be learnt alongside other subjects, and the extent to which the curriculum should respond to local contextual needs and environmental concerns". However, there is some clarity in the international geographical education community on what geographical education is, how it is carried out and why it is important, in as far as it has been documented in the 1992 and 2016 versions of the International Charter on Geographical Education (referred to as the *Charter* in this article). The first charter was published in 1992 and the 2016 revision was declared at the International Geographical Union (IGU) Congress in Beijing. Both Charters were developed and prepared by the IGU Commission on Geographical Education (CGE). The redraft of a 2016 Charter reflects the changing contexts to advance the goals of quality geography education for policymakers, curriculum developers and educators. Using discourse analysis, Bourke and Lane (2017) identified the key themes across both Charters. The 1992 Charter focused on 5 key discourses, namely, the discourse of geography education as beneficial, discourse of quality geography education as essential, discourse of concern, discourse of conceptual knowledge and skills and discourse of research. The 2016 document was focused on "the charter as an action plan" (IGU-CGE, 2016, p. 5) and featured the discourse of geography education as vital for the future and the discourse of improving quality through internationalization (Bourke and Lane, 2017). While the discourses focused on slightly different aspects of the same issues, the two common features identified were "the importance of geography and the need for it to be adequately delivered by trained geography specialists".

Geography is concerned with asking questions of "Where is it?", "What is it like?", "Why is it there?", "How did it happen?", "What impacts does it have?" and "How should it be managed for the mutual benefit of humanity and the natural environment?" (IGU-CGE, 1992, p. 5). Indeed, Kidman and Chang (2017, p. 266) argue "research on geographical and environmental education is paramount to prepare children for an uncertain world plagued by environmental problems". The question is not about why, but rather how we can prepare children for a good geographical education. The study also expands the scope of looking beyond literature in geographical education to those in environmental education given the explicit discourse of environmental education within the community. The 2016 Charter outlines an international action plan with 5 key action statements (bold indicate authors' emphases):

1. National and local education policy makers, as well as geography teachers at all levels, should make the focus and contribution of *geographical education for society* more explicit to encourage higher levels of public support for its place in the curriculum;
2. National and local education policy makers should set minimum requirements for geography teaching and *geographical literacy of those who teach geography*;
3. National and local education policy makers and geography teacher associations should develop processes to encourage *(inter)national exchanges* of meaningful geography teaching and learning *practices*;
4. National and local education policy makers and the geographical education community should develop a *relevant research agenda for geographical education and facilitate this research* for the development of geographical education;
5. National and local education policy makers and geography teacher associations and teachers *should create and maintain a strong professional network structure*.

(IGU-CGE, 2106, pp. 10-14)

As a charter, a document that establishes some boundaries within which the functions, rules and governance of an organization, there is an obvious emphasis on the role of national curriculum and local policy makers. These key stakeholders broadly define educational objectives that are deemed imperative within their situated national agenda and contexts. Further, the comparative studies across national geography curriculum may

yield several gaps and alignments to the charter and declarations. The identification of geography educators as enablers and how they structure their networks and associations may also provide a useful platform to understand on how they have developed resources and structures to enact and meet their national curriculum objectives. Such strategies, whether intentional or not, may expedite the actualization of the action plan of international charter on geographical education. Indeed, the world is facing a variety of global issues such as unequal access to education, social conditions that result from economic inequality across countries and unparalleled environmental changes. Each of these issues can be understood through geographical knowledge.

