

Conduct Of Tracer Studies for Quality Assurance Mechanisms: A Basis for Curriculum Enhancement

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Abstract

The Higher Education Institutions (HEIs) share the common goal of producing highly principled and globally competent individuals to meet the needs of the industry. Through this, HEIs are mandated by the Commission on Higher Education (CHED) to conduct tracer studies periodically to monitor the employability or success of their graduates which aims to ensure the quality assurance of an institution. This study focused on designing a framework on as to how graduate tracer studies can be useful in the curriculum enhancement of degree programs for quality assurance that may encourage other institutions to use the same. Systematic literature review was utilized as the main method of the study. The researchers reviewed and analyzed twenty (20) published related literatures and studies to answer the objective with factual and/or research-based pieces of evidence. The framework design sought to help not only the Pangasinan State University (PSU) but also other institutions in providing support in the process of accreditation, improving the performance, service and quality of education in the different degree programs. Thus, implementing the framework model can certainly help sustain the UN Development Goal No.8 on decent work and economic growth likewise usable in ensuring the quality of education.

Index Terms: Tracer Studies, Quality Assurance, Curriculum Enhancement, Framework Design

I. Introduction

The Higher Education Institutions (HEIs) are responsible for transforming students into globally competitive individuals - providing knowledge, skills and values that the world-work market needs. These competencies are the important aspects of a person's career [1]. The quality of education relies on the quality assurance mechanisms conducted by all State Universities and Colleges (SUCs) such as program accreditation from Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP), International Standards Organization (ISO) audit, Investors in People (IiP) standard accreditation and Institutional Accreditation (IA). These mechanisms evaluate educational activities, programs, services and the institution as a whole-upgrading the educational quality of an institution. Accreditation is a widely-used method in quality assurance in HEIs. In the United States accreditation of both programs and institutions is the main quality assurance method [2].

Based from the CMO No. 01, s. 2005, the CHED formulated policies and guidelines encouraging the institutions on voluntary accreditation for quality and excellence in higher education [3]. As such, accreditation is a Quality Assurance (QA) mechanism being facilitated

to assess the level of quality, excellence and compliance to the identified local and international standards which indicates that the concepts of quality being utilized are driven by the external requirements of the market [4].

Accordingly, employability of graduates is one of the measures of HEIs to ensure that the quality of education they provide is suitable to the needs of the industry or labor market [5]. In PSU, its mission is to commit to developing highly principled, morally upright, innovative and globally competent individuals capable of meeting the needs of the industry. The university's main goal is to provide necessary skills, knowledge and values that can satisfy the student-stakeholders and help them to succeed in their career.

Monitoring of employability rate is one of the techniques of HEIs wherein they conduct tracer studies. Graduate tracer studies are essential for understanding the relevance and quality of programs offered by the universities as well as the labor market [6]. The conduct of tracer studies also determines whether the graduates' employment is aligned to their finished degree program/s and so is tailor-fit to the knowledge and skills they have gained from their chosen institution. With reference to the strategic plan of CHED, there must be a periodic conduct of graduate tracer studies to align HEI programs with the National Development Goals. Similarly, CMO No. 46, s. 2012 indicated that Philippine higher education institutions are mandated to produce graduates with high levels of academic, thinking, behavioral, and technical skills/competencies that are aligned with national academic and industry standards and needs and international standards [7]. The research of Schomburg and Ulrich (2011) highlighted that HEIs embraced the use of tracer studies for four major reasons: 1) to accredit study programs; 2) to explain the link between study programs and the job market; 3) to show uniqueness and positioning of individual universities; and 4) also to enable universities and institutions managing higher education in their respective countries make informed and evidence-based decisions about improvements on quality education and services in higher education [8]. In addition, Cuadra et al. (2019) emphasized on their study "The Use of Tracer Study in Improving Undergraduate Programs in the University" that the relevance of the degree program to professional requirements was a major strength of the undergraduate curriculum [9]. The feedback from tracer studies could be utilized as a source of improving academic program or program curriculum. In designing curricula, it is expected that the needs of the students are achieved. However, curriculum enhancement cannot be carried out without the help of the alumni stakeholders [10]. Skills and competencies gained from their institution where they finished their degree and found to be useful in their job are the essential feedback as relevant inputs in the curriculum enhancement of a program. The study of Plata (2020) showed that the tracer studies conducted on Isabela State University were relevant to the curriculum enhancement of an academic program [11]. In the same manner, Caingcoy (2021) gave emphasis on the top employable skills in the created framework for the curriculum enhancement in the teacher education programs as part of his tracer studies [12].

