

The New Human University Study: Structure-Stage Growth in a One Year Transformational Learning Program

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Abstract

This article presents evidence for the efficiency of the PraxisAletheia program at the Chicago based New Human University in promoting structure stage growth in students. It first outlines a narrative underlying the assumption that fostering human stage like development is pivotal for the future of humanity. Following this introductory section Development as Transcendental Pluralism is presented, a novel stage theory and assessment methodology for growth in hierarchical complexity and consciousness that served as main instrument to test the hypothesis that the PraxisAletheia curriculum structured around the work of Dr. Michael Cotton – Source Code Meditation and the 9 Summits of Transformation – promotes growth into later stages of human development. After critically reviewing one of the most widely used tools to measure stage development, the Sentence Completion Test, it presents strong evidence for growth in students at the New Human University. The growth patterns are then compared to other transformational learning programs to underline both that the increase in structure-stage development is profound given that we deal with adult population however, still realistic.

Key words: New Human University Transformational Learning Sentence Completion Test Ego Development Stage Growth

1. Introduction

Throughout the last century the idea that humans grow along a trajectory of various stages or levels of hierarchical complexity that underly their very consciousness and that this growth does not merely stop after adolescence has become prominent – starting with James Mark Baldwin in the first decade of the 20th century and culminating in a true flood of models after the 1960th like Lawrence Kohlberg's *Stage of Moral Judgment*, Jane Loevinger's *Ego Development Theory*, James Fowler's *Stages of Faith*, William Perry's *Forms of Intellectual and Ethical Development in the College Years* and several so called post Piagetian theories of cognitive development extending Jean Piaget's and Bärbel Inhelder's Growth of Logical Thinking from Childhood to Adolescence into Adulthood [1-9].

Accompanying, this stage theory pandemic the quest for an overarching narrative of how stage development functions and what its ultimate purpose and value is dominated the field. The professor of psychology and developer of the *Emergent Cyclical Levels of Existence Theory* Clare W. Graves offered a groundbreaking and prophetic article pondering this question [10]. It was titled *Human Nature Preparing for a Momentous Leap* and

states that “man is learning that values and ways of living which once were good for him at one period in his development are no longer good because of the changed condition of his existence”, wherefore we are approaching a hallmark of development: the movement from failing subsistence levels of existence towards the first level of being, where man becomes able “to stabilize the essential functions of interdependent life” (ibid. p.73) [10]. In recent years integral metatheory has adopted this narrative and speaks, in accordance with Jean Gebser, another narrator of stage development's meaning, of the *Integral View* [11]. According to Ken Wilber, the figurehead of the integral movement, it is a perspective which is “truly holistic, not in New Age woo-woo sense, but because it sees itself as part of a deeply interwoven and interconnected and conscious Kosmos” [12].

Likewise, this transition into a new epoch of humanity is center piecing in the purpose of *The New Human University* (The NHU). The NHU is an educational institution and community that promotes the advancement of the latent, inner organic technologies that are activating the higher human brain and creating new physiology that then manifests as higher stage of consciousness within peoples' interior – as the Integral View. The promotion of vertical

structure stage evolution into new life altitudes is meant to spark a revolution which will culminate in a rebirth of the species as the new human. The promise of a 'New Age' can be harnessed once people reach what Dr. Michal Cotton calls *Epoch 6* [13]. In his book about *Hacking Evolution through Higher Brain Activation* Dr. Cotton describes the entrance into that newly emerging stage of human potential as the place "where the Authentic Self becomes the vehicle of the soul's journey in the world of space and time and matter and manifestation and your soul is enriched by this journey" [13]. Once we have glimpsed that absolute freedom where one deeply knows one's soul "one allows the heart to open for the entire world" (ibid. p.142).

From this place the previously known new age approaches seem profoundly underwhelming as we face the urgent need to transform ourselves genuinely and radically, and live at a new, vertically elevated developmental space to confront the urgent problems humanity is facing now. Or as the integral activist and co-author of integral life practice Terry Patten writes in *a New Republic of the Heart*: "Our challenges call us to a politics of human maturity [14]. This is the revolutionary 'turning' in which wholeness reasserts its primacy over fragmentation and regression". There our most essential political priority is "cultivating, eliciting, and exercising more maturity and wisdom – so it can shape our lives and relationships, and then our public decision making" (ibid. p.216).