The authors argue that to reflect on the progress of Geographical Education, there is a need to (re)visit assessment practices as key markers of progress. Good assessment practices in geography will allow the teacher to determine how well they are teaching and how well the students are learning (Voltz, Sims and Nelson, 2010, p. 116). Indeed, "if knowledge is a measurable goal, then it takes a clearly defined means of assessing the knowledge to measure it. There is a strong academic and research tradition […] among geography educators and it ranges from national assessments to classroom based assessment" (Stoltman, 2012, p. 20). In the knowledge-based society of the 21st century, school curriculum plays a critical role in offering solutions to the problems such as climate change, environmental degradation, and sustainable economic and social development. Werlen (2016) argues that people need to take responsibility for their actions and to consider the challenges of global social events and climate change, for examples by taking sustainability into account when making decisions. There is a common perception that curriculum refers to a planned sequence of work that guides teachers' instruction but the teacher's role is not limited to planning activities suggested by a curriculum document but it extends to making sense of the curricular requirements while actively making decisions about what to teach, how to teach and most importantly, how to assess. Reflecting on the action plan as outlined in the Charter, assessment and evaluation practices in geographical education should be given its timely and important place as a yardstick and instrument to measure the effectiveness of the action plan vis-à-vis national and local curricula. Newton (2007) highlighted that there are 18 purposes of assessment and pointed out that there should be clarity in the distinctions of each purpose. For instance, it could be argued that at a broader and larger scale, assessment in Geographical education can be purposely framed to monitor developments at a systems level or even at a programme level, assessment can be used to evaluate the success of the initiative. Assessment practices can also be employed at a smaller scale by geography educators in the classrooms. Weeden and Lambert (2006) have indicated that in English schools, there is a correlation between formative assessment and increased student achievement. Formative assessment therefore plays a critical role to instill belief and encourage students that they can be successful. Assessment should measure the effectiveness of geography teaching and literacy, guiding geography educators to relook at learning processes-recalibrating non-meaningful practices which may not be in -sync with intended objectives. For example, Weeden and Lambert (2006) also acknowledged that formative assessment should look into how students develop acquisition skills to apply the numerous technical jargons and vocabulary appropriately. In another instance, assessment scholars Black and William (1998) had demonstrated that regular and useful feedback are part of assessment for learning. However, in another study, James and Pedder (2006) have found that educators in England struggle and face competing and contradictory demands although they are "committed to the values (not just the methods) of assessment for learning" (James and Pedder, 2006, p. 109).

Assessment practices are processes which need to be tested for validity and reliability, to be researched, informed and refined upon not only by educators in the classrooms but by geography educators internationally and at all levels. It is therefore appropriate for the disposition and treatment towards assessment and evaluation practices be shifted from an "afterthought" to be the foci – not only assessing conventional geographical skills but extended to assessing geographical thinking and attitudes in order to be

reflected upon, perhaps to (re) course and (re)chart the direction of geographical education, if necessary.

Consequently, two research questions arose from this understanding:

- How much work on assessment was reported on in the geographical and environmental education research literature?
- What are the topics reported in the geographical and environmental education research literature?

To sufficiently address these two questions, there is a need to conduct an extensive literature review. However, the scope of this article is to provide an exploratory inquiry into these two questions with a view to provide an exposition on the issue so as to encourage geographical education researchers to do more work in the area of assessment. The methodology for this inquiry will consequently be limited by the exploratory scope of this article.

2. Methodology

To scope this research study, the authors selected four research journals in geographical education and environmental education as a starting point. These are "International Research in Geographical Environmental Education (IRGEE)", the "Journal of Geography (JoG)", the "Environmental Education Research (EER)", and the "Journal of Environmental Education (JEE)" due to their importance and reputation in the geographical education community. The selection of two geography education and two environmental education journals is also purposive in response to the findings of an earlier publication in IRGEE. In 2012, Kidman and Papadimitriou performed a content analysis of articles published in IRGEE between 1992 and 2009. The main findings of this analysis showed that there was a roughly equal proportion of articles published in the geography and environmental education domains. The analysis also showed that there were 153 articles published on assessment between 1992 and 2009 (Kidman and Papadimitriou, 2012, p. 5). At the same time, IRGEE was started in 1992 at least in part, in response to the 1992 *Charter*'s call for more concerted efforts in research on geographical and environmental education. The authors have therefore decided to include in the analysis two geography education and two environmental education journals of similar standing in their respective community. IRGEE is the flagship journal of the IGU-CGE while JoG is the flagship journal of the National Council for Geographic Education (NCGE) based in the United States of America. JEE and EER are Q1 journals in environmental education with journal H-indices of 26 and 24 respectively, which potentially attracts high quality papers in the field. This is comparable to H-indices of 19 and 25 for IRGEE and JoG. A period of 10 years from 2007 was chosen to provide a common timeframe of comparison and also to allow for analysis over a substantial period of time. The authors assert that as an exploratory study that the purpose was to reflect on the issues raised in the *Charters* and also the potential of extending a similar methodology for future work. In order to explore broad issues related to "assessment" and "evaluation", a generic search strategy was employed with the above key words for these 4 journals.

