American Journal of Humanities and Social Sciences Research (AJHSSR) e-ISSN :2378-703X Volume-07, Issue-03, pp-289-295 www.ajhssr.com Research Paper

Open Access

AN ASSESSMENT ON THE VIABILITY OF BASILAN STATE COLLEGE FOR UNIVERSITY

Rachel L. Rodriguez, PhD ; Haipa Abdurahim-Salain, EdD ; Nasser A. Salain, EdD Basilan State College

ABSTRACT : The study was conducted as an assessmenton the status of Basilan State College (BaSC) and its viability for conversion into a university. The normative survey method utilizing documentary analysis of available documents, observations and interviews, as sources of data of this study. The study revealed that: there is a need to secure a CHED COPC for all its program offerings without COPC to qualify for the conversion, the faculty members are qualified in terms of their educational or academic qualifications, the respondents perceived that the Student Affairs Services (SAS) programs is consistent with the vision and mission of the institution, as well as the goals of the College/Academic Unit and Objectives of every program, the Curriculum design are effective, with the increasing publications and engagements in research with our partner institutions, and with the establishment of or Research Agenda and the approval of our IPR Policy and Techno-transfer Policy it is with great assurance that BaSC will continue to utilize 100% of the GAA budget allocated for research and will still need to utilize other funds., laboratories and facilities are available and are adequate including supplies and materials for use. The library is equipped and adequate for use by the faculty and students. However, not all programs are with Certificate of Compliance, so it is urged that it should comply with the requirements, encourage faculty to upgrade their academic qualifications, as well as improve and enhance the delivery of all services and support to the needs of the students.

KEYWORDS: Accrediting agency, conversion, curriculum, viability,

I. INTRODUCTION

Improving the quality of any Higher Education Institution (HEI) is of prime importance to government agencies especially the Commission of Higher Education (CHED). (Conchada, M & Tongco, M., 2015). "Philippine Higher Education is mandated to contribute to building a quality nation capable of transcending the social, political, economic, cultural and ethical issues that constrain the country's human development, productivity and global competitiveness". (CMO 46, s. 2012)."Part of the reforms in education as recommended by the Congressional Commission on Education (EDCOM) in 1992, was the trifocalization of the Education sector into three governing bodies; Department of Education (DepEd) for Basic education, Commission on Higher Education (CHED) for Tertiary Education and Technical Education and Skills Development Authority (TESDA) for technical-vocational or middle level. DepEd supervises the elementary, and secondary education including the Alternative Learning System (ALS) of education, while TESDA formulates strategies and programs geared towards producing highly competent manpower in various areas, industries and institutions. The Commission on Higher Education (CHED) on the other hand, which was created by the Higher Education Act of1994, as the governing body responsible for overseeing the higher education sector. Further, CHED is committed in building the country's human capital and innovation, producing graduates that are equipped with the skills and who are globally competitive and morally upright, thus, becoming a responsible citizen of the country".(Tolentino, 2020; Arcelo, 2003; Corpus, 2003, Conchada, M & Tongco, M., 2015)

The establishment of the K-12 Basic Education Program in 2010, Higher education in the Philippines has experienced a significant expansion over the course of the past 10 years. In 2016 there were 3,590,000 students enrolled in higher educationacross the public and private sector. This represents a 40 per cent growth from 2006-07, but also a 12 per cent drop from the previous year. The number of higher education institutions has also increased over the same time although

less significantly, from 1,710 in 2006 to 1,943 in 2016. (QAA, British Council Philippines)

2023

Statistics also show that there has been an increasing number of higher education institutions (HEIs). From 2018 – 2019 there has been a 3% increase in the number of Higher Education Institutions in the Philippines from 1,906during 2018 to 1,963 in 2019, with a total of 2,353 in 2018 and 2,393 in 2019 including their satellite campuses. These include Public State Universities and Colleges (SUCs), SUCs Satellite Campuses, Local Colleges and Universities (LUCs), Others (include OGS, CSI, Special HEI) as well as Private (Sectarian and Non-Sectarian). Further, as regard State Universities and Colleges (SUCs) there are only 112 in the country. However, data as compiled by the CHED's Office of Planning, Research, and Knowledge Management (OPRKM) Division reveal that there is an uneven distribution of our state colleges and universities among the regions and provinces. For instance, there are only five SUCs in Calabarzon, Cagayan Valley, Central Visayas and Northern Mindanao, In contrast to twelve SUCs in Central Luzon, 11 in Western Visayas and 10 in Eastern Visayas, while only three in Soccsksargen and four in Caraga Region. The favored regions are; Region III (Central Luzon) which has ten, Region IV has thirteen and Region VIII, also has eleven. Region IX has six state colleges and only three universities, the Western Mindanao State University in Zamboanga City, Jose Rizal Memorial State University and the newly created Zamboanga Polytechnic State University. The three others are State Colleges to include Basilan State College.(OPRKM-Knowledge Management Division, 2022)