The following study looks whether The NHU accomplished the self imposed goal of promoting structure stage development in their students. For this a novel assessment methodology was used that just recently provided first evidence for interrater reliability and convergent validity with Ego development theory and stages of Moral Judgment [15-18]. This novel method will first be presented before the outcomes of the new human university study are presented in comparison to general reports of human growth in transformational learning programs and throughout the life span. We conclude with a discussion of our findings.

2. The Measures of Development as Transcendental Pluralism

Development as Transcendental Pluralism (DTP) is structure stage theory grounded in the transcendental philosophy of Immanuel Kant which resembles the idea of genetic epistemology developed first by Baldwin and then extended by Piaget that there are quasi universal structures that are a prior and give rise to the various objects in our conscious experience as much as they are the basic

structures behind this experience – the source of structure-stage development [19-22].

Besides being a mere speculative conception of the human condition as multilayered the outline of DTP provides the metrics and measures to assess structure stages of human development. The measurement of our developmental with DTP is based on the idea that the transcendental structures in us give birth to a *universal grammar*, epistemes which are according to Noam Chomsky "necessary and sufficient conditions [...] are not accidentally true [...], but that are rather rooted in the human 'language capacity,' and thus constitute the innate organization [...] of this experience" [23].

The universal grammar of each sentence then conveys three basic sets of information that allow a stage judgment. First, each clause includes a certain number of subclauses (i.e., rhemes) that are subsumed or coordinated with one or more matrix clauses (i.e., themes) so that each stage has their unique signature impregnated in textuality, which we call the *thematic-rhematic field*. The measures primarily distinguish four spheres of con-sciousness referenced as firstness, secondness, thirdness, and fourthness. They are so called tiers where successive stages and operations are ordered in layers of stages that restate the same topics with increasing degrees of complexity and with objects specific to each layer [7]. Each of these spheres of consciousness contains four stages, which again can be referenced as first, second, third, and fourth. The interplay of layers and stages generates the unique signature of a stage within the thematic-rhematic field.

Second, each stage has two primary and distinct expressions. There is a typological difference between what we call *outside-view* and *inside-view* manifestations of each stage, a distinction that basically correlates with the duality between Perceiving and Judging in the *Myers Briggs Type Indicator* as described by Isabelle Briggs Myers and colleagues [24]. In order to recognize the layer and stage of an utterance a DTP scorer uses structural diagrams that are schematic restatements of the respective thematic-rhematic field of a stage, the combination of a prior transcendental structures as expressed by the two distinct types. Therefore, each Stage then has two structural diagrams, one for the outside and one for the inside-view. Figure 1 shows examples of these structural diagrams for both the outside and the inside-views of the second and third stage within the third sphere of consciousness – so called thirdness.

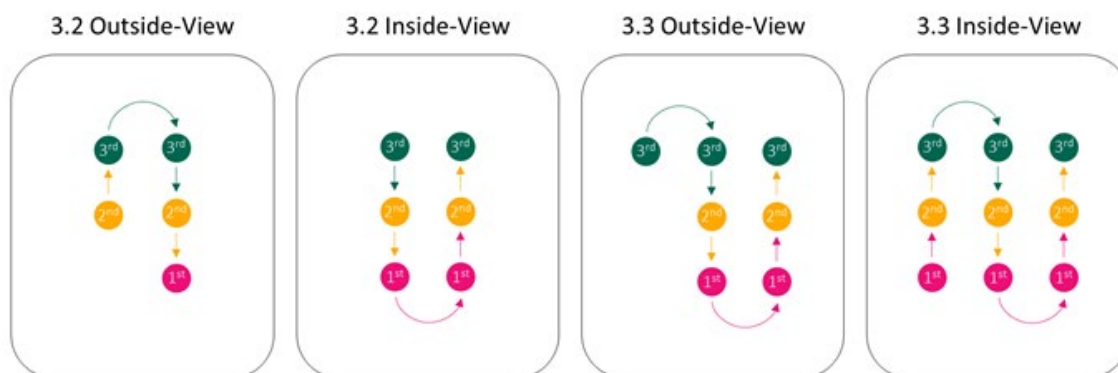


Figure 1: Structural diagrams for the outside- and inside-view at the second and third stage within thirdness

Third each stage can be subdivided into four quarters by investigating the so called symbolic-syntactic field of a clause. Heinz Werner and Bernard Kaplan say that in the *symbolic-syntactic field*, “language establishes its symbolic field by formal syntactical rules; with symbolic units (words) one uses the symbolic field to build up substructures (sentences) which serve to represent referential reality – in some way ‘corresponding’ to this reality” (ibid. p.57) [25]. The meaningful combinations

subject, predicate, object modifications, the so called syntax are then judged by a sequence of grammars that is cross culturally applicable and systematic. Systematic in this context means that certain grammars are necessary prerequisites for another type of grammar to arise so that they build a universal hierarchy that can be used as measure. This hierarchy has been pointed to by various linguistics especially Barry J. Blake in Case and William Croft in *Universals and Typology* [26,27].