In response to the needs of the industries, curriculum enhancement is much needed in assuring the quality of an institution. According to Williams and Adams (2018), one of the common usages of quality in education is quality as content which refers to the knowledge, attitudes, and skills intended to be mediated through the developed curriculum - a far-reaching implications to quality assurance in curriculum development in higher education [13]. Curriculum enhancement must maintain and improve standards on a continual basis. The more competitive the curriculum is, the higher the quality of an institution. Quality assurance in curriculum will be measured by looking at the employability and career success of graduates [14]. Also, Viriansky and Raychuk (2015) highlighted that an optimization approach to

curriculum development is necessary in ensuring the quality of education [15].

As PSU is conducting tracer studies, there is no established or well-defined structure or framework model to describe the effectiveness and/or usefulness of the tracer study to the quality assurance of HEIs focusing on curriculum enhancement. In view of this, it is imperative to design a framework model on how graduate tracer studies can be useful in curriculum enhancement for the quality assurance of PSU. This assured the quality of education through curriculum enhancement by utilizing tracer studies. Also, this solution will be helpful to encourage other institutions to conduct tracer studies as means of enhancing the curriculum of degree programs hence improving their quality assurance. Implementing this practice is advantageous to goal 8 of UN Sustainable Development Goals (SDGs) where employment and decent jobs is targeted to be substantially increased.

II. Methods

Systematic literature review was performed as the main method. A systematic literature review (SLR) is a research methodology which identifies, selects and critically appraises research in order to answer a clearly formulated question [16]. The researchers collected, reviewed and analyzed published twenty (20) related literatures and/or studies. Secondary research helped obtain comprehensive understanding of the research objective so that it can be answered appropriately. This research technique was significant for the development of framework design on how graduate tracer studies can be useful in the curriculum enhancement for quality assurance of PSU.

A Structured Interview Questionnaire was created for the interview meeting with the University Center Head for Statistics and Computing Sciences of PSU to gather data on how tracer studies are being conducted in the university.

Iii. Results and Discussion

This section discusses the processes of the conduct of PSU tracer studies. The use of tracer studies in curriculum enhancement was explained in terms of improving or ensuring the quality of education and achieving the PSU's mission and UN SDGs as per employability rate.

The researchers designed the framework presented in figure 1 based on her conducted interview from the University Statistics Center Head. It provides an initial information relevant to the study. It gives a comprehensive view of the processes in defining the nature and scope of the study.



Fig 1. Framework Design of Tracer Studies of PSU

The conduct of tracer studies in PSU started in the year 2017 initiated by the University President. The said conduct is being spearheaded by the University Statistics and Computing Sciences Center. There are three (3) main processes in the conduct of tracer studies: (1) Preparation; (2) Data Collection; and (3) Data Analysis and Dissemination. In the preparation phase, the Head of the Center prepares survey questionnaire and forwards it to the Campus Statistics Coordinators. The statistics Coordinators send the questionnaire to the department/program chairpersons from their respective campuses. For the data collection phase, the department chairpersons are the ones responsible for the gathering of data or contact information of the graduates necessary for the tracer studies. The department chairpersons then send the survey questionnaire to the graduates and encourage them to accomplish said questionnaire. After the data collection process protocols, the Center Head monitors the responses until the given period and perform data cleaning next followed by data analyses. Finally, results will be presented through tables, charts/graphs, and figures and will be interpreted through discussions and then disseminated to all campuses.

The conduct of tracer studies has been very useful for the quality assurance of an institution. However, there shall be broader research regarding the usefulness of tracer studies in quality assurance of higher education institutions with the focus on curriculum enhancement. In PSU, there is no clear description or process model on how tracer studies can be utilized in the enhancement of program curricula.

The researchers have collected, reviewed and analyzed data from published twenty (20) related studies and/or literatures proving the usefulness of tracer studies in curriculum enhancement for quality assurance.

