While learning a structured problem solving methodology one typically rues the tedium interfering with in-ventive thinking.

Later, as the methodology inures in one's subconscious, shortcuts take form.

This paper fo-cuses on the shortcuts of structured problem solving.

We have ample evidence that our conscious does not solve problems – our subconscious does.

That realiza-tion raises the issue of how to communicate problem-solving cues from our conscious to our subconscious and accept any ideas that are returned.

Presented here are arguments for the elimination of constraining logic in major parts of current structured, problem-solving methodologies.

Unified structured inventive thinking (USIT) is used as an example.

This should not be a bitter pill for logically trained technologists to take.

It does not substitute for any of one's early learning of problem-solving methodologies.

Instead, once a methodology is mastered, it encourages taking short cuts by eliminating or reducing heuristic constructions that have become second nature in one's logical thinking.

Logic is subdued in favor of evocative, vague cues – sometimes thought of as the poet–ic license of the intuition.

Two examples are presented of rapid problem solving using USIT in an abbreviated form.

One solution con-cept resulted in a USA patent, "Pedestrian Impact Energy Management Device with Seesaw Elements".

A problem and its solution concepts refer to the preengineering phase of problem solving.

In this phase all concepts are accepted without Proof of concept and model calculations come later. Unfiltered con-cepts are a potential source of surprising ideas.

"Subconscious Problem Solving Using Hazy Heuristics", Ed Sickafus (2014) Abstract

Visualization with Fuda-Yose Tool (Toru Nakagawa, Aug. 23, 2015) 1. Making Labels with individual sentences (in the original order)

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Visualization with Fuda-Yose Tool (Toru Nakagawa, Aug. 23, 2015) 2. Division of labels into smaller logical units.

Note: Blue labes show logical relationships/connections

This paper focuses on	While learning a structured problem solving methodology the tedium interfering with inventive thinking. Later, as the methodology inures in one's subconscious, shortcuts take form. the shortcuts of structured problem solving. our conscious does not	This should not be	for logically trained technologists a bitter pill to take. It does not substitute for any of. one's early learning of problem-solving methodologies.	Two examples are presented	rapid problem solving using USIT in an abbreviated form. One solution concept resulted in a USA patent, "Pedestrian Impact Energy Management Device with Seesaw Elements". A problem and its solution concepts refer to the preengineering phase of problem and its solution.
evidence that	solve problems – our subconscious does.	it encourages	taking short cuts	In this phase	problem solving. all concepts are accepted
That realization raises the issue of	how to communicate problem-solving cues from our conscious to our subconscious and how to accept any ideas that are returned.		by eliminating or reducing heuristic constructions heuristic constructions that have become second nature in one's logical thinking.		without filtering. Proof of concept and model calculations come later. Unfiltered concepts are a potential source of surprising ideas.
Presented here are arguments for	the elimination of constraining logic in major parts of current structured, problem-solving methodologies.		Logic is subdued in favor of evocative, vague cues evocative, vague cues sometimes thought of as the poetic license of the intuition.		,
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Visualization with Fuda-Yose Tool (Toru Nakagawa, Aug. 23, 2015) 3. Structuring roughly

Note: Blue labes show logical relationships/connections

Note: Red labels for upper-level description; mostly added newly

Structured problem solving methodologies' are standard in problem solving methodologies.

Solving problems logically and consciously.

Process of problem solving is structured and shown explicitly.

in major parts of current structured, problem-solving methodologies, there is some

constraining logic It can be mastered to use only by learning and training for a longer

Trained engineers have the second nature of thinking logically.

By training, heuristic constructions have become second nature in one's logical thinking.

The core part of problem solving is the generation of solution concepts, and is at the stage of preengineering.

> A problem and its solution concepts refer to the preengineering phase of problem solving.

In this phase

all concepts are accepted without filtering.

Unfiltered concepts are a potential source of surprising ideas.

Proof of concept and model calculations come later.

Poblem raising: Complaints against 'Strkluctured problem solving methodologies' While learning a structured one problem solving typically The tedium of the structured problem solving mehtodology interfering with inventive thinking. Observation1: The above complaits are eliminated later partly, by the appearance of shortcuts as the methodology inures. Later, as the methodology inures in one's subconscious. shortcuts take form. Observation 2: Our conscious does not solve problems; our subconscious does solve the problem. That realization We have ample raises the issue

evidence

is used as an

example.

Unified structured inventive

thinking (USIT) is used as an

example.

Observation 3: Shortcuts reflect the problem solving process in our subconscious.

Presented here are arguments

How to use: for Principal directions for practical usage

Two examples are presented

> rapid problem solving using USIT in an abbreviated form.

One solution concept resulted in a USA patent, "Pedestrian Impact Energy Management Device with Seesaw Elements"

This paper focuses on This the shortcuts of

structured problem solving.