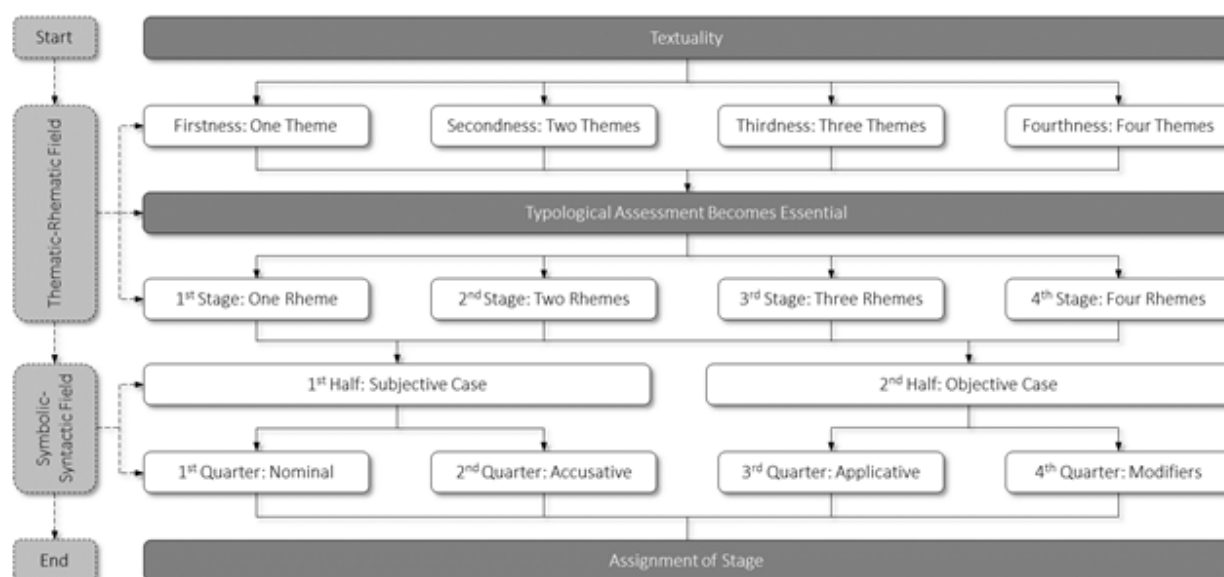


Figure 2: Diagram of the assessment procedure with the measures of development as transcendental pluralism

3. The New Human University Study

The following section includes the formal investigation of students at *The New Human University* (The NHU), a Chicago based online academy dedicated to teaching and researching *Source Code Meditation* and the *9 Summits of Transformation*, a contemporary mystical and wisdom practice developed by Dr. Michael Cotton [13]. It will look whether the curriculum and practices do justice

to one of its main purposes, namely, to promote growth into later structure stages of consciousness.

Source Code Meditation and the 9 Summits of Transformation is an integrally informed system of body-mind-spirit practices which rely on a "brain-first" method of activating advanced, emergent functions of the body and brain before engaging in transformational,

meditative practices. *PraxisAletheia* (PA) is a tuition based, Year long course of study that leverages both standard and advanced practices developed by Dr. Cotton and the Director of Education at the NHU, Steven Giron PhD.

During their year of study, students complete reading assignments, submit essays, review video practice instructions, engage in weekly live online teachings and catalyzer groups, and participate in a week long, in person gathering called *Unitary Evolutionary Enlightenment Week*. Potential students of PA are informed through a website and webinar of *PraxisAletheia*'s three pillars: First, *Integral Metatheory*, largely as depicted by Ken Wilber, second, learning about and practicing Source Code Meditation and the 9 Summits of Transformation, and third, Unitary Evolutionary Enlightenment Week [28].

