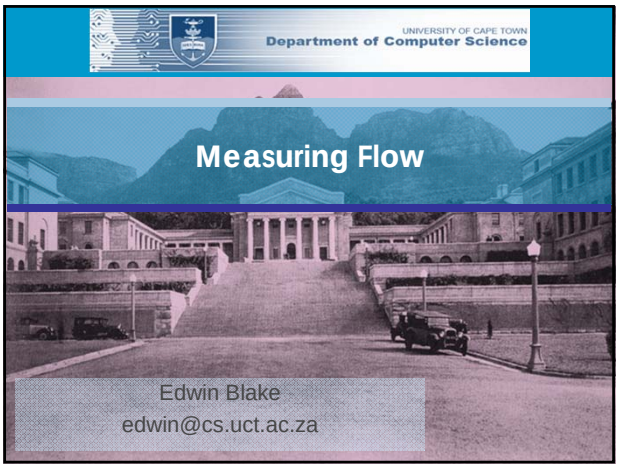

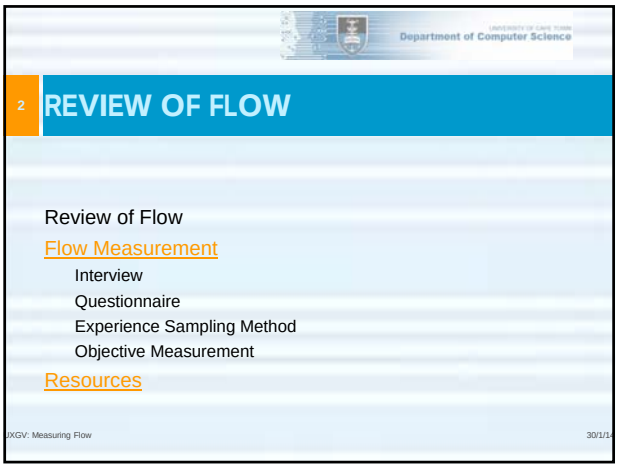

Flow — Optimal Experience

- Situations where one is fully attending to the present moment.
  - Flow is characterized by complete absorption in what one does with no spare attention being available for anything else
  - under such circumstances action and awareness merge.
- The flow model envisions a person within the context of their activities and experience interacting with the environment.
- Entering and staying in flow depends on the focus of attention

Autotelic

- Flow activities are their own reward
  - activity as intrinsically rewarding
  - often the end goal is just an excuse for the process.
- Csíkszentmihályi calls this an autotelic activity.
  - Greek, *auto*=self and *telos*=goal

Conditions for Flow

- perceived challenges that stretch ones skills
- clear reachable goals with immediate feedback on progress

Characteristics of Flow

- Subjective state
- Intense and focused concentration on what one is doing in the present moment
- Merging of action and awareness
- Loss of reflective self-consciousness
  - loss of awareness of oneself as a social actor
- A sense that one can control one's actions
  - can in principle deal with the situation because one knows how to respond to whatever happens next
- Distortion of temporal experience
  - typically, time has passed faster than normal

Nine Flow Dimensions

1. A challenging activity that requires skill
2. The merging of action and awareness
3. Clear Goals
4. Unambiguous feedback
5. Concentration on the task at hand
6. The Paradox of control
7. Loss of self-consciousness
8. Transformation of time
9. Autotelic experience

Department of Computer Science

8 FLOW MEASUREMENT

Review of Flow

Flow Measurement

- Interview
- Questionnaire
- Experience Sampling Method
- Objective Measurement

Resources

Interview

- Semi-structured interview: method of choice where the aim is a rich description
  - Used in earliest research
  - Qualitative accounts of how it feels when an activity is going well
- It continues to be the approach of choice in exploratory research

Questionnaires I

- The Flow Questionnaire (Flow Q)
  - Consists of three quotations describing the flow state (
    - "My mind isn't wandering. I am not thinking of something else. I am totally involved in what I am doing"
  - Then asks respondents if they have experienced it, how often and what they were doing.
  - Can also ask further questions about the nature of the experience.
- 12 Item Flow Scale (Mayers, 1978)
  - Estimate the frequency of experiences of dimensions of flow in specified activities
    - e.g., I get involved (Delle Fave & Massimini, 1988)

Questionnaires II

- Flow Short Scale (Rheinberg et al, 2003)
  - Measures all components of flow experience with 10 items (7-point scale)
  - Has been validated
  - Correlated to the Experience Sampling Method
- Two related 36 item scales by Jackson et al for flow in sports (but also in computing)
  - Dispositional Flow Scale (DFS-2)
    - the frequency of flow in a given activity
  - Flow State Scale (FSS-2)
    - the degree to which flow dimensions characterize a just completed experience or event
  - Also two short versions of the above (9 items)

Flow Questionnaire (Flow Q) I

Three quotations:

1. My mind isn't wandering. I am not thinking of something else. I am totally involved in what I am doing. My body feels good. I don't seem to hear anything. The world seems to be cut off from me. I am less aware of myself and my problems.
2. My concentration is like breathing. I never think of it. I am really quite oblivious to my surroundings after I really get going. I think that the phone could ring, and the doorbell could ring, or the house burn down or something like that. When I start, I really do shut out the whole world. Once I stop, I can let it back in again.
3. I am so involved in what I am doing. I don't see myself as separate from what I am doing.