Basilan Province is an Island Province with 10 municipalities, its vast but unique area and diverse culture provides Basilenos an opportunity to let their children pursue their tertiary education in their own homeland. It is therefore with fervent hope, together with the parents and children that soon a State University shall be established in the Island Province of Basilan to realize the economic security and social mobility which has been the long-waiteddreams of every Basilenos.

Certainly, it is also the hope of Basilan State College constituents to serve its clientele better as it will create more opportunities for global competitiveness. Thus, there is a need for the Government to provide and create wider opportunities for Basilenos to easily access and pursue Higher Education by establishing a State University in the Island, particularly by converting Basilan State College into Basilan State university.

Further, Conchada&Tiongco (2015) emphasized that "Higher education institutions (HEIs) play a vital role in preparing a country to be globallycompetitive through the skilled human capital resources it produces". Therefore, there is a need for all Higher Education Institutions to update their current status to determine its effectiveness in terms of quality.

It is in this context that the researchers realized and conducted this study on the assessment of its status as college and its possibility for the conversion of Basilan State College into a Basilan State University that will foster excellence in Higher Education in the Island Province of Basilan.

Objectives of the Study

The study assessed the status of Basilan State College (BaSC) as a college and its viability for the conversion of the college into a state university.

Conceptual Framework

This study was based on the concept of the Philippine Accreditation. According to the Oxford Business Group (OBG) report, "despite the size of the higher education sector, the quality of instruction remains low, according to the Asian Development Bank (ADB). In professional board examinations, for instance, median pass rates between 2005 and 2015 ranged from 34% to 43%. The ADB also noted a "worrisome preponderance" within both the state and private sector of institutions with a pass rate of zero, "indicative of a large number of low-quality higher education institutions."CHED has instituted a vertical/horizontal typology approach to assess the quality of higher educational institutions,"

The government through the Presidential Commission on Educational Reform (PCER 2000) mandated the Commission on Higher Education (CHED) to take a stronger hand in the accreditation process and consider shifting from pure voluntary to prescribed accreditation for quality assurance, as it specifically required the provision of incentives. (Campiseño, 2010).

Universities contribute to nation building by providing highly specialized educational experiences to train experts in the various technical and disciplinal areas and by emphasizing the development of new knowledge and skills through research and development. Universities contribute to nation building by producing experts, knowledge, and technological innovation that can be resources for long-term development process in a globalized context. (Quitoras,& Abuso,2021)

The following operational criteria should guide the HEI as to which data it needs to prepare in order to be typed as university.

- 1. The presence of graduate students manifests the training of experts, who will be involved in professional practice and/or discovery of new knowledge.
- 2. Academic degree programs should be comprehensive and manifest the pursuit of new knowledge.
- 3. There are at least twenty (20) active academic degree programs with enrollees, at least six of which is at the graduate level.

- 4. There is at least one doctoral program in three different fields of study30 (disciplines or branches of knowledge) with enrollees.
- 5. All graduate programs and at least 50% of baccalaureate programs require the submission of a thesis/project/or research papers.
- 6. There should be a core of permanent faculty members. All full-time permanent faculty members and researchers have the relevant degrees as required by CHED. ... All faculty members teaching in the doctoral programs has doctoral degrees. All other faculty should have the relevant degrees, professional licenses (for licensed programs), and/or relevant experience in the subject areas they handle.
- 7. At least thirty (30) full-time faculty members or 20% of all full-time faculty, whichever is higher, are actively involved in research.
- 8. Any one of these conditions: 8.1 Annual research cost expenditure for the past five years is equivalent to at least PhP75,000 x the number of faculty members involved in research31; or 8.2 At least 5% of full-time faculty members engaged in research have patents, articles in refereed journals, or books published by reputable presses in the last ten years32
- 9. Comprehensive learning resources and support structures allow students to explore basic, advanced, and even cutting-edge knowledge in a wide range of field of study/disciplines or professions.
- 10. Links with other research institutions in various parts of the world ensure that the research activities of the university are functioning at the current global standards.
- 11. Outreach activities allow the students, faculty, and research staff to apply the new knowledge they generate to address specific social development problems, broadly defined.