People interested are first subjected to a 45-minute interview, during which they agree to actively participate in the program. Students who commit by signing the agreement and paying the tuition are added to a private Facebook group where during the year long course of study, they complete certain portions of the writing assignments and build their we space.

Failure to meet the commitments to perform the weekly assignments leads to a shift into self study that is, the person is removed from the online forum as much as live meetings and catalyzer calls and restricted to work with recordings in the online learning system in a self paced manner.

3.1 Method

The pre- and post-assessments employed at the New Human University Study included 24-item sentence completion tests. The sentence completion test in the tradition of the *Washington University* form developed by Jane Loevinger and Ruth Wessler (1970) was our choice since it serves the comparability with one of the most widely applied and robust tests and recently updated instruments to assess human stage like growth in adulthood [29-31]. The sentence completion tests ask participants to complete sentence stems like "A good boss...", "People who step out of line...", or "My conscience bothers me if..." where the response can be assessed using the measures of Development as Transcendental Pluralism.

The students responded to the same completions at the first and second test-period – the first time occurring within three months before the program's start and the second within a month after finishing. The sentence completion tests used an optimal level instruction based on Martine Drewes' and Michiel Westenberg's(2001) research that shows an increase of expressed developmental stage through asking for mature responses. Additionally, the pretest sentence completion outcomes were compared with the first few weekly essays students had to write throughout the course of the program, including prompts related to moral dilemmas, where students had to think about the

interrelationship of human development with the balance between the individual and collective in group process, society, and the cosmos.

The twenty-two students who finished both the pre- and post-assessment comprised fourteen women and eight men. The women's average age was 57, with the youngest being 37 and the oldest 79; the men's average age was 46 years, with the youngest being 26 and the oldest 67. The educational level in both groups spanned from no college degree through post doctoral study.

Ten of the twenty-two post-tests were part of an interrater study and most other pre- and post-test sentence completions, moral dilemma prompts, and several of their essays were used as training material throughout *Sensitivity through Precision*, the sixteen months scoring training program for assessing the stage trajectory of DTP [15]. Therefore, though not systematically, on any of the post assessments and most of the pre assessments the co-author and author generated interrater agreement through discussing the differences in stage scores, whether they served as training material or were part of the interrater study depicted earlier.

In order to check whether the pre- and post-test showed significant changes we performed a *Wilcoxon signed rank test*, a statistical hypothesis test to compare two related groups with each other (Whitley & Ball 2002). Too, Cronbach's alpha was utilized in the following section on the usability of the sentence completion test [32]. Cronbach's alpha, according to Cronbach is "the mean of all possible split half coefficients", which explicates a lower boundary for coefficients of equivalence obtained by simultaneous administration of one and the same test by two persons or different tests [33].

3.2 Problems with the Sentence Completion Test

During the research at the NHU the sentence completion test turned out to be non-representative when people had no conceptual knowledge of sentence completion. The transformational learning program at the NHU, called *PraxisAletheia* (PA), in its first year (2021) was populated by long-term students of Dr. Michael Cotton; these students were proficient when it came to developmental psychology and what it takes to get a late score in the sentence completion test e.g., to express one's complexity. Those who finally graduated were compared in their structural stage performance across various instruments and contexts involving assessments of their weekly essays, their communication in a Facebook forum, and finally their writing related to a moral dilemma prompt. Only a few of them expressed large discrepancies between their normal textual performance and the sentence completion test. However, when performing developmental assessments on a small sample of students for PA in its second year (2022), twelve women with an average age of 57 years and four men with an average age of 58, students who in large part have never been exposed to the idea of measuring structure stage development and the sentence completion test before – how to approach it and what exactly it

measures – 50 percent of the sentence completion tests were off for at least one quarter of a stage. Further-more, 25 percent of the sentence completion tests were three or more quarters apart from regular textual performance, with one being ten quarters of a stage apart (i.e., more than two stages). This discrepancy was observed irrespective of utilizing the optimal level instructions provided by Drewes and Westenberg [34].

