

Transdisciplinary Research Bridges the Gap between Science and Pastoral Services

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Abstract

The flow of globalization has been unstoppable into most of the countries, including Indonesia, with this rapid transformation, and the response must be integrated and comprehensive, involving all stakeholders from global governments, the public and private sectors to academics and the wider community. In this era, churches should unite in response to a changing context. Facing these challenges, teaching in universities and colleges is also demanded to change, including in producing quality scholars for future generations. What about Christian teaching and education? To what extent is it necessary or able to keep up with this global change? Is the role of theology or church school graduates still or will be increasingly needed? Transdisciplinary Action as new research policy is considered to be one of solution. The argumentative theory is used to verify whether transdisciplinary research. It is applicable and in line with Christian/pastoral education and whether the transdisciplinary approachable to bridge the gap of science and the church service. This argument concluded several reasons and evidence that transdisciplinary research will improve the quality of pastoral service so that it bridges science to transform into quality service.

Keywords: transdisciplinary research, pastoral service, Christian, education

Abstrak

Arus globalisasi tidak dapat dicegah masuk ke hampir semua negara termasuk Indonesia. Dengan perubahan yang sangat cepat ini respons haruslah terpadu dan komprehensif, meliputi semua *stakeholder* mulai dari pemerintahan global, sektor publik dan swasta, akademisi dan komunitas masyarakat luas. Dalam era seperti ini, gereja harus bersatu dalam merespons konteks perubahan. Dalam menghadapi tantangan ini, pembelajaran di perguruan tinggi juga diharapkan ikut berubah termasuk dalam menghasilkan sarjana berkualitas untuk generasi masa depan. Bagaimana dengan Pendidikan dan Pengajaran Kristen? Sampai dimana hal ini masih dibutuhkan, dan apakah mampu bertahan dalam perubahan global ini? Apakah peran lulusan sekolah teologi atau gereja masih akan tetap semakin dibutuhkan? Aksi transdisiplinari sebagai arah penelitian terbaru dipertimbangkan sebagai salah satu solusi yang dapat dimanfaatkan. Teori argumentasi digunakan sebagai metode penelitian untuk membuktikan

apakah penelitian transdisiplinari dapat diaplikasikan, dan sejalan dengan Pendidikan Kristen dan apakah pendekatan transdisiplin dapat menjembatani kesenjangan antara teori pengetahuan dan pelayanan gereja. Hasilnya menunjukkan bahwa ada beberapa alasan kuat serta bukti bahwa penelitian transdisiplin dapat meningkatkan mutu layanan gereja sehingga dianggap mampu menjembatani ilmu pengetahuan dan mentransformasikan menjadi layanan bermutu.

Kata-kata Kunci: transdisiplinari, layanan gereja, Pendidikan Kristen

Introduction

The rapid development of science and technology can influence and change the way of life. And how to work and how to relate to one another. The flow of globalization has been unstoppable in Indonesia. The impact of technological advances must also directly affect existing industries because technology cannot be separated from the industry. Almost all items that we have today are industrial products. Accompanied by increasingly sophisticated technological developments, the world is now entering the era of industrial revolution 4.0, which emphasizes the patterns of the digital economy, artificial intelligence, big data, robotic, etc., or known as the phenomenon of disruptive innovation.

Facing these challenges, teaching in universities, and colleges are also demanded to change, including in producing quality scholars for future generations. What about Christian teaching and education? To what extent is it necessary or able to keep up with this global change? Is the role of theology or church school graduates still or will be increasingly needed?

Is it necessary for graduates? Or is graduate able to get out of the church's wall and reach the public or community? Transdisciplinary Action as new research policy is considered to be one of solution.

Transdisciplinarity has a long history of academic discourse. Promoted as an adequate scientific response to pressing societal problems like climate change, it has recently received common currency in science policy rhetoric.¹ During the last two decades, transdisciplinary research collaborations among several academic disciplines and non-academic

¹ Thomas Jahn, Matthias Bergmann, and Florian Keil, "Transdisciplinarity: Between Mainstreaming and Marginalization," *Ecological Economics* 79 (July 1, 2012): 1–10, <https://doi.org/10.1016/j.ecolecon.2012.04.017>; (see F. Wickson, A. L Carew, and A. W. Russell, "Transdisciplinary Research: Characteristics, Quandaries, and Quality," *Futures* 38, no. 9 (November 1, 2006): 1046–59, <https://doi.org/10.1016/j.futures.2006.02.011>).

organizations. They have primarily supported by funding agencies such as the European Commission.