These minimum requirements for universities – particularly the numbers and percentages pertaining to academic degree programs, faculty, and costs – should be reviewed by 2017, to see if these are responsive to the development needs of the country. HEIs recognized as universities before the establishment of CHED or granted such status by the Commission will retain their status unless they choose to be classified differently along the horizontal typology.

Further, in a press statement issued last June 20, 2013, CHED Chairperson Patricia B. Licuanan clarified that "in an effort to rationalize the conversions and align these to the current mandatory requirements of establishing a University, an Omnibus Amendment is included in all these bills which states: the establishment or conversion of the institution into a state college or university, respectively, shall become effective only upon determination and declaration by the commission on higher education, based on the recommendation of a panel of experts, that the institution has complied with the requirements for a university status. the CHED, through its regional office, shall regularly provide technical assistance to the institution and monitor compliance with the requirements of the commission. the CHED shall designate a panel of experts who shall prepare a recommendation to the chairperson of CHED, on whether the institution has substantially complied with the requirements for the grant of university status. The Following Are the Operational Requirements for A University:

- 1. Level III accreditation or equivalent under CHEDpolicies for at least four (4) of its undergraduate programs, one in liberal arts and one in the sciences, and two (2) of its graduate programs;
- 2. Ratio of qualified full-time faculty with requisitedegrees to number of students;
- 3. Adequate library and laboratories;
- 4. Research and development output of practical and commercial application to the community;
- 5. Relevant linkages and outreach programs that are mindful of service to the community; and
- 6. Relevant academic policies, systems and processes.

Specifically, based on CMO No. 46, series 2012 the following areas were covered and to be evaluated for the conversion or to qualify a Higher Education Institution as University: Programs and Enrolment, Faculty Profile, Learning ResourcesandSupport Structures, Research, and Linkages and Outreach Programs.

II. METHODOLOGY

The descriptive and normative methods were used in this study. According to Amiruddin (as cited in Tan, 2018) normative research method is also called as a doctrinal method. Thenormative research method or qualitative research is usuallyknown as a study of documents, which use secondary data as its source, doctrines, regulations, legal theory or official documents, book, reports, and journals. In this research, the researchers used the secondary data which comprised of: official records and other documentary materials of Basilan State College five years back (2017 - 2021) including the data from the preliminary evaluations made by the CHED evaluators as the primary source of data. Data indicating the College status in the past and of the present were determined.

Subjects/Respondents

The respondents of the study for the interview donewere the Deans, and Directors of the off-site campuses of Basilan State College and all the faculty members of the BaSC system. The Deans and Directors were considered because of their experiences in accreditation and most of them are accreditors.

AJHSSR Journal

Sampling Design

Total enumeration was used in this study, since all the Deans and Directors off-site classes of the colleges were qualified respondents of the study.

Data Gathering Procedure

An approval for the conduct of the study was sought from the College President through a letter, after the approval was granted, an approval was also sought through email and letter to the Quality Assurance Office Directorusing filed documents that were evaluated by the accreditors, the College Registrar, the Office of the Admission, Record Section and the Management Information System (MIS) section to use the documents as secondary data, then an observation was conducted as to the compliance of the facilities and equipment, data were also gathered from the respective colleges through the Deans and Directors of Off-site Classes for the interview. All the documents gathered were recorded by the researchers and were analyzed.

Data Analysis

A frequency count, percentage computation and ranking were used to determine the profile of enrollment, curricular offerings and faculty members. The Indicators of the Evaluation Tool from the Regional Quality Assurance Team (RQAT) was also used as basis for the compliance and recommendations.