	2.4.3.	2.4.4.	3.1.1.	3.1.2.	3.1.3.	3.1.4.	3.2.1.	3.2.2.	3.2.3.	3.2.4.	3.3.1.	3.3.2.	3.3.3.	3.3.4.
Sentence Completion Test	1	0	2	1	4	7	0	1	0	0	0	0	0	0
Textual Performance	0	0	0	0	4	6	3	2	0	0	0	0	1	0

Table 1: Comparison between sentence completion test performance and regular textual expressions

The Cronbach’s alpha between sentence completion test and textual performance indicates a correlation of -0.16. A Wilcoxon signedrank test allows to reject the hypothesis that the two samples are related at a significance level of 0.0010.

Table 2 shows the person from PA 2022 where the deviation between sentence completion test and their essay and Facebook performance made up for two and a half stages. The difference is immediately noticeable.

	Textual Example	Structural Stage Diagram
Sentence Completion	<p>[1st Theme [1st Rheme When people are helpless...] [2nd Rheme they should seek help] [3rd Rheme and not wallow in misery]]</p>	<p>3.1.1 Outside-View</p>
Regular Expression	<p>[1st Theme: Thirdness You are now charged with the responsibility of growing into the “capacity of the Divine”] [2nd Theme: Secondness [1st Rheme: Thirdness and being an agent for the very evolutionary process that created you,] [2nd Rheme: Secondness by awakening your inner organic technology that will upgrade your physiology] [3rd Theme: Firstness resulting in higher energy levels of your body, highly evolved brain waves and a change in where the blood flow and metabolism is occurring in your brain]] [3rd Theme [1st Rheme: Firstness thus allowing you to metamorphosize into a New Human] [2nd Rheme: Secondness with a higher brain, a higher heart and a Meta-Mind access through a higher consciousness] [3rd Rheme: Thirdness to allow you to move into Epoch 6 and to change the world.]]</p>	<p>3.3.3 Outside View</p>

Table 2: Exemplary comparison between sentence completion test performance and regular textual expression person one

The sentence completion test if used as the sole benchmark to determine a person’s stage development thus seems highly insufficient and error prone. Already King and Kitchner (position 2552) stated that their comparative study on moral development, reflective judgment, and ego development “raises serious questions about the usefulness of this measure, the WUSCT, to assess development with comparable samples of adults [9].” King and Kitchner reasoned that reflective judgment develops independently of ego development and therefore one cannot

assume that training reflective thinking will cause more evolved conceptions of one’s self. However, as our correlation analysis with Hy’s and Loevinger’s manual shows, there is a high correlation between ego maturity and hierarchical complexity and integration as measured by the means of transcendental pluralism [16]. This implicates that other measures of cognitive development should be directly reflected in Loevinger’s stages as well unless there are methodological flaws.

On the one hand, this finding has implications for validation studies of transformational learning programs. Outcomes that show one or more stages increase in ego development following a 45-hour training, like Daniel and colleagues, when compared to leadership trainings researched by Lectica, Inc. seem unrealistic, given that with similar time intensity the best case scenario is slightly above one quarter of a stage growth – irrespective of the variance in stage width, where one lectical level is broader than one ego development stage, the reported changes might be due to priming participants towards responding more accurately; that is, representative of their actual hierarchical complexity and ego stage that was already available at the beginning of the training though not expressed [35,36].

On the other hand, this possible unreliability of the sentence stem based assessment becomes much problematic when the sentence completion test is used for job interviews and in change programs that decide the future of employees.

Both attempts to measure ego development through interviews as well as to establish correlation with moral judgment tests demonstrate that a more holistic assessment of participants in transformational learning programs can be handled even when applying the manual based and contextually restricted sentence completion test for measuring ego development [37,38]. Additionally, Bill Torbert's and his associates' Action Inquiry seems a useful research approach to counteract the shortcomings of a radically third person, objectifying approach towards assessing stage development [39].

3.3 Results

Two types of analysis were done: First, we generated so called Item Sum Scores from the sentence completion test; second, we looked at the total growth in terms of a protocol rating based on the leading edge quarters of a structural stage within the scheme of transcendental pluralism, including transitional periods between each stage. Within the second analysis for students' actual stage, we included not only the sentence completion test but also relied upon their other written assignments.