Theory

Industrial Revolution

The Industrial Revolution was a turning point in history, marked by massive changes in various fields. For example, agriculture, mining, transportation, manufacturing, and technology. Besides, the industrial revolution has a significant impact on social, economic, and cultural conditions in the world. We have seen three major industrial revolutions that have taken place throughout history. Industrial Revolution 1.0 is mechanical, marked by the invention of steam and water-powered machines at the end of the 18th century. The Industrial Revolution 2.0, which took place in 1870, was a phase of the electric revolution marked by mass production using electrically powered machines. In this era, cars, the telephone, the airplane was created. The 3.0 Industrial Revolution occurred in 1969, commonly referred to as the Information Age. Which is marked by the development of electronics and information technology? The industrial revolution 4.0 brought industrial automation to a new level by introducing flexible and customized mass production technology. Industrial Revolution 4.0 is a condition in the 21st century when there are massive changes in various fields through a combination of techniques that reduce the barriers between the physical, digital, and biological worlds. This revolution is marked by technological advances in multiple areas, especially artificial intelligence, robots, blockchain, nanotechnology, quantum computers, biotechnology, the Internet of Things, 3D printing, and uncrewed vehicles. So industrial revolution 4.0 means integration between the online world and the industrial world to increase the efficiency of the value of industrial processes. It means that machines will operate independently, or work with humans to create customer-oriented fields of production that are continually working to maintain themselves. The device becomes an independent tool that is able to collect data into databases, analyze it, and provide input to it.

The era of transformation of the Church and the 5.0 Revolution in Indonesia

Industrial Revolution 5.0 will be aspects that will restore the glory of human civilization. The elements that collaborate are physical, digital, and biological, and are complemented by the presence of spiritual aspects. "In the 5.0 Industrial Revolution, religion will re-enter to lead science again." Besides, the upcoming 5.0 Industrial Revolution is an era that will become a force to change the archipelago. By returning the noble values of

the archipelago and the return of pride in the identity of the archipelago. And the awakening of an understanding of the spiritual, countries in Southeast Asia can rise to lead the development of the Industrial Revolution 5.0.

With this rapid transformation, the response must be integrated and comprehensive, involving all stakeholders from global governments, the public and private sectors to academics and the wider community. In this era, churches should unite in response to a changing context. The global situation, severe natural destruction, humans are understood as economic objects and critical identity that requires stringent, more contextual mission strategies today. Changing circumstances require different responses. Now, it is the right time for the church to become friends with nature and bring the solution to the real world. (After finishing the process of creation, God saw that all of His inventions were very good (Genesis 1:31). God's creations are beautiful. Therefore, God commands humans to care for His Creation, nature, animals, and plants).

History and Application of Transdisciplinary Research

Transdisciplinarity, if we consider its origins way back in the 1970s, is still a growing field of academic endeavor. The final destination of transdisciplinarity is perhaps a journey that transcends our present horizon of disciplinary understanding. In the early 1950s, Rudolf Carnap was among the first to suggest combining skills and knowledge from different disciplines. Even today, coexisting independent scientific cultures display a clear and continuing division between natural sciences and the humanities. The emergence of transdisciplinary in the knowledge society at the end of the 20th century is the most recent step. The discussion focuses on transdisciplinarity as a form of research that is driven by needs to solve the problem of the real-world.² Some view the transdisciplinary approach to research as abandoning the positivistic monodisciplinary academic culture.

The research policy has changed. Today's researchers are challenged to think in a transdisciplinary model, reaching beyond the borders of their subject area to conduct "useful" research that benefits society. The complexity of conflict requires continuous co-operation between the different disciplines for solutions³ According to Thesnaar, Practical

² Gertrude Hirsch Hadorn et al., "The Emergence of Transdisciplinarity as a Form of Research," in *Handbook of Transdisciplinary Research*, ed. Gertrude Hirsch Hadorn et al. (Dordrecht: Springer Netherlands, 2008), 19–39, https://doi.org/10.1007/978-1-4020-6699-3_2.

