Regional Academic Networks, capacity building and knowledge sharing

Dimo TODOROVSKI (Netherlands) and Jennifer WHITTAL (South Africa)

Abstract

Networks of academic, educational and training institutions are proven platforms for knowledge sharing, exchange experiences in education and capacity development. Capacity building in the area of education is getting appropriate attention and becomes one of the core elements of up-to-date and quality education. The objective of these networks could be considered as: a stage to perform activities that can support capacity development, exchange experiences and increase knowledge in the areas of geodesy, surveying, geoinformatics, geo-information sciences and earth observation, geo-information management, land administration etc. This paper aims to explore and elaborate the nexus between academic networks, capacity building and knowledge sharing.

Regional Academic Networks, capacity building and knowledge sharing (11342)
Dimo Todorovski (Netherlands) and Jennifer Whittal (South Africa)

FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022

1.0 INTRODUCTION

Academic networks, educational institutions and training organizations are proven programs for knowledge sharing, exchange experiences in education and capacity development. Examples of such networks in our "Geo" domain are UN-HABITAT Global Land Tool Network – GLTN, Eastern Africa Land Administration Network – EALAN, Latin America Land Administration Network - LALAN and others. The objective of these networks could be to: perform activities that can support capacity development, exchange experiences and increase knowledge in the areas of geodesy, surveying, geo-information sciences and earth observation, geo-information management, land administration etc.

Capacity development is a key issue related to development policies and the sustainability of any measures of development. In 2014, the GLTN capacity development strategy articulated the objectives concerning capacity development and expressed the necessity to put together teams and build entities not only in the content and process of land tools, but also in local context and knowledge, and in training and learning practices. 'Traditionally, capacity development focused on the short term through staff development through formal education and training programs to meet the lack of qualified personnel. But capacity development measures must be seen in the wider context of developing and maintaining institutional infrastructure in a sustainable way. Only then can capacity needs be met and adequate responses to the societal, organizational, and individual level be made.' (Williamson, et. al., 2010).

On many occasions, the potential of online training and education as well as e-Learning has been proven as an appropriate methodology for knowledge sharing and providing online education (e.g. FIG Publication 46: Enhancing Surveying Education through e-Learning). With the outbreak of the COVID pandemic, almost all activities of work and education were transformed in a short time online using different platforms for small/medium/big meetings, workshops, classes, practicals and exams. In parallel with fully online work and education, a need arose for a blended (a mix of online and face-to-face) performance. In the times of relaxation of the COVID measures, the blended method is still present. Like all other work and education methods, this has pros and cons. Examples of pros are: education from any part of the world with internet connections; number of students can be scalable; if lectures are recorded students can watch them in their best suited time; micro-lectures have a bigger effect; useful in cases of a pandemic, etc. Examples of cons are: performing practical's (like field surveying) is a challenge, the examination has some limitations, motivating students doesn't work optimally online, usually students behind the screen are not in the focus of the teacher, etc. (Todorovski, 2020).

The blended work and education style that may be applied in future performance and development of academic networks could benefit from lessons learned in the education. For example, meetings/workshops for knowledge sharing and experiences in latest curriculum developments and exchange of latest publications and research (MSc, PhD, etc.) could be organized in the blended setup. In a same manner capacity development activities could be organized for more entities/members from the network with support of available technology

Regional Academic Networks, capacity building and knowledge sharing (11342)
Dimo Todorovski (Netherlands) and Jennifer Whittal (South Africa)

FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022

and online platforms. However, when planning and implementing such activities it is important to have in mind the pros and cons mentioned above.

The aim of this paper is to explore and elaborate the nexus between academic networks, capacity building and knowledge sharing. In Section 2 developing and strengthening of academic networks is addressed. Capacity development in education is elaborated in Section 3. Knowledge sharing with examples from one case are discussed in Section 4 and finally the paper draws conclusions in Section 5.

