

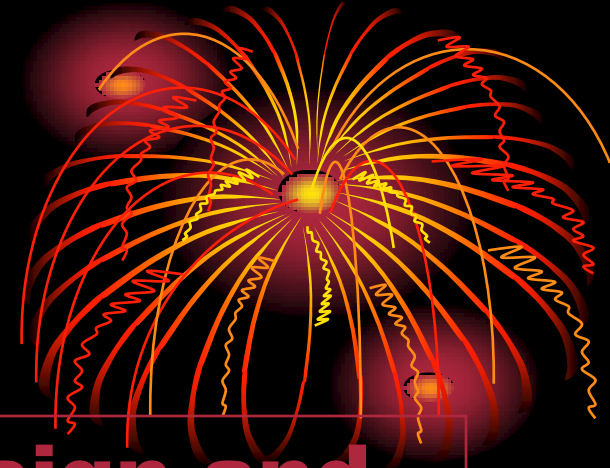


EXPERIMENT RESEARCH

**(Bahan Kuliah Metode Penelitian
Pendidikan Matematika)**

DR. DARHIM, M.Si.

BUKU SUMBER



- **Judul Buku, How to design and evaluate reseach in education, 2nd edition. Pengarang, Jack R. Fraenkle dan Norman A Wallen**
- **Judul Buku, Experimental Methodology, 4nd edition. Pengarang, Larry B. Chistensen**

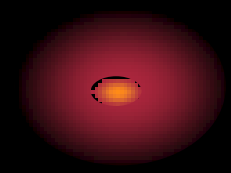
KLASIFIKASI PENELITIAN



- **Berdasar Tujuan (P Dasar, P Terapan, P Evaluasi, P Pengembangan, P Tindakan)**
- **Berdasarkan Pendekatan (P Longitudinal, P Silang)**
- **Berdasarkan Metode (P Deskriptif, P Sejarah, P Survei, P Korelasional, P Ex-Post Fakto, P Eksperimen, P Kuasi Eksperimen)**
- **Berdasarkan Bidang (P Kependidikan, P Non-Kependidikan)**
- **Berdasarkan Jenis (P Kualitatif, P Kuantitatif)**

BEBERAPA HAL YANG HARUS DIPAHAMI



- **Apa penelitian experiment?**
 - **Apa saja jenis experiment?**
 - **Bagaimana cara membuat disain experiment?**
 - **Jenis exeriment mana yang dapat digunakan?**
 - **Apa disain riset?**
 - **Bagaimanakan disain riset?**
- 

BAB III. METODE PENELITIAN



- Menguraikan semua tahap penelitian mulai dari persiapan hingga akhir penelitian.
- Pada PTK biasanya menguraikan secara rinci deskripsi setiap siklus penelitian.
- **Pada penelitian umumnya, menguraikan tentang: subjek penelitian (populasi dan sampel), disain penelitian, instrumen, prosedur penelitian, prosedur pengolahan data.**
- **Khusus pada pengembangan instrumen: dikemukakan jenisnya, cara pengembangannya, uji reliabilitasnya, uji validitasnya, dan revisi instrumen.**

MACAM RISET EXPERIMEN



- **Experiment Murni (Pura-pura, Sebenarnya)** adalah riset percobaan yang dilakukan dengan mengontrol semua variabel extraneous dan subjek dipilih secara random (random sampling).
- **Quasi-Experiment** adalah riset percobaan yang dilakukan tanpa mengontrol semua variabel extraneous dan subjek tidak dipilih secara random (nonrandom sampling).