Flow Questionnaire (Flow Q) II

- Ask respondents to read the quotations and then:
  - if they have experienced it
  - how often
  - what they were doing
    - Can score this as 1 for each positive answer
- Can also ask follow up questions such as:
  - How does the experience get started?
  - What keeps it going, once it starts?
  - How does it feel?
    - Such open-ended answers can be coded into several categories depending on the focus of the answer.

12 Item Flow Scale (Mayers, 1978)

- Estimate frequency of experiences of dimensions of flow in specified activities

Rate following on an 8-point semantic differential scale:

1. I get involved.
   Very involved … not at all involved
2. I get anxious.
3. I clearly know what I am supposed to do.
4. I get direct clues as to how well I am doing.
5. I feel I can handle the demands of the situation.
6. I feel self-conscious.
7. I get bored.
8. I have to make an effort to keep my mind on what is happening.
9. I would do it even if I didn't have to.
10. I get distracted.
11. Time passes (slowly ... fast).
12. I enjoy the experience, and/or the use of my skills.

Flow Short Scale (Rheinberg et al, 2003)

- Measures all components of the flow experience with ten items (7-point scale)

1. I feel just the right amount of challenge.
   not at all . . . partly . . . very much
2. My thoughts/activities run fluidly and smoothly.
3. I don't notice time passing.
4. I have no difficulty concentrating.
5. My mind is completely clear.
6. I am totally absorbed in what I am doing.
7. The right thoughts/movements occur of their own accord.
8. I know what I have to do each step of the way.
9. I feel that I have everything under control.
10. I am completely lost in thought.

Flow State Scale

- Respondents instructed to answer the questions in relation to a specified event.
- Dimensions assessed by 4 items each are:
  1. challenge – skill balance,
  2. action-awareness merging,
  3. clear goals,
  4. unambiguous feedback,
  5. concentration on the task at hand,
  6. sense of control,
  7. loss of self-consciousness,
  8. time transformation,
  9. autotelic experience.
- five-point Likert-type scale:1 *(Strongly disagree) to 5 (Strongly agree).*

Dispositional Flow Scale (DFS)

- A dispositional version of the flow scale was developed to assess propensity to experience flow in physical activity (Jackson et al., 1998).
- Essentially a parallel version of the FSS, with items re-worded to assess frequency of flow experience while participating in physical activity.
- A 5-point Likert-type scale, ranging from 1 (Never) to 5 (Always) is used to assess the dispositional items.

Experience Sampling Method (ESM) I

- Most common method used to asses Flow
  - Interview and global-rating approaches rely on retrospective reconstruction of past experience
  - ESM uniquely suited to the study of situated experiential states, including optimal experience.
- Sessions last for one week
- Paging devices signal at pre-programmed times 5-8 times a day to complete a questionnaire describing that moment.
  - Takes multiple random samples from the stream of actual everyday experience.

Experience Sampling Method (ESM) II

19

- ESM study focuses on those sampled moments when
  - "conditions for flow" exist
    - balance of challenges (opportunities for action) and skills (abilities to deal with the situation);
  - and/or the "flow state" is reported
    - usually measured by aggregating reported levels of concentration. enjoyment. and intrinsic motivation.
    - proxy for a much more complex state of consciousness

Experience Sampling Method (ESM) III

20

- Likert-type scales (see sample questionnaire) on the activity carried out when beeped
- Quality of experience:
  - concentration, time perception, mood, etc.
- Perceived levels of challenges and skills

Objective Measurement

21

- ESM interrupts the flow experience (!)
- a behavioural measure of flow (Custodero 1998)
  - triangulated interview and observational data
  - primary motivation was to devise a measure of flow for a young children
  - limited capacity to report inner states
  - painstaking and time-intensive
- Current goals (2009) is identify physiological markers of flow
  - track dynamics of flow without disrupting it

Resources

22

1. Nakamura, J. and Csíkszentmihályi, M. Flow Theory and Research. In Snyder, C. R. and Lopez, S. J. eds. *Oxford handbook of Positive Psychology.* Oxford University Press, Oxford, 2009, 195-206.
2. Optimal Experience: Psychological Studies of Flow in Consciousness. Csíkszentmihályi, M. and Csíkszentmihályi, I. (eds). Cambridge University Press, 1988. (WH 153 OPTI)