³ Martin Leiner, *Latin America between Conflict and Reconciliation* (Göttingen: Vandenhoeck & Ruprecht, 2012).

theologians have been drawing increasingly on other human sciences in their research, rendering transdisciplinary research.⁴ Osmer calls it, cross-discipline research familiar to the field. He affirms that it forms an inherent part of each of the four tasks of practical theology. In its empirical work, it necessarily engages social science and makes choices about the research methods and approaches that are best suited.⁵

Cockburn *et al.* from their research on "How to build science-action partnerships for local land-use planning and management lessons from Durban, South Africa" derived The four broad enabling actions as follows: (a) explicitly address the science-action gap, (b) put in place allowing organizational preconditions, (c) assemble a functional well-structured team, and (d) actively build interpersonal and individual collaborative capacity.⁶ The enabling actions operate at several different levels, which are nested in one another from the level of the individual to the team and intra-organizational and inter-organizational levels. For each enabling action, we highlight in detail some of the critical factors to others involved in similar initiatives.

Method

The argumentative theory is used to verify whether transdisciplinary research is applicable and in line with Christian/pastoral education. And whether the transdisciplinary approachable to bridge the gap of science and the church service. Hadorn *et al.* used an interdisciplinary research approach to bridge science with other scholarships such as religion, policy, etc.⁷

⁴ Christoffel H. Thesnaar, "Seeking Feasible Reconciliation: A Transdisciplinary Contextual Approach to Reconciliation," *HTS Teologiese Studies / Theological Studies* 70, no. 2 (March 10, 2014), <https://doi.org/10.4102/hts.v70i2.1364>.

⁵ Richard R. Osmer, *Practical Theology: An Introduction* (Grand Rapids, Mich: Eerdmans, 2008).

⁶ Jessica Cockburn *et al.*, "How to Build Science-Action Partnerships for Local Land-Use Planning and Management: Lessons from Durban, South Africa," *Ecology and Society* 21, no. 1 (February 25, 2016), <https://www.ecologyandsociety.org/vol21/iss1/art28/>.

⁷ Gertrude Hirsch Hadorn *et al.*, eds., *Handbook of Transdisciplinary Research* (Springer Netherlands, 2008), <https://doi.org/10.1007/978-1-4020-6699-3>; (see Christian Pohl, "From Science to Policy through Transdisciplinary Research," *Environmental Science & Policy* 11, no. 1 (February 1, 2008): 46–53, <https://doi.org/10.1016/j.envsci.2007.06.001>).

Discussion

The Role of Research and Higher Education in the future

Responding to global problems involving humanity and the environment, a group of experts began to develop cooperation between fields of science commonly called interdisciplinary or multidisciplinary. They also agreed that stakeholders must play a role in the research so that the analysis produces a solution that can be enjoyed by the community, not just as a pile of books and proceedings on the library bookshelves. This is what is called transdisciplinary research. Multi-disciplinary is not enough but must be trans-disciplinary, meaning that other stakeholders are also the main actors that cause changes or solutions to the problem being faced. Leiner and Flaming emphasize that transdisciplinary research if it is not at the expense of the quality of disciplinary methodological research, can integrate values and world views.⁸ This encourages them to integrate philosophers and theologians from various religious backgrounds into their program. A Buddhist understanding of peace seems to them as important as a Mennonite or an atheist one. According to them, the inclusion of these views is an essential attribute of Christian peace research.

Challenge of Transdisciplinary Approach to Bridging the Gap of Science and Pastoral Services

In connection with the era of church transformation, the leading universities related to theology and philosophy need to determine their role. The research will be the basis for the development of science and innovation. Research at universities is also required to play a role in global problems that are universal, such as poverty and environmental problems. Global issues such as poverty and the environment are generally not problems that can be solved by experts from just one field of science. But it requires experts from various fields of science, also not only academic knowledge but also the experience of practitioners and residents. Likewise, not only science plays a role, but also local wisdom and another intangible knowledge. Research which so far has tended to be confined within one's community should have been opened wide to be associated with the surrounding community. Concerns about losing Christian or

⁸ Leiner, *Latin America between Conflict and Reconciliation*.