DISAIN RISET

- **Disain riset merupakan outline, plan, or strategy yang dikhususkan untuk menjawab permasalahan riset.**



ONE-GROUP AFTER-ONLY DESIGN

TREATMENT

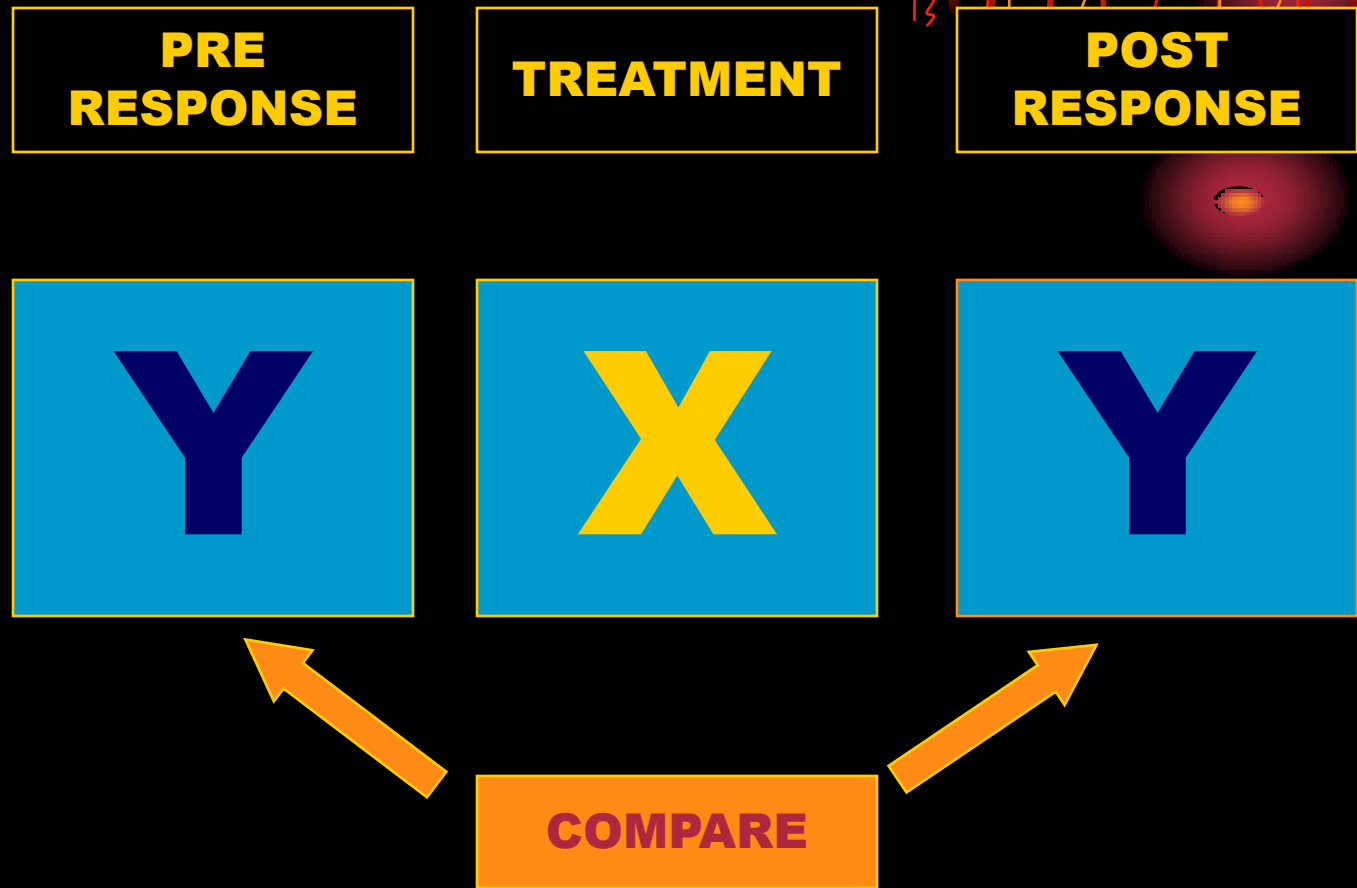
X

RESPONSE

Y

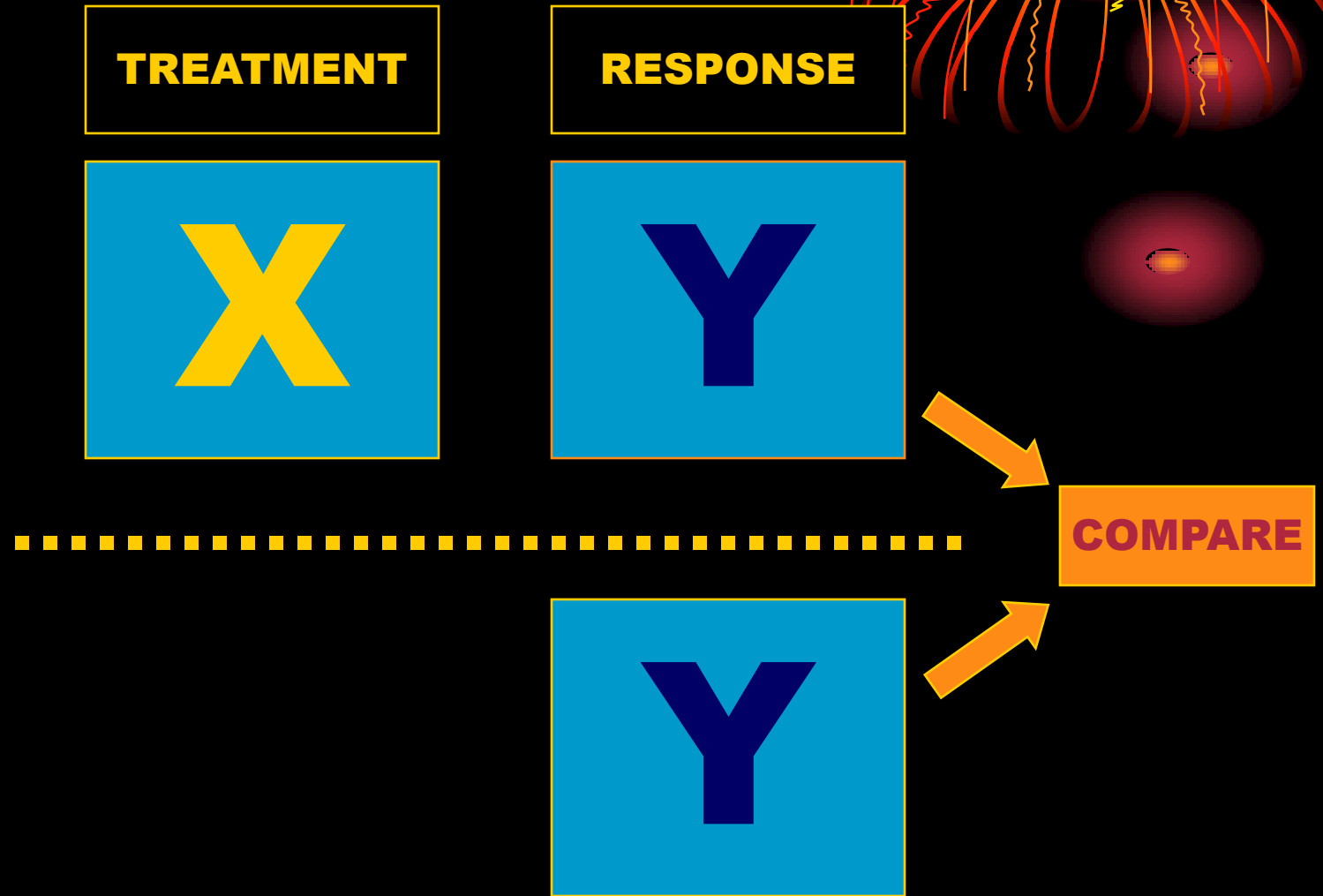