2.0 DEVELOPING AND STRENGTHENING ACADEMIC NETWORKS

As shown from the previous experiences, networks of academic, educational and training institutions are proven stages for knowledge sharing, exchange experiences in education and capacity development. Examples of such networks are UN-HABITAT Global Land Tool Network – GLTN, Eastern Africa Land Administration Network – EALAN, Latin America Land Administration Network (LALAN) and others. The objective of these networks could be: to perform activities that can support capacity development, exchange experiences and increase knowledge in the areas of geodesy, surveying, geoinformatics, geo-information sciences and earth observation, geo-information management, land administration etc. As Faculty ITC from University of Twente, the Netherlands, had and still has a specific role in developing and strengthening all these academic networks here follows some good practices that could be beneficial for other networks as well.

For ITC, capacity development implies building capacity in domain-specific knowledge, skills and attitude at the individual and institutional/societal levels. ITC therefore aims to achieve both individual and collaborative capacity building. This development reflects what happens in modern societies with a strong private sector. Individual capacity development aims will be addressed through education (ITC, 2019). ITC has long experience in capacity development in both academic/education and public/governmental sectors. This done via Masters Programmes, Postgraduate Diploma programmes, Short Courses, Tailor Made Training and Refresher courses. Capacity development projects in education are at the same time promoted and financially supported by European Union via Horizon Europe (known from the past as EU2020) and Erasmus + funded projects. Here, specific attention is put on the quality and appropriately constructed consortiums of universities from Europe and other developing countries – which in a way is a network within the project itself. In addition, in the last decade establishment of academic networks has been shown to be a fruitful platform for knowledge and experience sharing in the level of academia and education. Examples of these collaborations can be seen via the work of UN-HABITAT GLTN (https://gltn.net/), Arab Land Initiative (https://arabstates.gltn.net/) EALAN (https://ealan-network.org/), NEGLA, etc. Faculty ITC has active role in the work of the here listed networks.

3.0 CAPACITY DEVELOPMENT

Regional Academic Networks, capacity building and knowledge sharing (11342)
Dimo Todorovski (Netherlands) and Jennifer Whittal (South Africa)

FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022

Capacity development is a crucial topic related to sustainable development. In 2014, the GLTN capacity development strategy expressed the objectives concerning capacity development and stressed the necessity to bring together teams and build entities not only in the content and process of land tools, but also in local context and knowledge, and in training and learning practices.

Capacity development is a key issue related to development policies and the sustainability of any measures of development. Since the *Paris Declaration on Aid Effectiveness*[1] in 2005, many countries recognized that "the capacity to plan, manage, implement, and account for results of policies and programmes, is critical for achieving development objectives". With the following *Accra Agenda for Action*[2] in 2008, they recognized that "without robust capacity – strong institutions, systems, and local expertise – developing countries cannot fully own and manage their development processes" and therefore they committed themselves to strengthen capacity development. The process of capacity development is in itself an endogenous process. In 2014, the GLTN capacity development strategy articulated the objectives in relation to capacity development and expressed the necessity to put together teams and build entities not only in the content and process of land tools, but also in local context and knowledge, and in training and learning practices. In this perspective, GLTN positions itself as a "catalyst, bridge builder and facilitator of the necessary linkages, methodologies and learning partnerships for action" and looks for partnerships with in-country organisations that "represent and articulate the contextual information, perspectives, experiences and positions on land". Capacity development is one of the key issues for designers of land administration systems. Traditionally, capacity development focused on the short term by means of staff development through formal education and training programs to meet the lack of qualified personnel. But capacity development measures must be seen in the wider context of developing and maintaining institutional infrastructure in a sustainable way. Only then can capacity needs be met and adequate responses to the societal, organisational, and individual level be made.' (Williamson, et. al., 2010).

Levels and dimensions of Capacity Development
Capacity Development relates to three levels: societal level, organisational level and individual level. These levels relate to their application of capacity in society and have been identified as follows:
– The broader system/societal level. The highest level within which capacity initiatives may be cast is the system or enabling environment level. For development initiatives that are national in context the system would cover the entire country or society and all subcomponents that are involved. For initiatives at a sectoral level, the system would include only those components that are relevant.
– The entity/organisational level. An entity may be a formal organisation such as government or one of its departments or agencies, a private sector operation, or an informal organisation such as a community based or volunteer organisation. At this level, successful methodologies

---

[1] Paris Declaration of Aid Effectiveness (2005)
[2] Accra Agenda for Action (2008)

Regional Academic Networks, capacity building and knowledge sharing (11342)
Dimo Todorovski (Netherlands) and Jennifer Whittal (South Africa)

FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022

examine all dimensions of capacity, including its interactions within the system, other entities, stakeholders, and clients.