3. Findings

A total of 134 relevant article titles were featured across the 4 journals between 2007 and 2017. These resultant titles from the search were subsequently fed into a "Word Cloud" that allows words which are text data to be tagged. A word count of these keywords was also conducted and the frequency distribution has been tabulated. The authors stress that this analysis is based on the titles only and a more thorough treatment will be to include the keywords and abstracts for analysis in a future date. The frequency of words is visually represented in the relative font sizes used. The filtering and visualization process were also repeated for each journal. The results are as follows: amongst the 4 journals, JEE had 56 articles containing the key phrases of "assessment" and "evaluation" in the titles, the highest amongst the 4 journals. This is followed by 35 articles from ERR and IRGEE with 25

articles. JoG had the least number of articles at 18. The following sections will present the results in this order.

The visual representation of key phrases and words in the titles across 4 journals is seen in Figure 1.

Figure 1. Word cloud from 4 sources.

The ten most frequently used words in the titles, excluding the words "assessment", "assessing", "evaluation" and "evaluating" are tabulated in Table 1. To further identify frequently used words related to "assessment" and "evaluation" in titles, the ten most frequently occurring keywords were tabulated for discussion (see Table 1). Apart from key search words, "assessment/assessing" and "evaluation/ evaluating" and "Geography", the titles across the 4 journals were primarily concerned with questions of "What do we assess?", "Assessment for program or curricular evaluation", and "Who are we assessing?".

The "what" of assessment written in these journals can be classified according to the dimensions of learning outcomes such as "knowledge" and "attitudes". In addition, the theme of "environmental education" seems to be a recurrent theme across the journal title articles and these are often situated in "schools" and for "students". These themes correspond to the action plan to make the importance of *geographical education for society* more explicit to bolster its place in the curriculum.

Word	Frequency
Environment/Environmental	66
Programme/Programmes	31
Geography/Geographical	24
Students	16
Learning	11
Attitudes	11
Schools	10
Knowledge	10
Course	9
Teaching/Teachers	8

Table 1. Frequency of words found in titles across the 4 journals.

Indeed, one of the contributions of geography to education in that it "helps us to face questions of what it means to live sustainably in this world […] understand human relationships and their responsibilities to both the natural environment and to others" (IGU-CGE, 2016, p. 5). While environmental issues may be driving geographical and environmental education, geography is additionally interested in providing "the study of Earth and its natural and human environments. Geography enables the study of human activities and their interrelationships and interactions with environments from local to global scales" (p. 4). "Program" may refer to the curriculum and how geography researchers and educators design and organize information. But a reading across all titles show that the articles coded with "program" are typically about program evaluation. Further, the articles published are concerned with assessment for the purposes of measuring student learning as well as teacher efficacy. In other words, research on the quality of geography teaching and *geographical literacy of those who teach geography*, especially in the area of assessment is also an area that has come up in the findings. Indeed, teachers need to conduct good assessment as they want to know how well they are teaching and how well the students have learned (Voltz, Sims and Nelson, 2010, p. 116).

In order to understand how these issues are distributed across the 4 journals that are analysed, the following sections will report on the analysis of

each of these journals. The visual representation of key phrases and words in the titles in EER is depicted in Figure 2 and Table 2. While EER is primarily an environmental education journal (and JEE as well), the analysis on this journal will inform the type of works published about assessment in environmental issues – which is an important aspect in the *Charters*. Apart from key words such as, "evaluation/evaluating", "assessment/assessing", the word cloud in the EER journal listed 4 previously key words: "environmental"; "education"; "learning"; and "program"; that were found across 4 journals.

Figure 2. Word cloud from EER.

Word	Frequency
Environment/Environmental	23
Education	19
Programme/Programmes	10
Sustainability	6
Learning	6
Students	4
Impact	4
Schools	3

Table 2. Frequency of words found in titles in EER.

A key term, "sustainability", is unique to EER while discussing issues related to assessment and evaluation (see Table 2). This does not come as a surprise as "students require increasing international competence in order to ensure effective cooperation on a broad range of economic, political, cultural and environmental issues in a shrinking world" (IGU-CGE, 1992, p.3). Indeed this was re-stated in the 2016 charter and there is also an additional statement that says the *Charter* is supportive of the principle set out in the UN Sustainable Development Goals (IGU-CGE, 2016, p. 1).

The Lucerne Declaration on Geographical Education for Sustainable Development in 2008 supports the aims of the UN Decade of Education for Sustainable Development (UNDESD) through integrating sustainable development into the teaching of geography at all levels and in all regions of the world (Reinfried, 2009). The declaration recognizes that geographical knowledge, skills, attitudes and values contribute the goals of the UNDESD. Further, "Geography is concerned with human-environment interactions in the context of specific places and locations and with issues that have a strong geographical dimension like natural hazards, climate change, energy supplies, migration, land use, urbanization, poverty and identity" (IGU-CGE, 2016, p. 10). Indeed, the theme of "sustainability" is relevant to promoting the importance of geographical education for society as outlined in the action plan of the 2016 *Charter*.