Programs and Enrolment

III. RESULTS AND DISCUSSION

The College has complied with the required number of degree programs offered (3 doctorates, 3 masters, 15 bachelor's), the evaluating team has noted that some areas of these programs needs to comply with the minimum requirements based on the relevant CHED policies, standards, and guidelines (PSGs).BaSC is currently operating with a total of thirty (30)programs which was submitted for evaluation to the Office of Institutional Quality Assuranceand Governance(OICAG). Out of these thirty programs seventeen (17) programs are with Certificate of Program Compliance (COPC), one of the programs was already evaluated for COPC last October 27-29, 2022. (Waiting for the results), another program is for gradual phase out per BOT Reso. 94-2022, and the rest are currently reviewed by the Local Task force in preparation for its reapplication for COPC.

Faculty Profile

The College operates with a total of 264 teaching personnel from 2017- 2021 of which 31.44 % (n=83) are fulltime permanent; 56.44 % (n=149) are full time contractual; and 12.12 % (n=32) are part-time faculty. Full-time permanent pertains to personnel holding regular teaching posts (plantilla); Full-time contractual on one hand pertains to personnel under Contract of Service (COS) with full teaching load; while part-time as described refers to personnel under Contract of Service (COS) with minimum teaching loads and are generally attached to other agencies. Pursuant to CHED's program evaluation, the College still needs additional full-time permanent teaching personnel to cover the deficiencies of the programs. Relative to this, the College is now on its recruitment phase where paper-screening of potential applicants are conducted; and collaboration with other partner-SUCs through the Adjunct Faculty System is being initiated.

In terms of the faculty, the faculty members of Basilan State College are qualified in terms of their educational or academic qualifications. As of January 31, 2023 the faculty profile of BaSC is a s follows: Of the 87 full time faculty members, 11 or 12.64% are with Doctorate degree holders: Doctor of Education (EdD), Doctor of Public Administration (DPA), Doctor of Philosophy (PhD), 13 or 14.94% are enrolled in the Doctorate Programs with Certificate of academic Requirements, and 22 or 25.29% who have already earned units in the Doctorate programs. Further, 26 or 29.89% are with Master's degree while the rest about 15 or 17% are almost to finish their Master's degree, they were hired due to the dearth in faculty especially in the College of Agriculture and Forestry, as well as in the College of Health Sciences.

For Area III under Curriculum, out of the thirty (30) Programs submitted for evaluation for a Certificate of Program Compliance (COPC) to the Office of Institutional Quality Assurance and Governance (OICAG) Department of the Commission on Higher Education (CHED)Central Office, Philippines, seventeen (17) programs have already COPC, of this 17, seven (7) were revalidated in order to sustain the programs, the Bachelor of Science in Nursing (BSN)program was already evaluated for COPC last October 27-29, 2022, while the Bachelor of Agricultural Technology (BAT) Program is for gradual phase out per BOT Reso. 96-2022. Further eleven (11) programs of the Graduate studies are currently reviewed by the Local Task force in preparation for its reapplication for COPC. However, all documentary requirements are already in place for the compliance.

Learning Resources and Support Structures

In terms of Support to Students, the institution has Student Services Programs and is found competent in the delivery thereof, the respondents perceived that the Student Affairs Services (SAS) programs is consistent with the vision and mission of the institution, as well as the goals of the College/Academic Unit and Objectives of every program. The respondents strongly agree that thefollowing basic services are available and is strengthened

by the Office of the Student Affairs and Services, namely: Student Welfare;Information and Orientation Services;Guidance and Counseling Services; Career and Job Placement services; Student Handbook Development; Student Organizations and Activities;Leadership Training;Student Council/Government; Student Discipline; andStudent Publication/Year Book. The following are the Instructional Student Programs and Services; Scholarship and Financial Assistance (SFA);Food Services;Health and Wellness Services; Safety and Security Services;Multi-faith and Inter-faith Services;Services for Student with Special with Special Needs;Culture and Arts Programs;Sports and Development Programs; and Social and Community Involvement Programs.The OSAS Plans implements, monitors and coordinates programs and services for student welfare and development.

The student support services are composed of College Clinic and other Health Services that/which provides services on medical and dental needs of the students, faculty and school personnel. Manned by a registered nurse together with a medical physician and a dentist. The Office of Admission, selects and admits students in the college to ensure quality education. The College Registrar office serves the students during enrollment and at their entire residency. The office is the record's keeper of the students. The College Library is the reference keeper and provider and serves as the venue for research and reading. The College Canteen is the venue where students, faculty members and college personnel take snacks and dine. This also serves as the store where supplies of students and teachers are available for the office and classroom. The Office of Culture and the Arts generates interest and participation in cultural/artistic activities by designing trainings, workshops, lectures, stage plays, performing school celebrations, participates in competitions, local and national, presents exhibits, concerts, film showings, etc.