– The group-of-people/individual level. This level addresses the need for individuals to function efficiently and effectively within the entity and within the broader system. Human Resource Development is about assessing the capacity needs and addressing the gaps through adequate measures of education and training (FIG, 2008).

The European Union (EU) continuously acknowledges the importance and the value of capacity development. There are funds available for this every consecutive year; good examples are Horizon Europe and Erasmus+ (https://ec.europa.eu/programmes/erasmus-plus/node_en).

4.0 KNOWLEDGE SHARING

On many occasions, the potential of online training and education as well as e-Learning has been shown to be an appropriate methodology for knowledge sharing and providing education (e.g. FIG Publication 46: Enhancing Surveying Education through e-Learning). With the outbreak of the COVID pandemic, almost all activities of work and education were transformed online in a short time using different platforms for small/medium/big meetings, workshops, classes, practical's and exams. In parallel with fully online work and education, a need arose for a blended (a mix of online and face-to-face) performance. Nowadays, COVID measures are relaxed, but the blended method is still present. Like all other work and education methods, this has pros and cons. Examples of pros are: education from every part of the world with internet connections; number of students can be scalable; if lectures are recorded students can watch them in their best suited time; micro-lectures have a bigger effect; useful in cases of uncertainty (e.g. student protest, pandemics). Examples of cons are: performing practical's (such as field surveying) is a challenge, the examination has some limitations, activating and motivating students is less effective online than face-to-face; usually students behind the screen are not in the focus of the teacher and may multitask, etc. (Todorovski, 2020).

The future performance and development of academic networks could benefit from lessons learned through the blended work and education style practiced in education recently. For example, meetings/workshops for knowledge sharing and experiences in latest curriculum developments and exchange of latest publications and research (MSc, PhD, etc.) could be organized in the blended setup. In the same manner, capacity development activities could be organized for more entities/members from the network with support of available technology and online platforms. However, when planning and implementing such activities it is important to have in mind the above-mentioned pros and cons.

Example from practice: In the midst of COVID pandemic lockdowns, social media has played an important role in communicating resources for continuing professional development. The Africa Regional Network (ARN) Facebook platform @FIGARN shares links to online resources such as MOOCs and training sessions, especially those hosted by organizations with relationships with FIG such as FIG Corporate members and FIG partners. Many corporates refocused their way of communicating with clients by embracing these technologies. The increased online and free offerings have helped surveyors in Africa to obtain world-class

Regional Academic Networks, capacity building and knowledge sharing (11342)
Dimo Todorovski (Netherlands) and Jennifer Whittal (South Africa)

FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022

training and exposure to new technologies. A further initiative in developing a structured mentoring programme for Africa, now in its pilot phase, has benefitted by the ability of all participants to meet and engage meaningfully across distances and even time zones. In the planning phase, meetings with the Australian SSSi mentoring team were invaluable. Once operational, mentors (seasoned surveyors) and mentees (young surveyors) from different countries within a region of Africa were and have undertaken their meetings online through platforms such as Whatsapp, Zoom and MS Teams. Embracing new ways of continuing professional development will serve to reduce the digital divide – it is an exciting new world and one in which African practitioners in remote locations need not be left behind.

5.0 CONCLUSIONS

The aim of this paper was to explore and elaborate the nexus between academic networks, capacity building and knowledge sharing. In order to achieve this aim, firstly the topic of developing and straightening of academic networks was addressed. In continuation the capacity development in education was elaborated upon in the following section. Thereafter, knowledge sharing with examples from one case were discussed.