Christian identity must be thrown away. Precisely the choice of topics and themes that are consistent with humanity, for example, will highlight the character of Jesus' followers. Hadorn *et al.*, "The Handbook focuses on transdisciplinarity as a form of research that is driven by the need to solve problems of the life-world."⁹

Thesnaar describes that in South Africa, scholars in the broad field of practical theology are currently faced with a daunting challenge: to rethink the reconciling role of the institutional church in the light of continued challenges facing reconciliation within post-apartheid and post-Truth and Reconciliation Commission (TRC) South Africa.¹⁰

Implementation of Transdisciplinary Approach in Indonesia

It is time for researchers in Indonesia to collaborate with researchers with other scholars. If there are complex problems solved through interdisciplinary research. Stokols argued, "transdisciplinary action research is viewed as a topic of scientific study in its own right to achieve a complete understanding of prior collaborations and to identify strategies for refining and sustaining future collaborations."¹¹

Research by Nababan suggested empowering the people economy based on the congregation, mainly highlight the role of the research department of the university.¹² Research on the Roles of Church in developing the entrepreneurial program in the digital era by Pasande and Tari found many entrepreneurship development models with broad diversity that showed numerous different things to another, and they suggested that the Church must be active both in fulfilling spiritual and physical needs.¹³ The digital church can create an application where people can get free access to sermons, bible lecture series, recent popular discussions, announcements, through their cell phones.¹⁴ Thus church

⁹ Hadorn et al., "The Emergence of Transdisciplinarity as a Form of Research."

¹⁰ Thesnaar, "Seeking Feasible Reconciliation."

¹¹ Daniel Stokols, "Toward a Science of Transdisciplinary Action Research," *American Journal of Community Psychology* 38, no. 1-2 (2006): 79-93, <https://doi.org/10.1007/s10464-006-9060-5>.

¹² Tongam Sihol Nababan, "Gereja Dan Kesejahteraan Warga Dalam Perspektif Ekonomi Kerakyatan (The Church and the Welfare of Congregation in the Perspective of Community Economy)," SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, April 17, 2011), <https://papers.ssrn.com/abstract=2310489>.

¹³ Purnama Pasande and Ezra Tari, "PERAN GEREJA DALAM PENGEMBANGAN PROGRAM KEWIRUSAHAAN DI ERA DIGITAL," *VISIO DEI: JURNAL TEOLOGI KRISTEN* 1, no. 1 (June 27, 2019): 38-58, <https://doi.org/10.35909/visiodei.v1i1.6>.

¹⁴ Yahya Afandi, "Gereja dan Pengaruh Teknologi Informasi 'Digital Ecclesiology,'" *FIDEI: Jurnal Teologi Sistematis dan Praktika* 1, no. 2 (December 29, 2018): 270-83, <https://doi.org/10.34081/fidei.v1i2.12>.

leaders must be technologically literate and ready to adapt to technological advancements to preach the good news.¹⁵ Church leaders can also conduct interdisciplinary research through collaboration with other religious leaders. Gray believes that researchers can collaborate with various studies on the topic of leadership.¹⁶ At the leadership, a level can encourage increased interdisciplinary research.

Rampisela *et al.* concluded that the transdisciplinary research method enables the triple helix collaboration of University, Industry, and Government, based on robust collaboration between scientist researchers and the local community as research members. Identification, description, and documentation of local wisdom is a suitable topic to build up transdisciplinary research because it is triggered the active participation, trust, and confidence of the local community.¹⁷

Many people were carrying out extremely sophisticated research, but they did not realize that their activities are genuinely proper research. And I have seen several religions related to action, which is research applying a transdisciplinary approach. If there are more awareness and understanding of transdisciplinary research, there will be much more scientific church-related activities done by the researcher or lecturer of the Christian related colleges. The implementation of church services, both in the form of counseling for the church members and other social activities, is a research study. Collect the data so that it becomes a database that will become the big data needed by industry 4.0 and 5.0 technology. I think that research that is generally carried out within the church itself can be expanded to have an impact on the environment and surrounding communities, including followers of other religions. We will find a positive effect on the lives of mutual tolerance and the improvement of the welfare of all people.

I try to give an example by raising one of the many research titles conducted by students and lecturers of Theological and Philosophy College or Advance Seminary, such as “Study of the Church’s view of the Environment” if applied in the form of transdisciplinary research, and the title might be:

¹⁵ Daniel Ronda, “Pemimpin dan Media: Misi Pemimpin Membawa Injil Melalui Dunia Digital,” *Jurnal Jaffray* 14, no. 2 (September 28, 2016): 189–98, <https://doi.org/10.25278/jj71.v14i2.210>.

