科学研究費助成事業

研究成果報告

<u> </u>	子成 2 /	年	6 月	29	日現仕
機関番号: 32615					
研究種目:挑戦的萌芽研究					
研究期間: 2011 ~ 2014					
課題番号: 2 3 6 5 3 2 7 4					
研究課題名(和文)日・米・イスラエル・パレスチナにおけるウォーター・リラ	テラシーに	関する	調査		
研究課題名(英文)A Study of Water Literacy in Japan, the US, Israel an	nd Palesti	ne			
 研究代表者					
LANGAGER Mark (LANGAGER, Mark W.)					
国際基督教大学・教養学部・上級准教授					

研究成果の概要(和文):シンポジウム、オープンフォーラム、ワークショップを通じて、水と教育に関する専門家の コミュニティが形成された。有効的に教育するための知識と方法に関して、建設的な討論はいまも継続中である。本研 究では、水に関する基礎的知識(ウォーターリテラシー)評価ツールを開発し、それは様々な地域で妥当性の検討のた めに試験的に導入された。その結果、水に関する知識、スキル、そして開発しやすい性質の文化的で環境的に適切な側 面は社会全体に認識されたといえる。

2,800,000円

研究成果の概要(英文): Through symposium, open forum and workshop venues, a community of water and education related specialists was created and productive dialogue regarding what knowledge can be beneficially taught, and how, is ongoing. A Water Literacy Assessment Tool was developed and piloted for appropriateness in different regions. Cultural and environmentally relevant aspects of water-related knowledge, skills and dispositions to be developed were identified across societies.

研究分野: 社会科学·国際比較教育学

研究者番号:00338287

交付決定額(研究期間全体):(直接経費)

キーワード: water literacy trans-local knowledge IWRM environmental relevance knowledge skills disp ositions

1.研究開始当初の背景

A growing consensus holds that freshwater resources promise to constitute one of the greatest sustainability problems of the future (Diamond, 2005). Within this dialogue on water resources, Integrated Water Resources Management (IWRM) has emerged as a widely accepted way of addressing the social, ecological, and economic aspects of procuring safe drinking water supplies and sewerage for the world's populations (Global Water Partnership). This approach involves a broad group of user constituencies in decision-making processes that govern water. This approach, however, requires a broad based capacity among members of a community to enter into such joint management of water resources, including: an accurate knowledge of hydrological conditions; skills for designing solutions democratically; and a disposition to work for water sustainability, both globally and locally-the components of water literacy. However, even if water literacy is apprehended on a common-sense basis in a local setting, understanding water literacy in hydrologically diverse environments was deemed necessary in order to be able to define it on a more global level, particularly in dry and water-rich regions.

References:

Diamond, Jared. (2005). Collapse: How Societies Choose to Fail or Succeed. NY: Viking. Global Water Partnership. "What is IWRM?" March 25, 2010. Retrieved on June 29, 2015 at: http://www.gwp.org/The-Challenge/What-is-IW RM/

2.研究の目的

The current study sought to depict water literacy

in dry and water-competitive regions such as Israel and Palestine, as well as wetter, yet virtual water-dependent countries, such as the US and Japan. This depiction was to be based on qualitative observation and result in a water literacy instrument.

3.研究の方法

Qualitative interview and observation analysis was conducted in the US, Israel and Palestine, and an international dialogic community was created in Japan, utilizing online communication and an International Symposium. Furthermore a water literacy survey instrument was developed for use in further research, and the lower secondary level was identified as an appropriate level to conduct such an instrument.

4.研究成果

As a result of this study, a better understanding of environmentally relevant water knowledge been assessed hydrological has across environments in the four target societies. Political dimensions in water scarce regions create a disincentive to place environmental interests over one's own personal and community interests, when an unfriendly party (Israelis and Palestinians) shares the same groundwater resources, but particularly in the less powerful Palestinian context. Conversely, young people in technologically powerful Israel may have a tendency to downplay the environmental risk, in light of greater perceived political risks, and emphasize technological fixes.

In water rich societies of Japan and the US, there is far more readiness among educators to consider water-related sustainability messages within the curriculum and teaching. Special facilities and projects are devoted to water learning in the US, and sustainability standards developed in recent years address water. In Japan, Education for Sustainable Development is a curricular stream that provides a ready venue to develop water-related lessons through lesson study research. In both countries, organizations such as Project WET are actively disseminating useful water-related lesson books and tying these to curricular standards and lesson points. Nevertheless, in both countries educators with a strong understanding of water issues and a vision for promoting water knowledge are in the minority and water is not mainstreamed. Thus water literacy promotion has constituted a ripe topic for sustainable development goals.