3.3.1 Comparison of Item Sum Scores

The Item Sum Score is a technique used in ego development to allow a direct comparison of different or succeeding sentence completion tests beyond a comparison of differences or successions within the total protocol rating, i.e., the developmental center of gravity a person inhabits [16]. To calculate the sum score each of the individual values in an assessment are summated into an overall value, where single values are weighted according to their developmental stage: e.g., two times E4 equals an item sum score of $2 \times 4 = 8$. To be comparable to the ego development tradition, the TP stages were merely valued according to the approximate correlation with pre- and postautonomous ego development matching each stage of ego maturity with two quarters of one of our structure stages, evening out the lack of accurate correspondence between ego development and DTP at the upper end of the postautonomous stages. In order to give credit to the intermediate phases, each quarter from the E4 Conformist stage on gets an additional 0.5 score attributed. Within the earlier stages, starting with the 2.1 Stage with the item score 1 and the 2.2 Stage with the item score 2, each quarter has a 0.25 higher score.

	2.2.1.	2.3.1.	2.3.4.	2.4.1.	2.4.2.	2.4.3.	2.4.4.	3.1.1.	3.1.2.	3.1.3.	3.1.4.	3.2.1.	3.2.2.	3.2.3.	3.2.4.	3.3.1.
	E2 Impulsive	E3 Opportunist	E4 Conformist		E5 Expert		E6 Conscientious		E7 Individualist		E8 Autonomous		C9 Integrated		C10 Unitive	
Item	2	3	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	...

Table 3: Item Scores for the trajectory of transcendental pluralism following Hy & Loevinger and Cook-Greuter [16,17]

Overall, only three students showed a lower item sum score than at the start of PraxisAletheia, and one participant neither increased nor decreased. One of the decreases was due to an Item Sum Paradox: The student was moving into the 1st half of a new stage, and such a movement in some persons leads to increasing numbers of responses at the 1st or 2nd quarter at the earlier stages – by this the few leading edge responses can't compensate for the decrease in item scores, due to responding two or three quarters earlier at the previous stages. Thus, an increase or decrease of the item sum score is not necessarily representative of growth within a person.

The average increase of the item sum score was 19 points. The Wilcoxon signed rank test allows us to reject the hypothesis that the two samples are related below a significance level of 0.0005. This suggests significant growth in the overall population in the program.

For comparison: Thomas Binder, in his study on ego development and coaching, looked at participants of a coaching training that lasted 1.5 years and compared their growth to that of MBA students [40]. Both cohorts, the coaches and the master's degree students showed no significant change in their item sum score. The changes throughout the NHU program, however, match the growth of a block and block longitudinal study conducted by Michiel Westenberg and Per Gjerde, examining a nine-year interval from age 14 to 23 in which girls and boys were assessed for their stage growth from adolescence to early adulthood [41]. In Table 16 we compare the outcomes in terms of item sum score changes. Please note that the item sum score, the standard deviation, and the mean growth has been corrected to estimate a 36-item inventory assessment as it was performed by Binder and Westenberg and Gjerde [14,40,42].

	NHU Study		Binder (2014)				Westenberg & Gjerde (1999)	
Group	PA Students		MBA Students		Coaches		Adolescents	
Time	1 Year		1.5 Years				9 years	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Pre	222.40	41.46	194.20	10.88	199.20	14.16	151.92	12.10
Post	250.92	43.76	192.80	17.65	201.64	17.69	180.08	15.63
Change	28.51		-1.4		2.44		28.16	

Table 4: Comparison of changes in Item Sum Scores in the NHU Study with other samples

The fourteen women, corrected towards a 36-item test, indicated an average growth of 35.46 points, whereas the eight men indicated an average growth of 16.35 points. Similarly, Westenberg et al. report a larger growth for girls into early adulthood with 31.89 points changes in item sum scores, while boys on average increased their item sum score for 24.02 points. Interestingly the item sum increases of the NHU students in their 50s and beyond, again much more women, was with 30.59 higher than that of the younger NHU population with 24.89, if corrected to 36-item inventory estimates. This contradicts the general intuition that younger people are generally growing faster. Sadly, studies on adult ego development in the past have predominantly focused on college students and therefore no specific comparison for the second half of life is possible [42].

3.3.2 Comparison of Structural Stage Changes

To analyze the growth in terms of students' center of gravity we had

to control the sentence completion assessments by reviewing their other written material. Even though three students, one woman and two men, showed a regression in their sentence completion protocol rating none of them showed regression when it came to an analysis of their early program essay production and late program essay production and moral dilemma responses.

The person in Table 17 was one of the three participants who indicated regression in their sentence completion test with respect to their initial one; however, this subject showed slight progress in their essay performance. It demonstrates that some people though knowledgeable in the domain still underperform dramatically in research studies with the sentence completion test. This finding further suggests that an isolated stage judgment via the sentence completion test may not be a proper scientific choice. The person shows a difference of one and a half stages between their final sentence completion test and their final essay in the program.