Focus to be considered: What is shortcuts of structured problem solving? How should we evaluate it?

How can we utilize it?

Evaluation: After mastering the structured problem solving methodology, you are encouraged to take shortcuts positively.

should not for logically trained technologists It shuld not be a bitter pill to take.

> It does not substitute for any one's early learning of

problem-solving methodologies.

once a methodology is Instead, mastered.

You may take short cuts encourage

How to use: Main issue

Utilize for the

generation of

solution

concepts

how to communicate problem-solving cues from our conscious to our

and how to accept any ideas that are returned from subconscious

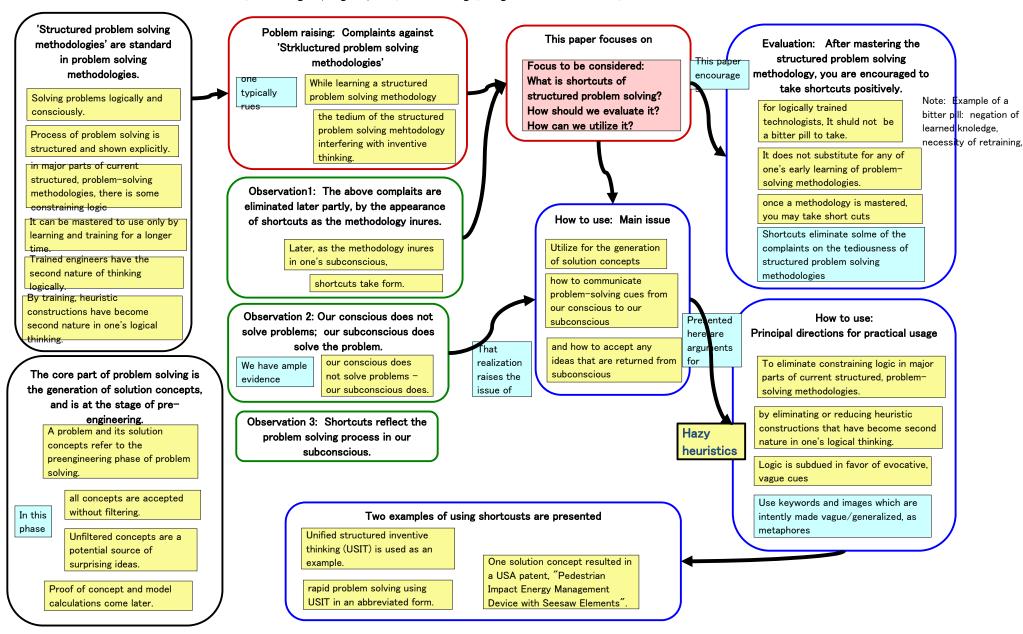
To eliminate constraining logic in major parts of current structured, problemsolving methodologies.

Logic is subdued in favor of evocative, vague cues

heuristic constructions have become second nature in one's logical thinking.

by eliminating or reducing heuristic constructions

evocative, vague cues sometimes thought of as the poetic license of the intuition. Visualization with Fuda-Yose Tool (Toru Nakagawa, Aug. 23, 2015) 4 Finishing (Using enclosures and arrows)



"Subconscious Problem Solving Using Hazy Heuristics", Ed Sickafus (2014) Abstract Visualization with Fuda-Yose Tool (Toru Nakagawa, Aug. 23, 2015) 5 Showing the logic more clearly by eliminating the details Observation 2: Our conscious does not solve problems; our subconscious does 'Structured problem solving This paper focuses on Poblem in 'Strkluctured problem solve the problem. methodologies' are standard solving methodologies' in problem solving What is shortcuts of While learning a structured methodologies. Observation 3: Shortcuts reflect the structured problem solving? problem solving methodology Solving problems logically and problem solving process in our consciously. subconscious. the tedium of the How should we evaluate it? structured problem solving It can be mastered to use Evaluation: After mastering the mehtodology interfering only by learning and training How can we utilize it? with inventive thinking. structured problem solving for a longer time. methodology, you are encouraged to take shortcuts positively. Observation1: As the It does not substitute for any of The core part of problem methodology inures. later, the one's early learning of problem-Main issues on solving is the generation of above complaits are eliminated solving methodologies. how to use shortcuts: solution concepts, and is at partly, by the appearance of the stage of pre-engineering. how to communicate shortcuts All concepts should be problem-solving cues from Proposal: Principal directions for using accepted without filtering, as our conscious to our shortcuts actively: potential sources of subconscious surprising ideas. Hazy heuristics and how to accept any To eliminate or reduce heuristic ideas that are returned constructions that have become second from subconscious nature in one's logical thinking. Use keywords and images which are intently made vague/generalized, as metaphores Demonstrations: Two examples of using shortcusts

Rapid problem solving using USIT (Unified structured inventive thinking) for 2 sample cases