IRGEE is the flagship journal of the IGU-CGE, the developer of the *Charters*. While IRGEE is an independent academic journal managed by a team of academics and the publishing company of the Taylor and Francis Group, members of the IGU-CGE regularly publish in this journal. Furthermore, there have been a number of commentaries written about the *Charters* in IRGEE. In a sense, published works in the journal represent the key discourses that occur within the geography education community.

The visual representation of key phrases and words in the titles in IRGEE journal is shown in Figure 3. IRGEE journal highlighted 3 highly repetitive words, "Geography", "environmental" and "education" that are linked to ideas related to "assessment" and "evaluation" (see Table 3).

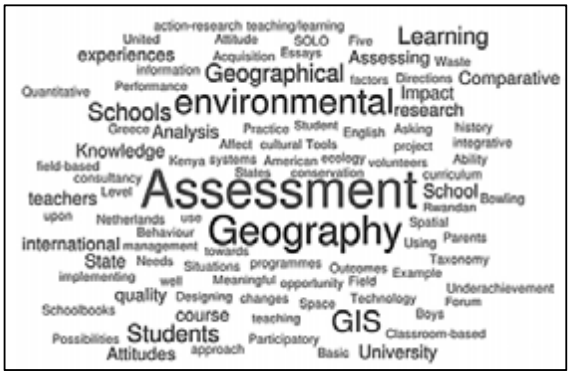

Figure 3. Word cloud from IRGEE.

There are still the concerns with the key questions of "What do we assess?", "Assessment for program or curricular evaluation", and "Who are we assessing?". However, GIS comes up on this subset when compared to the analysis for all titles across the 4 journals. Like EER, there are works published about assessment issues that focuses on the teaching and learning of geography for issues in the environment (see Table 3). This underscores the importance of *geographical education for society*. There are also a few articles on teacher education and the teaching processes that are concerned with the quality of geography teaching as measured through assessment.

Word	Frequency
Education	11
Geography/Geographical	13
Environment/Environmental	6
Schools	5
Teacher/Teaching	5
Students	4
Secondary	4
Learning	4
GIS/Technology	4
Research	3

Table 3. Frequency of words found in titles in IRGEE.

The visual representation of key phrases and words in the JEE journal title is featured in Figure 4. The words "conservation" and "resource" have emerged from the expected list of words "knowledge", "programs", and "resource" that have appeared across 4 journals.

Figure 4. Word Cloud from JEE.

Chang (2015, p. 182) argues that teaching school geography is not just about teaching a subject, but there is opportunity for the teacher to educate a child and that "[i]f we truly embrace the notions of learning about human-environment interaction, space, place, movement and time, then the geography subject allows us to teach a person how to use one's imagination and to be able to think and reason and to decide on how to live based on one's understanding of the environment". Indeed, there is a focus on the knowledge and attitudes of students on issues of the environment in articles about assessment in JEE (see Table 4).

Word	Frequency
Environment/Environmental	34
Education	30
Programme/Programmes	21
Resource	6
Knowledge	6
Attitudes	6
Students	6
School	6
Teacher/Teaching	6
Conservation	5

Table 4. Frequency of words found in titles in JEE.

The visual representation of key phrases and words in the JoG journal title is depicted in Figure 5. The words "spatial" and "thinking" have emerged strongly in the search process of assessment and evaluation (see Table 5).

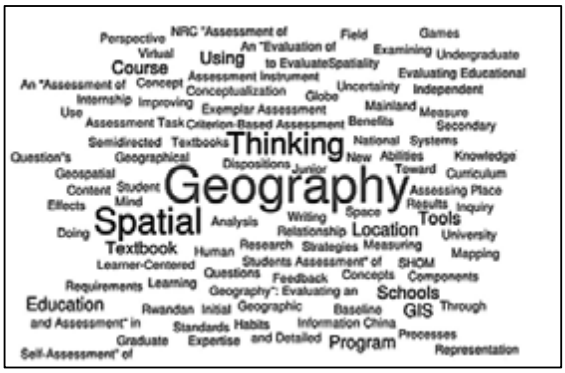

Figure 5. Compiled word cloud from JoG.