In conclusion we can confirm that the relationship exists between academic networks capacity building and knowledge sharing. Academic networks are proven platforms for knowledge sharing, exchange experiences in education and capacity development. Development of new, and strengthening of existing, academic networks is recommended with attention to avoid overlap and duplication of networks and activities previously established in the same regions. As capacity building in education is receiving appropriate attention, here, knowledge sharing and building the capacities can be facilitated via maximizing the use of new technologies within e-Learning and with support of academic networks.

Regional Academic Networks, capacity building and knowledge sharing (11342)
Dimo Todorovski (Netherlands) and Jennifer Whittal (South Africa)

FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022

References

ITC, (2019). About ITC, ITC capacity development landing page. Retrieved from: https://www.itc.nl/about-itc/#capacity-development on 16.05.2022.

FIG, (2008). Capacity assessment and land administration, by Enemark, S. and van der Molen, P., International Federation of Surveyors, FIG and FAO, p.37, FIG Publication 41, Copenhagen, Denmark

Todorovski, D. (2020). *Blended learning: lessons from our experience regard response to Covid19; Faculty ITC University of Twente*. s1-s7. FIG Commission 7 Annual Conference, available online (accessed on 6.09.2021): https://fig.net/organisation/comm/7/activities/events/Online_2020/ppt/todorovski.pdf

Williamson, Enemark, Wallace, and Rajabifard, (2010). Land Administration for Sustainable Development, ESRI Press Academic, Redlands, California.

BIOGRAPHICAL NOTES

Dimo Todorovski, is Portfolio Holder Education of PGM department and M-GEO Masters coordinator of Geo-information Management for Land Administration specialization at Faculty of Geo-Information Science and Earth Observation (ITC), the University of Twente, in Enschede, the Netherlands, and he is FIG Commission 2 Chair Working Group 2.1: Developing Academic Networks (term 2019-2022). Dimo is also FIG Commission 2 Chair Elect (2023-2026). He holds a PhD from University of Twente and he obtained MSc degree in Geo-Information Science and Earth Observation at ITC, in 2006. Over the 19 years of professional engagement (1992-2011) in the Agency for Real Estate Cadastre in the Republic of Macedonia, last 12 years were on different managerial positions (Digitizing, GIS and Geo-ICT departments), and the final year he was Head of the Department for International Cooperation and European Integrations. His research interest focuses on land administration and land governance, and on land administration in post-conflict contexts.

Jennifer Whittal is a Professor in the Geomatics Division at the University of Cape Town. She obtained a B.Sc. (Surveying) and a M.Sc. (Engineering) specializing in GNSS from the University of Cape Town. In 2008, Jenny obtained her Ph.D from the University of Calgary applying critical realism, systems theory and mixed methods to a case of fiscal cadastral systems reform. She is a Professional Land Surveyor and lectures advanced surveying and land law. Research interests are land tenure and cadastral systems, sustainable development and resilience in landholding for the poor, historical property holding, and cadastral issues in the coastal zone. Jennifer is outgoing chair of the FIG Africa Regional Network and a Director of the FIG Foundation.

Regional Academic Networks, capacity building and knowledge sharing (11342)
Dimo Todorovski (Netherlands) and Jennifer Whittal (South Africa)

FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022

CONTACTS

Dimo Todorovski
University of Twente Faculty for Geo-Information Sciences and Earth Observation – ITC
Department of Urban and Region Planning and Geo-Information Management
P.O. Box 217
7500 AE Enschede,
THE NETHERLANDS
Tel: +31 (0)53 4874329
Fax: +31 (0)53 4874575
d.todorovski@utwente.nl
web site: www.itc.nl

Jennifer Whittal
School of Architecture, Planning and Geomatics, University of Cape Town
Private Bag X3, Rondebosch 7701
Tel: +27 (0) 21 650 3575
jennifer.whittal@uct.ac.za
Internet: www.geomatics.uct.ac.za

Regional Academic Networks, capacity building and knowledge sharing (11342)
Dimo Todorovski (Netherlands) and Jennifer Whittal (South Africa)

FIG Congress 2022
Volunteering for the future - Geospatial excellence for a better living
Warsaw, Poland, 11–15 September 2022