The Office of the Guidance and Counselling provides counselling and psychological services, such as psychological testing and personality evaluation such as peer and group counselling, academic advising and life planning, training and etc. The Student Publication. The College Chronicler is the campus paper publisher which provides news and information and related issues in the college of which is manned by student writers and editors together with their adviser. The Testing and Evaluation Center is the center that aids and guidance to students by conducting entrance examination to meet their requirements in their proposed college courses. The Multi-Faith Services. The college tolerates the different faith of students, faculty members and college personnel. They are free to hold religious activities in the campus, provides leadership trainings, provided this will not a humper the academic interests of the students. The College religious organizations are; The Campus Ministry and United Muslim Student Association. The Student Organizations and Activities. Every student organization such as clubs, associations, societies, or any other student group as long as it is related to their needs interests and aspirations is allowed to hold activities and programs in the college. The Supreme Student Council (SSC). This student body organization serves as the mouthpiece of the Studentry. This supreme student government preserves and defend righteously the basic rights of the students, provides leadership trainings and other activities, provides better understanding among students and programs.

Research, Linkages and Outreach Programs

With 83 full-time faculty members and a total of 36 active researchers which is about 41.38% which is compliant to the standard of at least 30 or 25% full-time faculty members are active in research activities. Table 2 also shows the total number of unique Publications for Basilan State College which is equal to 53 publications. This limited number of research outputs and faculty who are proactively committed to R&D activities, are projected to increase this A.Y.2023 onwards with the establishment of the Research & Extension Agenda 2023-2033 and with the sphere of partnership and research collaborations for training and development. As regard the number of patents granted to BaSC, the Research Department has already drafted a proposal to capacitate the faculty members in Patenting and its processes with the approval of the IPR policy and the Techno-Transfer Policy by the BOT.

The Research Expenditure for the last 5 years (2017-2021) showed a decrease allocation in GAA by 60.8% in 2018, and by 63.2 in 2019, this is due to the utilization rate which only about 23.7%, but an increase by 27% in 2020, and 28.68 by 2021 as compared to 2019. As regards research cost expenditures, the last two years (2020-2021) has seen an almost 100% utilization of GAA funds, of which 2021 has already utilized other source allocated for research. With the increasing publications and engagements in research with our partner institutions, and with the establishment of or Research Agenda and the approval of our IPR Policy and Technotransfer Policy it is with great assurance that BaSC will continue to utilize 100% of the GAA budget allocated for research and will still need to utilize other funds.

In terms of Linkages, Basilan State College has engaged in both National and International Research Institutions and Research Organization, the nature of engagement includes: exchange of Research activities, research, and training and development, which has supported all programs of the college in producing research outputs that are in line with the Research Agenda. The linkage has also allowed BaSC to partner or collaborate with local Research institution by participating in the research programs and projects of the said partner research institutions. With the increasing demands for research in Health Sciences and Agriculture, BaSC Research Department will ensure continuous expansion of its Linkages.

Basilan State College anchored its outreach programs mostly on skill development and agricultural technology programs. The communities it serves are characterized to be scarce in skill and proper management of their resources, hence, that becomes the commencing point of curating programs suitable to the needs of the participants. For the year 2021, most of the programs shifted to promotion of agricultural advancement that will aid the beneficiaries to build investment on labor and manpower among them.

Library Resources

The library has an explicit statement of its vision, mission, goals, and objectives in conformity with the institution's VMGO. The library is manned by a full-time licensed head librarian with a master's degree holder in Library and Information Science. The library has an approved and functional Library Advisory Committee and formulates a strategic plan to ensure continuous improvement of programs, resources, and services. The library has only one licensed librarian and eight support staff. For now, the administration has acted on hiring additional three licensed librarians to comply with the standard requirements for the library. The library has a written Collection Development Policy to specify the acquisition strategies, and the ratio of the progressive development of both print and electronic resources to support research and instruction. From the accession record, the library has a total number of 9,600 books to support the different curricula of the College. The library is still lacking references per program, and the administration is doing its best to provide funds for procuring books and e-books to comply with the requirements of 5 relevant titles for each major subject published within the last five years, in a combination of print and non-printed materials. The library proposal is listed in the top 5 priorities in the year 2023 AIP for further expansion to cater to the 15% seating capacity of the student population. The library provides 30 sets of adequate computing devices (computers, tablets) to access electronic resources and annually procures an additional set of computers for the E-Library.