Based from the consolidated and reviewed related studies and literatures, it was found out and discovered that there is a need for a periodic conduct of tracer studies to the institutions globally as Sitepu I. (2021) stated that tracer study is the first step and main aim to enhance/develop the curriculum of a study program since the study program should start with capturing labor market signal and inputs from the stakeholders [17]. The studies of Toquero, CM. and Ulanday, DM. (2021), Romadlon F. and Arfiin M. (2021), Kiiza, S. et al. (2020), Albina, A., and Sumagaysay L. (2020), Plata, I. (2020), Kalaw, MT. (2019), Siraye, Z. et al. (2018), Martin M. (2018), Aquino, A. (2015), Tutor et al (2019) are also consistent in explaining that the tracer studies is the essential step to enriching the degree programs and the institution. They also stressed that the results of the tracer studies can be input to the improvements in the learning process and services of an institution likewise emphasizing that tracer studies offered important feedback or input for review and revision/enhancement of the program curricula helping the learners to prepare for the world of work, assurance that the graduates are equipped with necessary knowledge, competencies and skills based on industry needs and trends, identification of best pedagogical teaching and learning practices with a view to enhancing the employability of students and most particularly in enhancement of quality education [11], [18]-[26]. Additionally, Maseda, M. (2017) highlighted that the general objective of tracer studies is to evaluate medium to long-term impact of education programmes [27]. Reusia, DH. et al (2020) validated that a curriculum review may then be considered for better alignment of the program to the demands of the 21st century learning landscape to produce industry-ready and globally competitive educators [28]. Similarly, Badiru E. and Wahome M. (2016) and Ganseuer, C. and Pistor, P. (2016) explained in their studies that tracer studies and enhanced curricula are viable opportunities that contribute for the improvement of university education, service programme and programme accreditations for quality assurance [29]-[30].

Consequently, Njui, HW. (2018), Dotong, C. and Laguador, J. (2015), and Schomburg H. (2010) pointed out that the quality of the graduates is one way of measuring the performance of an institution through any Quality Assurance mechanisms being utilized and adopted by the HEIs across the globe which include accreditation, quality audit, and evaluation [31]-[33]. Moreover, Lesmini A. (2021) and Cuadra et al. (2019) indicated that quality assurance mechanisms are the processes of ensuring the quality of education of an institution harmonizing with the ASEAN higher education system [34],[9].

Through the concerted efforts of higher education institutions, the employability of the graduates may then be increased, and UN Sustainability Development Goal No. 8 can be targeted successfully resulting to having industry-ready and globally competitive graduates.

However, there is no established or no well-defined structure or framework model to describe the effectiveness and/or usefulness of the tracer study to the quality assurance of HEIs focusing on curriculum enhancement. According to Lutkevich (2020), a framework is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful [35]. Lyke-Ho-Gland (2019) also mentioned that a framework is a tool to support the institution's improvement processes, how work gets accomplished and the relationship between processes [36]. So, to address the issue, framework model was designed in order to help the institution foster consistency in organizing data and content. In the same way, it is a clear picture of the processes on how to achieve the quality assurance through tracer studies in PSU.