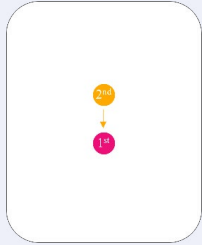
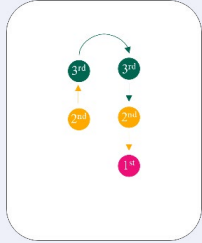
	Textual Example	Structural Stage Diagram
Sentence Completion	<p>[1st Theme: Secondness People who are aligned with intuition...]</p> <p>[2nd Theme: Firstness make better decisions for themselves.]</p>	<p>2.4.4 Outside-View</p> 
Regular Expression	<p>[1st Theme: Firstness [1st Rheme: Firstness If more people were aware of their stages of development,] [2nd Rheme: Secondness learn about how we function as human beings] [3rd Rheme: Thirdness and how we filter the world and make meaning from our past experiences,]] [2nd Theme: Secondness [1st Rheme: Thirdness they would be able to better understand the complexities of the 21st century life] [2nd Rheme: Secondness and at the same time learn how to better deal with those challenges.]]</p>	<p>3.2.2 to 3.2.3 Outside-View</p> 

Table 5: Exemplary comparison between sentence completion test performance and regular textual expression person two

The average growth after correction through a holistic textual analysis within PA2021 students were 1.5 quarters of a stage. In contrast to the increase in item sum scores, men showed higher levels of growth with 1.9 quarters of a stage average compared with women, who showed 1.4 quarters of a stage, with two women being the only ones without any signs of stage growth. The recognition that in both groups, men and women, the item sum increase did not directly match their stage growth might in part be due to age differences in both groups; that is, the participants up to age fifty showed on average 1.75 quarters growth and those above fifty showed 1.42 quarters, with women in the program on average being older. Simultaneously this result matches Westenberg's and Gjerde's insight that increases in item sum scores do not necessarily equate to growth in structure stages, since the growth difference between male and female participants in their nine year study showed, irrespective of the difference in average item sum increases, a significant gender difference observed only for the individuals who were at the *E3 Opportunist* stage at age 14 [41]. Moreover, although the item sum score growth in Westenberg's

and Gjerde's sample was close to that of PA students the structure stage growth in their study's participants on average was greater [41]. While 1.5 quarters within the trajectory of transcendental pluralism approximately equate the movement from one ego stage to the next slightly above 40 percent of adolescents showed a progress of two ego levels, seven participants of three ego levels, and two of four ego levels.

Binder's study showed that ten MBA students grew for one stage, seven from *E5 Self Aware* to *E6 Conscientious*, and two from *E6 Conscientious* to *E7 Individualist* while three coaches showed growth from *E5 Self Aware* to *E6 Conscientious*, two from *E6 Conscientious* to *E7 Individualist* and 1 from *E7 Individualist* to *E8 Autonomous* [40]. Thus, 25.7 percent of the MBA students and 14 percent of the coaches did show one stage of growth in ego development compared to a 63 percent estimate of PA students. Table 18 shows the comparison with Binder's study and the translation of TP stages into ego development approximation [39].

		NHU Study			Binder (2014)			
		PA Students			MBA Students		Coaches	
Ego Development	Stages of TP	Pre	Post		Pre	Post	Pre	Post
<i>E5</i> Self-Aware	2.4.3.	0	0	-0	14	-7	9	-3
	2.4.4.	0	0					
<i>E6</i> Conscientious	Transition to 3.1	0	0	-0	20	-2 +7	28	-2 +3
	3.1.1.	0	0					
<i>E7</i> Individualist	3.1.2.	1	0					
	3.1.3.	5	2	-3	1	+2	7	-1 +2
<i>E8</i> Autonomous	3.1.4.	4	2	-4				
	Transition to 3.2	1	2	+3	0	+0	0	+1
<i>C9</i> Construct-Aware	3.2.1.	3	3	-6				
	3.2.2.	5	3	+5				
	3.2.3.	1	5					
	3.2.4.	1	3					

C10 Unitive	Transition to 3.3	1	1	+6
	3.3.1.	0	0	
	3.3.2.	0	1	
	3.3.3.	0	0	
	3.3.4.	0	0	