¹⁶ Barbara Gray, “Enhancing Transdisciplinary Research Through Collaborative Leadership,” *American Journal of Preventive Medicine*, The Science of Team Science, 35, no. 2, Supplement (August 1, 2008): S124–32, <https://doi.org/10.1016/j.amepre.2008.03.037>.

¹⁷ D A Rampisela *et al.*, “Transdisciplinary Research on Local Community Based Sago Forest Development Model for Food Security and Marginal Land Utilization in the Coastal Area,” *IOP Conference Series: Earth and Environmental Science* 157 (May 2018): 012065, <https://doi.org/10.1088/1755-1315/157/1/012065>.

1. The action of sorting household waste and its influence on students' environmental understanding
2. The importance of the activities of the garbage bank in Christian schools on the knowledge of the environment of the congregation
3. *Moringa sp.* tree planting activities and their impact on the health of the poor
4. The development of good stalls and their impact on improving the nutrition of the poor.
5. Sociology of Religion: A Substantive and Transdisciplinary Approach.¹⁸
6. Biblical research is studied quantitatively with an interdisciplinary approach, such as the title of Israel's Exodus in Transdisciplinary Perspective.¹⁹
7. Good food themes and practical theology.²⁰

Conclusion

In the open and global era, transdisciplinary research is recommended to bridge science and pastoral services, for the following reasons:

1. Transdisciplinary research requires excellent and universal communication skills that are owned by counselors or other church services
2. Transdisciplinary research requires high respect to human beings which have been implanted in history of church missionaries
3. Transdisciplinary research requires consideration of social and cultural factors for the achievement of optimal results, and basically, evangelism has been practicing this since the beginning of its history.
4. Practicing transdisciplinary method in research and education will enhance the pastoral services to reach the broader community will contribute to the inter-religion mutual understanding toward world peace
5. Transdisciplinary research will improve the quality of service so that it bridges science to transform into quality service.

¹⁸ George Lundskow, *The Sociology of Religion: A Substantive and Transdisciplinary Approach* (SAGE Publications, 2008).

¹⁹ Thomas Evan Levy, Thomas Schneider, and William H. C. Propp, eds., *Israel's Exodus in Transdisciplinary Perspective: Text, Archaeology, Culture, and Geoscience*, Quantitative Methods in the Humanities and Social Sciences (Heidelberg [u.a]: Springer, 2015).

²⁰ Jennifer R. Ayres, *Good Food: Grounded Practical Theology* (Baylor University Press, 2015), <https://muse.jhu.edu/book/40364>.

6. Expanding the scope of this kind of research will eliminate unnecessary barriers but will further highlight the light and love of Christ and Christian character.

Expanding the scope of this kind of research will eliminate unnecessary barriers and further highlight the light and love of Christ and our Christian character. Transdisciplinary research will improve the quality of service so that it bridges science to transform into quality service.