There is an interesting absence of issues on environment and society at the title level of these articles on assessment in JoG (see Table 5). However, there are more titles focusing on "spatial", "thinking" and "GIS. Geography "offers the opportunity to acquire knowledge and skills to see clearer how things are running on planet earth and what we can do differently on a local as well as on a global scale" (Béneker and van der Schee, 2015, p. 287), and the use of spatial thinking with technology seems to be the main focus on assessment articles in JoG. Bearman, Jones, André, Cachinho and DeMers (2016, p. 394) argue that "(t)eaching of critical spatial thinking in higher education empowers graduates to effectively engage with spatial data". Nevertheless the importance of geographical education for society is not diminished in this case as there are opportunities to develop student employability through developing geographical skills with a focus on spatial thinking and technological tools. However, the potential of teaching about sustainability and environmental issues in spatial thinking through technology should not be ignored. GIS offers such opportunities. "GIS helps manage the complexity inherent in sustainability challenges through interactive geographic visualization and analysis techniques […] (and)enables an evidence-based investigation of sustainability in a holistic manner" (Hwang, 2013, p. 286). Consequently, the articles on assessment in JoG does feature the importance of geographical education for society and affirms its place in the curriculum.

Word	Frequency
Geography	13
Spatial	6
Thinking	5
Teacher/Teaching	5
Learning	4
GIS/Computer	4
Education	3
Schools	3
Textbook	3
Student	3

Table 5. Frequency of words found in titles in JoG.

Based on the search attempts, and an analysis across 4 journals that are linked to assessment and evaluation, the article titles have generally focused on creating programmes or curriculum for geographical or environmental topics. In journals such as EER and JEE, there is tendency for articles to relate assessment and evaluation to sustainability and conservation issues. As for IRGEE and JoG, issues related to "GIS" and "spatial" and "thinking" have emerged in relation to assessment and evaluation, and in the case of IRGEE, over and above the topics on environment and sustainability. The differing areas of interest may perhaps be due to the intended focus and characteristic nature of the journals. Nonetheless, efforts to establish and expand assessment issues to appear in the research agenda regularly should be pursued by all journals.

It is also peculiar to note that there is limited representation of key ideas to "teacher training" and "professional development" with reference to assessment and evaluation issues. The authors argue the quality of teaching practice can be enhanced through teacher professional development. "Professional development in geography should emphasise the intellectual development of the teacher in areas relevant to

(geography) education but undertaken at a time and with a level of commitment determined by the teacher" (Chalmers, 2005, p. 90). The lack of references to these areas across key geography journals indicates that there is a likelihood of a research gap and it signifies the critical need to nurture and develop it. The impetus is that without training and professional development in assessment practices, it creates doubt and uncertainty as to whether relevant geographical ideas, skills, knowledge and learning progressions identified in previous declarations and action plans are currently carried forward concertedly in the long term and across national curricula.

4. Discussion

As the authors have asserted, there is a need to conduct an extensive literature review to address the research questions raised earlier in this article. However the scope of this article is to conduct an exploratory inquiry with a view to provide an exposition on the issue so as to encourage geographical education researchers to do more work in the area of assessment. Hence, the methodology for this inquiry is limited by the exploratory scope of this article. Considering the 5 key action plan items outlined in the *Charter*, the analysis of the published literature in the last 10 years have provided some reflection points for the authors. In as far as making the contribution of geography more explicit, there has been alignment between the types of works published on assessment with the issues of environment and society with the exception of JoG which does this through focusing on the importance of spatial thinking. In comparison to the findings by Papadimitrou and Kidman (2012, p. 11) that "teacher education" "values & attitudes", "inquiry & problem-solving" "GIS" and "sustainability" were the prominent topics published in the 1992 - 2009 period in IRGEE, the findings from the analysis in this article are not so different.

While this article presents an analysis at the title level, only, we can see these contributions of geography to education clearly. There is perhaps room for improvement in terms of research on teaching and assessment and whether such practices are exchanged across national and international contexts. There could be perhaps research on how meaningful geography teaching and learning practices can exchanged nationally and internationally. However there is clearly a growing body of work on assessment in the journals related to the scope of work identified in the *Charters*.