Table 6: PraxisAletheia growth patterns translated into ego development in comparison

Another study that seems noteworthy, though some of the individual changes seem highly suspect, is *Pacific Integral's* research on enacting integral containers, authored by Geoff Fitch, Venita Ramirez, and Terri O'Fallon [31]. Suspect because single participants showed a change of up to three stages in their post-tests which likely is due to problems with the sentence completion method as sole measure issued above. But their overall conclusion namely, that most of their *Generate Transformative Change* programs (GTC) "indicated a one-level increase for the group, as measured by the average of score of the individuals" with GTC 3 moving from *E7 Individualist* to *E8 Autonomous*, GTC 4 moving from *E7 Individualist* to *E8 Autonomous*, and GTC 5 moving from *E6 Achiever* to *E7 Individualist* seems aligned with the class of PA 2021, which one could collectively attribute a shift from either *E7 Individualist* to *E8 Autonomous*, *E8 Autonomous* to *C9 Construct Aware* or from *C9 Construct Aware* to *C10 Unitive* with very few outliers. This can be taken as a sign that DTP assessments applied at the New Human University did not overestimate the growth in students [31].

4. Discussion

The New Human University Study first revealed that *Source Code Meditation* and the 9 *Summits of Transformation* as inbuilt in the broader educational context of The NHU impact human structure stage development positively. Besides that, it revealed how important a holistic, polycontextural approach is for assessing structural stages of human development. The sentence completion test alone cannot provide an accurate measure of growth from pre to post program developmental stages.

The outcomes on overall development as measured through item sum scores were highly significant, based on the Wilcoxon signed-rank test. Interestingly the growth depicted in overall item sum score changes of PA 2021 students was very similar to that of teenagers growing into early adulthood, with the average item sum increase of those beyond their fifties being even higher than that within early adulthood.

The estimated comparison in center of gravity increases with studies on ego development suggest changes that match the leading edge of plausibly depicted structure stage growth as

presented by Fitch, Ramirez, and O'Fallon [31]. That our outcomes are realistic can be seen by a comparison with Lectica, Inc. [36]. They depict an average of personal growth measured with the lectical assessment system under two scenarios: first, in programs specifically created to increase lectical scores and second, programs without specifically developed practices to improve hierarchical complexity in the tested domain. When their outcomes are linearly projected or reduced to match a one-year period the first group of programs showed on average a growth of 1.74 quarters of a stage and the second group showed on average a one quarter change. Their optimal growth reflects the 1.75 quarters of the younger half of PraxisAletheia students, whereas in favor of the NHU curriculum the average growth of 1.5 quarters exceeds that of normal programs for transformational learning.

Interestingly our study did not show later stage related effects of decreased growth to the same degree as others. King and Kitchner for example report that growth at the early end of the reflective judgment scale during a 10-year period was on average 2.49 stages, while in the middle range of their trajectory growth in the same period was at 1.36 stages, and at the upper end only 0.20 stages [9]. Given that reflective judgment is according to Dawson Tunik, and her colleagues closely related to the lectical assessment system, which provided evidence for equal stage width through Rasch analysis, the decrease of growth at later stages is likely not due to an uneven trajectory but rather improper support at the later stages, support that the NHU might provide [43].

When it comes to the difference in female performance compared to men, where the sentence completion task led to larger increases in item sum scores but not in actual stage growth, a possible interpretation – besides age differences – would be the so called *Köhler motivation gain* [44]. Otto Köhler provided reports on motivation gains and related performance increase when working in a dyad. In recent years it rumored that women profit from these effects if they sense their contribution is indispensable to the group [45]. The suggestion to the group that it would be important to document developmental gains throughout PA was reverberated especially by female participants. "I am excited to be part of a movement that is taking a rigorous scientific approach to validating the work. While I do believe the work is light years ahead of where

mainstream academia and scientific institutions are, it is still worth pursuing this validation as it may take a significant period to reach a significant minority. Publishing academic papers in scientific journals is one important avenue for getting this work out to a broader audience”, is a passage from a woman which echoes a particular female attitude towards the assessments. The increase in item sum scores might thus indicate increased determination that positively influenced the part of the assessment which can be scaffolded easily by giving more attention and effort to it, while the second part of the assessment, given that its outcome is due to nonarbitrary structural stage changes, that cannot be signaled, did not alter to the same degree [46,47].

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