Bibliography

- Afandi, Yahya. "Gereja Dan Pengaruh Teknologi Informasi 'Digital Ecclesiology.'" *FIDEI: Jurnal Teologi Sistematika dan Praktika* 1, no. 2 (December 29, 2018): 270–83. <https://doi.org/10.34081/fidei.vli2.12>.
- Ayres, Jennifer R. *Good Food: Grounded Practical Theology*. Baylor University Press, 2015. <https://muse.jhu.edu/book/40364>.
- Cockburn, Jessica, Mathieu Rouget, Rob Slotow, Debra Roberts, Richard Boon, Errol Douwes, Sean O'Donoghue, et al. "How to Build Science-Action Partnerships for Local Land-Use Planning and Management: Lessons from Durban, South Africa." *Ecology and Society* 21, no. 1 (February 25, 2016). <https://www.ecologyandsociety.org/vol21/iss1/art28/>.
- Gray, Barbara. "Enhancing Transdisciplinary Research Through Collaborative Leadership." *American Journal of Preventive Medicine, The Science of Team Science*, 35, no. 2, Supplement (August 1, 2008): S124–32. <https://doi.org/10.1016/j.amepre.2008.03.037>.
- Hadorn, Gertrude Hirsch, Susette Biber-Klemm, Walter Grossenbacher-Mansuy, Holger Hoffmann-Riem, Dominique Joye, Christian Pohl, Urs Wiesmann, and Elisabeth Zemp. "The Emergence of Transdisciplinarity as a Form of Research." In *Handbook of Transdisciplinary Research*, edited by Gertrude Hirsch Hadorn, Holger Hoffmann-Riem, Susette Biber-Klemm, Walter Grossenbacher-Mansuy, Dominique Joye, Christian Pohl, Urs Wiesmann, and Elisabeth Zemp, 19–39. Dordrecht: Springer Netherlands, 2008. https://doi.org/10.1007/978-1-4020-6699-3_2.
- Hadorn, Gertrude Hirsch, Holger Hoffmann-Riem, Susette Biber-Klemm, Walter Grossenbacher-Mansuy, Dominique Joye, Christian Pohl, Urs Wiesmann, and Elisabeth Zemp, eds. *Handbook of Transdisciplinary Research*. Springer Netherlands, 2008. <https://doi.org/10.1007/978-1-4020-6699-3>.
- Jahn, Thomas, Matthias Bergmann, and Florian Keil. "Transdisciplinarity: Between Mainstreaming and Marginalization." *Ecological Economics* 79 (July 1, 2012): 1–10. <https://doi.org/10.1016/j.ecolecon.2012.04.017>.
- Leiner, Martin. *Latin America between Conflict and Reconciliation*. Göttingen: Vandenhoeck & Ruprecht, 2012.
- Levy, Thomas Evan, Thomas Schneider, and William H. C. Propp, eds. *Israel's Exodus in Transdisciplinary Perspective: Text, Archaeology, Culture, and Geoscience*.

- Quantitative Methods in the Humanities and Social Sciences. Heidelberg [u.a]: Springer, 2015.
- Lundskow, George. *The Sociology of Religion: A Substantive and Transdisciplinary Approach*. SAGE Publications, 2008.
- Nababan, Tongam Sihol. "Gereja Dan Kesejahteraan Warga Dalam Perspektif Ekonomi Kerakyatan (The Church and the Welfare of Congregation in the Perspective of Community Economy)." SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, April 17, 2011. <https://papers.ssrn.com/abstract=2310489>.
- Osmer, Richard R. *Practical Theology: An Introduction*. Grand Rapids, Mich: Eerdmans, 2008.
- Pasande, Purnama, and Ezra Tari. "PERAN GEREJA DALAM PENGEMBANGAN PROGRAM KEWIRAUSAHAAN DI ERA DIGITAL." *VISIO DEI: JURNAL TEOLOGI KRISTEN* 1, no. 1 (June 27, 2019): 38–58. <https://doi.org/10.35909/visiodei.v1i1.6>.
- Pohl, Christian. "From Science to Policy through Transdisciplinary Research." *Environmental Science & Policy* 11, no. 1 (February 1, 2008): 46–53. <https://doi.org/10.1016/j.envsci.2007.06.001>.
- Rampisela, D A, R Sjahril, S A Lias, and R Mulyadi. "Transdisciplinary Research on Local Community Based Sago Forest Development Model for Food Security and Marginal Land Utilization in the Coastal Area." *IOP Conference Series: Earth and Environmental Science* 157 (May 2018): 012065. <https://doi.org/10.1088/1755-1315/157/1/012065>.
- Ronda, Daniel. "Pemimpin dan Media: Misi Pemimpin Membawa Injil Melalui Dunia Digital." *Jurnal Jaffray* 14, no. 2 (September 28, 2016): 189–98. <https://doi.org/10.25278/jj71.v14i2.210>.
- Stokols, Daniel. "Toward a Science of Transdisciplinary Action Research." *American Journal of Community Psychology* 38, no. 1–2 (2006): 79–93. <https://doi.org/10.1007/s10464-006-9060-5>.
- Thesnaar, Christoffel H. "Seeking Feasible Reconciliation: A Transdisciplinary Contextual Approach to Reconciliation." *HTS Teologiese Studies / Theological Studies* 70, no. 2 (March 10, 2014). <https://doi.org/10.4102/hts.v70i2.1364>.
- Wickson, F., A. L Carew, and A. W. Russell. "Transdisciplinary Research: Characteristics, Quandaries, and Quality." *Futures* 38, no. 9 (November 1, 2006): 1046–59. <https://doi.org/10.1016/j.futures.2006.02.011>.