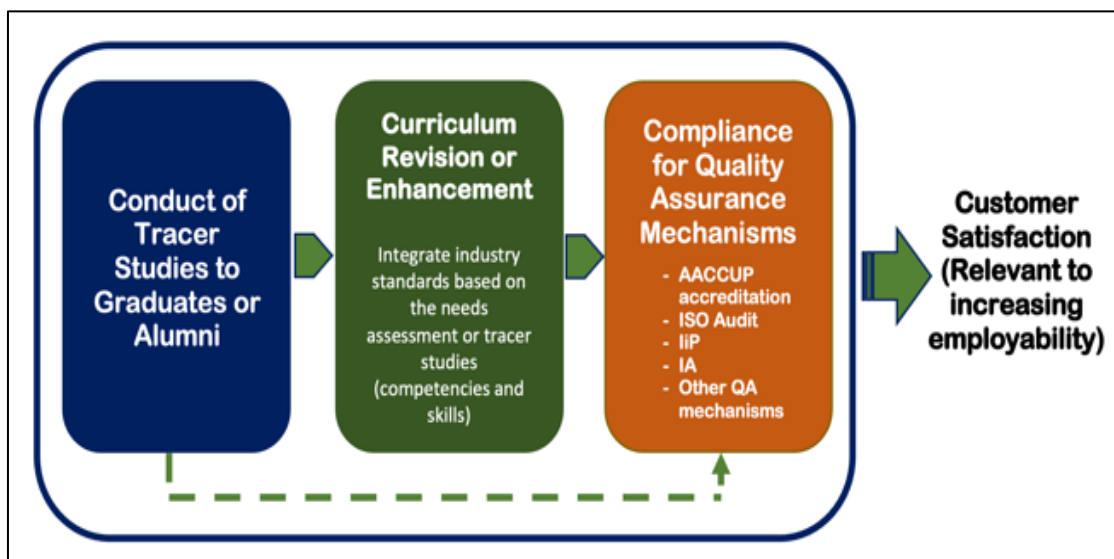


Fig 2. Framework Model for the Use of Tracer Studies in Quality Assurance of an Institution

The framework starts with the conduct of tracer studies to graduates or alumni. The framework in figure 1 will be utilized on the process of conducting tracer studies. After which, the results or feedback of tracer studies will be used for curriculum revision or enhancement. In this part, the competencies and skills and other recommendations from alumni can be integrated to the curriculum enhancement based on the industry or labor market standards. Then, the content and context of the curricula or academic programs will be anticipated to be relevant and dynamic and in conformity to industry needs as well as to accrediting bodies. The results of the tracer studies particularly the employability rate obtained will also be used as one of the essential documents for the quality assurance mechanisms evaluation process. As a result, customer satisfaction and quality assurance will certainly be achieved. Employability

rate will be increased since it is one of the top-quality objectives of PSU.

In addition, the framework model design will help PSU as well as other institutions worldwide to provide support in the process of quality assurance initiatives, improving the performance, services and quality of education along with the different degree programs through enhancing the program curricula. Further, it serves as a reference model to understand the processes and ensures that the targeted goal is accomplished efficiently and effectively as its primary purpose.

v. conclusion

The systematic literature reviews concluded that many studies gave premium on the premise that tracer studies were mainly used for the enhancement of the curricula of the degree programs meeting the needs or demands of the industries. Other studies used tracer studies for accreditations and for the improvement of the services leading to the quality assurance of institutions.

The designed framework model was crafted for clearer visualization of the usefulness of tracer studies which is not presented in the reviewed studies or literatures. The primary purpose of tracer studies was illustrated in the framework ensuring the quality of education and services by increasing the employability rate of PSU. Thus, implementing the framework model will help sustain the UN Development Goal No.8 (decent work and economic growth) likewise usable in ensuring the quality of education.

It is recommended that other HEIs use the newly designed framework to have a clearer and better path on the use of tracer studies in support with the processes on achieving and ensuring the quality of education effectively with the focus on curriculum enhancement.

References

- Zahra M.B. (2019). *The Importance of Knowledge, Skills and Abilities*. <https://surgeadvisory.com/development/the-importance-of-knowledge-skills-and-abilities/>
- Eaton, J. (2009). *Accreditation in the United States*. https://www.researchgate.net/publication/230252695_Accreditation_in_the_United_States
- CMO No.1, s. 2005. *Revised Policies and Guidelines on Voluntary Accreditation in Aid of Quality and Excellence in Higher Education*. <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.01-s2005.pdf>.
- Kumar P., Shukla B., Passey D. (2021). *Impact of Accreditation on Quality and Excellence of Higher Education Institutions*. https://www.researchgate.net/publication/350108789_Impact_of_Accreditation_on_Quality_and_Excellence_of_Higher_Education_Institutions
- Dotong, C. I., Chavez, N. H., Camello, N. C., De Castro, E. L., Prenda, M. T. B., & Laguador, J. M. (2016). *Tracer Study of Engineering Graduates of One Higher Education Institution In The Philippines For Academic Year 2009-2012*. *European Journal of Engineering and Technology* Vol, 4(4), 26-39
- Quinto L., Posada. A. (2020). *Tracer Study among Medical Technology Graduates of LPU-St. Cabrini School of Health Sciences, Inc.* *LPU-Laguna Journal of Multidisciplinary Research* Vol. 4 No. 1 .https://lpulaguna.edu.ph/wp-content/uploads/2021/09/5.-Quinto-Posada_GTS-