Throughout the project, an ongoing international dialogue on water literacy has been established. Using teleconferencing technology, and through actual visits, 5 symposium, open forum, and workshop events were held to bring together educators, academicians, journalists, business representatives, politicians and NGO leaders to discuss what the next generation needs to know about water. A wide range of emphases were documented and compiled in a monograph and training and discussion is ongoing. Moreover, because of this study, further research addressing the place of water literacy in the sustainable development goals has commenced.

5.主な発表論文等

(研究代表者、研究分担者及び連携研究者に は下線)

[雑誌論文] (計 3 件)

"Water Literacy Open Forum". In Educational Studies, 査読無, Vol. 57, pp. 216-218. Langager, Mark (2015)

"Toward a Trans-Local Knowledge of Water for the Next Generation" In Water Literacy: What Will the Next Generation Need to Know?" In Institute of Educational Research and Service Monograph Series, 査読無, vol. 7, pp 1-6, <u>Mark Langager</u>, 2014 <u>Langager, Mark</u>, "Toward a Rationale for Negotiating a Deeper Green ESD Agenda: Brokering collaboration between developing and overdeveloped worlds." In Journal of Asia Pacific Studies, 查読有, Volume 2, No 2, pp. 262-289, 2011

[学会発表](計 9 件)

<u>ランガガー マーク,</u>"なぜ「水はどこか らきて、どこへ流れていくのか」を学ぶ のか" At Water Literacy Open Forum, March 29, 2014, International Christian University, Tokyo,

<u>Langager, Mark</u>. "話してみよう!インド と日本の水事情." At Water Literacy Open Forum 4. Saturday, March 28, 2015, International Conference Room,

International Christian University, Tokyo.

<u>Mark Langager</u>, Teaching Water Literacy in Rural Indian Classrooms: A Case Study in the Bundelkhand Region. At: Comparative and International Education Society 59th Annual Conference. Ubuntu! Imagining a Humanist Education Globally. Tuesday, March 13, 2015. Washington Hilton Hotel, Washington DC.

<u>Mark Langager</u>, "Upgrading 'Literacy': An Integrative Literature Review of Post- MDG Definitions for a New SDG paradigm" At 日 本教育学会, August 30th, 2013, 一橋大学, Tokyo

<u>Mark Langager</u>, "Mind Mapping Water Literacy: A hermeneutic study of environmental relevance of water education across basins." At Comparative and International Education Society Annual Conference, New Orleans, Louisiana, Monday, March 11, 2013.

Mark Langager, "Mizu Shikichi to wa Nan Darou." (What is Water Literacy?). At Water Literacy Open Forum, February 7, 2013, International Christian University, Tokyo.

<u>Mark Langager</u>, "How I Dropped Into Water." At International Symposium on Environmental Water Literacy, October 5, 2012, International Christian University, Tokyo.

<u>Mark Langager,</u> "Water Knowledge Orthodoxy: A documentary analysis of water knowledge in international comparative achievement tests." At the 48th Japan Comparative Education Society Annual Meeting, Fukuoka, Japan, June 16th, 2012.

<u>Mark Langager,</u> "旧体制の共同体保持への 挑戦:日本の学生寮の自治に関する参加 型観察調査",第 65回日本人類学会大会, 沖縄県那覇市, November 4th, 2011

〔図書〕(計 1 件)

<u>Langager, Mark</u> and Junji Hashimoto, Eds. (2014). Water Literacy: What Will the Next Generation Need to Know? Institute for Educational Research and Service Monograph Series (国際基督教大学教育 研究所モノグラフ・シリーズ), Vol. 7 (January 31). Tokyo: International Christian University.

- ISBN 978-4903095
- URL for online link: <u>http://web.icu.ac.jp/iers/en/publication</u> <u>s/monograph/volume7/</u>

〔産業財産権〕 出願状況(計 0 件) 取得状況(計 0 件)

〔その他〕

ホームページ等

- Water Literacy Blog: <Waterliteracy.net>
- Langager, Mark. Press Release. Swadesh on Net. December 28, 2013.
 <www.swadeshonnet.com>
- Research Event Host, Water Literacy Open Forum. At International Christian University, February 7, 2013. Sponsors: Institute for Educational Research and Service and Aquasphere. Home Page: http://subsite.icu.ac.jp/iers/page601/page6 27/page627.html
- Research Event Host, International Symposium on Environmental Water Literacy. At International Christian University, October 5-6, 2012. Sponsored by: Institute for Educational Research and Service and Japan Society for the Promotion of Science. Home Page: <u>https://sites.google.com/site/waterliteracys</u> <u>ymposium/home</u>

6.研究組織

(1)研究代表者

LANGAGER, Mark W. (LANGAGER, Mark W.) 研究者番号:00338287

(2)研究分担者 なし

(3)連携研究者 北原 和夫(KITAHARA, Kazuo) 研究者番号: 20107692

吉野 輝雄 (YOSHONO, Teruo) 研究者番号:10052276