Perhaps what is missing in this initial analysis of assessment research literature is the systematic review of assessment in geography to identify gaps in research agenda. There is also a need to determine if there are clear research agenda in assessment, especially on geographical knowledge and skills. The authors would like to argue that a priority in the agenda should firstly include the disposition and understanding in the geographical attitudes and thinking of geography educators towards assessment. It is critical to foremost establish the baseline(s) of geography educators' attitudes and preferences toward the use of assessments within their contexts of geographical learning, be it locally, nationally and internationally.

By understanding the deeper intentions, thinking, motivations and possible constraints that geography educators may face in the classrooms, we can surface pertinent reasons why certain assessment instruments are often used while others have not been utilized. It is not only "what" assessment instruments should to be used or developed to measure progress but more importantly, "why" these instruments have been used to measure progress.

There is also an apparent lack of research work on how practices in assessment are exchanged internationally. The authors are only aware of a panel discussion at the American Association of Geographers (AAG) annual meeting in Boston in 2017 where there was a comparison of assessment items types from the context of 4 countries (Solem, Bourke, Chang, Stoltman and Yoon, 2017). In accordance to action plan item 3, more can be done. The example of the panel discussion is also a response to the action plan item 4 on developing a relevant research agenda for assessment in the context of geographical education. Members of the panel belong to an international research collaboration to develop an international geography assessment that at the 8th

grade assessment level, for planned implementation in 2023. The research in the development process will provide a first international collaboration in this specific area of work. However such collaboration occurs among individuals but Gerber (1998) urged the community to consider alliances between institutions.

Gerber (1998) argued that strategic alliances involve formalized arrangements among institutions to advance geographical and environmental education research. These alliances can start off as collaborations between people and involve working together to obtain research grants. However the collaboration should "extend beyond individual collaborations towards forming effective relationships in which researchers work together on projects; strategic planning between the institutions on the exchange of researchers" (Gerber, 1998, p. 180). Gerber's (1998, p. 180) emphasis on deliberate formalised alliance of the institutions "to treat research in geographical and environmental education very seriously and as a priority".

National and local education policy makers and geography teacher associations and teachers should create and maintain a strong professional network structure. The IGU-CGE and the national committees of the commission like the United Kingdom and China committees, can play their roles here but the international community of geographical and environmental education researchers can also benefit from stronger relationships with AAG, EUROGEO and the Southeast Asian Geography Association (SEAGA) for instance. There is still room for improvement when it comes to synergising the discussions at these platforms and as Gerber (1998) has suggested, the alliances through university department and institutions will benefit geographical education.

Brooks et al. (2017, p. 13) acknowledged "universities provide intellectual authority as well as the conditions for a profession's occupational community". University educators also need provide service to the communities "they serve" (Brooks et al., 2017, p. 13) by taking a lead in facilitating the professional development of geography teachers. These could be through national and international platforms where teachers' professional development can be guided and mentored, and where they can share ideas to 'feed-back' and 'feed-forward' input for the development of future updates and declarations related to the *Charter*. These could be through teachers' participation at IGU-CGE symposia and conferences. The authors urge teachers to use this opportunity to feed back and feed forwards.

Indeed, it is important to highlight the importance of professional developments (PD) of geography educators in relation to assessments. Assessment in geography not only guides geography educators to reflect on learning and teaching aims and practices but encourage practitioners to re-assess their position(s) to the action plan and direction of the 2016 *Charter*.

In this view, PD networks and activities that allow teachers to share and exchange ideas could well be the answer to "how" assessments should be used to support progress. PD has the potential to provide timely updates for geography educators to adopt new assessment instruments competently. Research and practices in assessment should be shared across levels, local and national borders to provide essential support in realising the action plan. The dearth of assessment articles on effective training and professional development may indicate disparate, unorganized and sporadic efforts that limit progress.

5. Conclusion

Geographical and environmental education does matter to our future and we need to recognise that the geography subject represents "a body of science that has much to offer to humanity", and that the discipline is a product of thinking and reasoning about humans and the world they live in (Golledge, 2002). To "prepare children for an uncertain world plagued by environmental problems" (Kidman and Chang, 2017, p. 266), we need to know that the assessment of the students' learning can be used to inform curricular development. There must be a platform where teachers' professional development can be guided and mentored, and where they can share, with a view to (re) shape action plans of the Charters. The Charters has provided very clear steps in the action plan discourse that moves from affirming the importance of the subject, to the quality of teacher

education, the exchange of ideas about teaching practices, research agenda and to the importance of professional networks. Assessment should be embedded in the discourse of the action plan so that it will encompass this important aspect of teaching and learning about geography.

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