- Medtech.pdf?fbclid=IwAR3SFKRL74W00fKt6e5nvjci8CpXcEbctsch0D9Ek1Xlbc
hLu3dNZ1L_GiA
- CMO No.46, s. 2012. *Policy-Standard to Enhance Quality Assurance (QA) in Philippine Higher Education Through an Outcomes-Based and Typology-Based QA*. <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.46-s2012.pdf>
- Schomburg H. and Ulrich T. (2011). *Employability and Mobility of Bachelor Graduates in Europe: Key Results of the Bologna Process*. Netherlands: Sense Publishers
- Cuadra L., Aure, M.R.K., & Gonzaga, G. (2019). *The Use of Tracer Study in Improving Undergraduate Programs in the University*. https://www.researchgate.net/publication/335429907_The_Use_of_Tracer_Study_in_Improving_Undergraduate_Programs_in_the_University
- Refnaldi, R. & Arianto MA. (2017). *The Voices of Alumni in Curriculum Development: A Step to Meet the Standards of the ASEAN University Network Quality Assurance (AUN-QA)*. http://ejournal.unp.ac.id/index.php/linguadidaktika/article/view/8092?fbclid=IwAR2agKN_vz6uPGAKlfDEg3qO11ofavgrn94agLffTywV2WCvyS2pObffQu0
- Plata I. (2020). *Connecting with the Graduates: An Online Employability Graduate Tracer Study (O-EGTS) of Isabela State University*. https://www.researchgate.net/profile/Irma-Plata-2/publication/341980945_Connecting_With_The_Graduates_An_Online_Employability_Graduate_Tracer_Study_O-EGTS_Of_Isabela_State_University/links/5edc2868299bf1c6_7d4aca62/Connecting-With-The-Graduates-An-Online-Employability-Graduate-Tracer-Study-O-EGTS-Of-Isabela-State-University.pdf
- Caingcoy, M. (2022). *Scoping Review on Employability Skills of Teacher Education Graduates in the Philippines: A Framework for Curriculum Enhancement*. <http://www.journals.aiac.org.au/index.php/IJELS/article/view/6953>
- Williams & Adams (2018). *Quality in Education*
- Masembe, C.S. & Nakabugo, M.G. (2004). *Quality Assurance in Curriculum Development*. <https://web.archive.org/web/20180430010100id/http://ahero.uwc.ac.za/index.php?module=cshe&action=downloadfile&fileid=81806115511821580815495>
- Viriansky Z.Y. and Raychuk Y.A. (2015). *Quality assurance in education at the stage of curriculum development*, 2015 IV Forum Strategic Partnership of Universities and Enterprises of Hi-Tech Branches (Science. Education. Innovations), 2015, pp. 86-87, doi: 10.1109/IVForum.2015.7388262.
- Dewey, A. & Drahota, A. (2016). *Introduction to systematic reviews: online learning module Cochrane Training*. <https://training.cochrane.org/interactivelearning/module-1-introduction-conducting-systematic-reviews>
- Sitepu, I.V. (2021). *Experiences and Results of the Utilisation of Tracer Studies in the Curriculum Development in Indonesia*. http://repository.uki.ac.id/1824/1/Unpublished_%20Exlima%203%20Experiences%20and%20Results%20of%20the%20%20Utilisation%20of%20Curriculum%20Development.pdf
- Toquero, C.M. & Ulanday, D.M. (2021). *University Graduates' Assessment of the Relevance of the Curriculum to the Labor Market in the Philippines*. <https://pdfs.semanticscholar.org/bf3a/c8750502a283f5a39df158daa287d2e09477.pdf>
- Romadlon, F.N. & Arfin, M. (2021). *Improving Graduate Profiles Through Tracer Studies at University*. DOI: 10.18502/kss.v5i7.9317. <https://knepublishing.com/index.php/KnE-Social/article/view/9317/15601#toc>
- Kiiza, S., Egesah, O., & Enyipu, B. (2020). *Methodological Experiences and Important*