IV. RECOMMENDATIONS

- 1. There is a need to secure a CHED Certificate of Program Compliance (COPC) for all its program offerings including that in the campuses/ "offsites".
- 2. Encourage the faculty to pursue their Doctorate degree (those with master's) or to finish their master's degree, as well as those Part time/ non-tenured faculty to upgrade their educational qualifications in order for them to meet the entry requirement for a permanent status.
- 3. To strengthen the student support structures of BaSC, it is recommended that the College do the following:conduct a support structure needs assessment; developing a framework for the delivery of student services; create a student services delivery plan that covers all campuses.
- 4. The institution must revisit the program's curriculum to conform to the minimum requirements as prescribed in the PSG. Moreover, BaSC must create a program assessment tool and a set of mechanisms for the continuous improvement of the program's curriculum.
- 5. While there are standing partnerships with industry, community, and research institutions, BaSC had limited engagements with third parties to revise and assess the curriculum. Moreover, there is documentation on research collaboration with partners but has no evidence of completed research resulting from the collaboration.

REFERENCES

- [1]. Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP)https://www.eugc.ac.lk/qac/downloads/apqn/Aaccup-Outcomes-Based-Accreditation-Survey-Instrument.pdf
- [2]. Amiruddin, *PengantarMetodePenelitian Hukum*, (Jakarta: Raja Grafindo Press, 2004), pg 118 Brtish Council (QAA)Retrieved from:Feb 2023https://www.qaa.ac.uk/docs/qaa/international/country-report-the-republic-of-thephilippines.pdf?sfvrsn=d7b5fe81_2
- [3]. Campiseño, J. S R (2010). Status of Jose Rizal Memorial State College: Basis for a University ProposalE-International Scientific Research Journal, ISSN: 2094-1749 Volume: 2 Issue: 3, 2010
- [4]. Commission on Higher Education (CHED) Memorandum Oder No. 46, 2012 Policy Standard to Enhance Quality Assurance (QA) in Philippine Higher Education through n Outcomes- Based and Typology-Based QA
- [5]. Conchada, M. &Tiongco, M. (2015) A Review of the Accreditation System for Philippine Higher EducationInstitutions. https://www.researchgate.net/publication/280918280
- [6]. Dotong, CLaguador, J. (2015) Philippine Quality Assurance Mechanisms in Higher Education towardsInternationalization. Retrieved from; https://www.researchgate.net/publication/309041325
- [7]. Manasan, R. G. (2012) Rationalizing National GovernmentSubsidies for State Universities and Colleges

2,

- [8]. OPRKM-Knowledge Management Division, 2022
- [9]. Oxford Business Group (OBG)Education reform in the Philippines aims for better quality and more access Retrieved from: https://oxfordbusinessgroup.com/reports/philippines/2017-report/economy/a-thorough-examination-substantial-reform-has-brought-with-it-a-variety-of-challenges
- [10]. Padua, R.N. International Higher Education Quality Assurance Practices: Situating the Philippine System. Journal of Philippine Higher Education. Vol. 1, No. 1, 2003. ISSN-16558545
- [11]. Preddy, J. et al. (2002) "ADB-PPTA on Normative Financing". (A Technical Report Submitted to CHED, 2002)
- [12]. Quitoras, M. C. L. & Abuso, J. E. (2021). Best Practices of Higher Education Institutions (HEIs) for the Development of Research Culture in the Philippines. Pedagogical Research, 6(1), em0087. https://doi.org/10.29333/pr/9355
- [13]. Tolentino, R., (2020) Sun Star, Pampanga, September 16, 2020 "Impact of the Trifocalization of Philippine Educational System" Retrieved from:https://www.pressreader.com/philippines/sunstarpampanga/20200916/281616717788524March 10, 2023
- [14]. http://www.google.com/search?q=cache:ofbRcY5jascJ:www.mdaszko.comtheoryoftransformat ion_final_to_short_article_apr05.pdf+transformation+theory&hl=en