- Graduate Tracer Study Results for Quality Enhancement at Uganda Christian University.* African Multidisciplinary Journal of Research. <http://41.89.51.177/index.php/test/article/view/131>
- Albina, A. C. and Sumagaysay, L.P. (2020). *Employability tracer study of Information Technology Education graduates from a state university in the Philippines.* <https://www.sciencedirect.com/science/article/pii/S2590291120300449>
- Kalaw, M.T. (2019). *Tracer Study of Bachelor of Science in Mathematics.* <https://eric.ed.gov/?id=EJ1232301>
- Siraye Z., Abebe, T., Melese, M & Wale, T. (2018). *A tracer study on employability of business and economics graduates at Bahir Dar University.* https://www.researchgate.net/profile/Zelege-Asnakew/publication/330365596_A_tracer_study_on_employability_of_business_and_economics_graduates_at_Bahir_Dar_University/links/5c3c9564299bf12be3c73cfb/A-tracer-study-on-employability-of-business-and-economics-graduates-at-Bahir-Dar-University.pdf
- Martin, M. (2018). *Internal Quality Assurance: Enhancing Higher Education Quality and Graduate Employability.* unesco.unesdoc.unesco.org/images/0026/002613/261356e.pdf
- Aquino, A.B., Del Mundo, C.O., & Quizon, G.R. (2015). *Employers' Feedback on the Performance of Teacher Education Graduates.* <http://www.apjmr.com/wp-content/uploads/2015/10/APJMR-2015-3.4.2.10.pdf>
- Tutor, M.V., Orbet, A.C. Jr., & Miraflor, J.M.B (2019). *The 4th Philippine Graduate Tracer Study: Examining Higher Education as Pathway to Employment, Citizenship, and Life Satisfaction from the Learner's Perspective.* <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1926.pdf>
- Maseda, M.R. (2017). *Tracer Studies: Evaluating the Impact of Training Programmes.* https://www.etf.europa.eu/sites/default/files/m/CEDE612F00BFF6B3C12581A600278816_Tracer%20studies.pdf
- Reusia, D.H., Rogayan Jr, D., & Andres, K (2020). *Science Education Graduates of a State University from 2008-2018: A Tracer Study.* <https://po.pnuresearchportal.org/ejournal/index.php/normallights/article/view/1496>
- Badiru, E.O. and Wahome, M. (2016). *Conducting Graduate Tracer Studies for Quality Assurance in East African Universities: A Focus on Graduate Students Voices on Quality Culture.* <https://files.eric.ed.gov/fulltext/EJ1092473.pdf>
- Ganseuer, C. & Pistor, P. (2016). *From Tools to an Internal Quality Assurance System..* https://haqaa2.obsglob.org/wp-content/uploads/2020/11/2017_Ganseuer-Pistor_From-Tools-to-an-Internal-Quality-Assurance-System.pdf
- Njui, H.W.(2018). *Enhancing Quality Education in Universities Through Innovative IQA Tools.* <https://www.oapub.org/edu/index.php/ejes/article/view/1707>
- Dotong, C. I. & Laguador, J.M. (2015). *Philippine Quality Assurance Mechanisms in Higher Education towards Internationalization.* <https://research.lpubatangas.edu.ph/wp-content/uploads/2015/12/SSSH-Philippine-Quality-Assurance-Mechanisms-in-Higher-Education.pdf>
- Schomburg H. (2010). *International Centre for Higher Education Research, University of Kassel, Germany.* <http://ww.absolvent-univ.ro/UserFiles/File/Concept%20and%20Methodology%20of%20Tracer%20Studies%20Harald%20Schomburg.pdf>
- Lesmini, A. (2021). *Senior Project Officer – Corporate Communication at ACER Indonesia.* <https://www.acer.org/au/discover/article/tracer-study-building-employability-for-future-generation>

- Lutkevich B. (2020). *Framework*. <https://www.techtarget.com/whatis/definition/framework#:~:text=In%20general%2C%20a%20framework%20is,the%20structure%20into%20something%20useful>.
- Lyke-Ho-Gland H. (2019). *Frameworks: Driving Value: Why Do Organizations Use Frameworks?*. <https://www.bptrends.com/frameworks-driving-value-why-do-organizations-use-frameworks/>