ONE-GROUP BEFORE-AFTER DESIGN

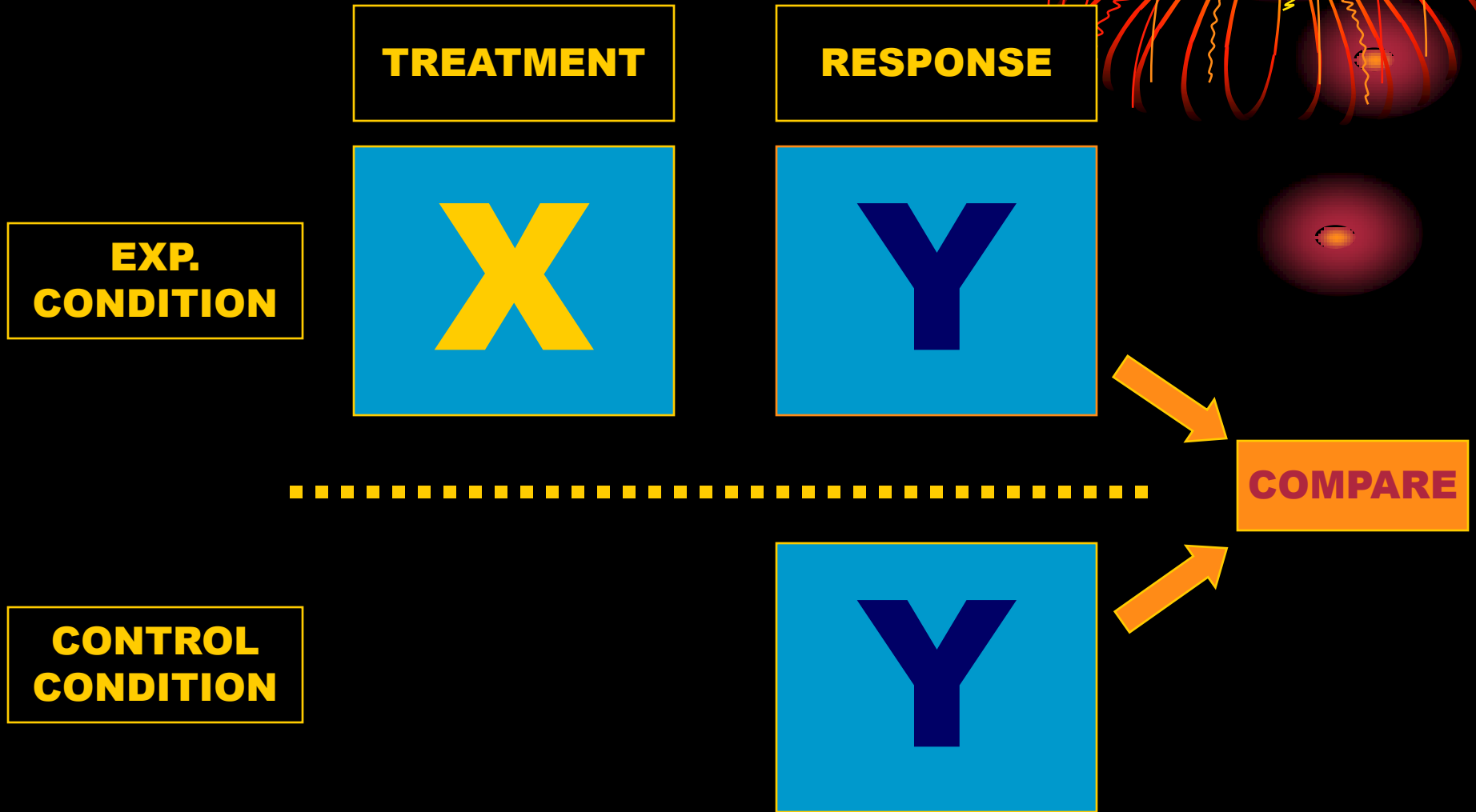


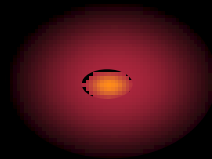
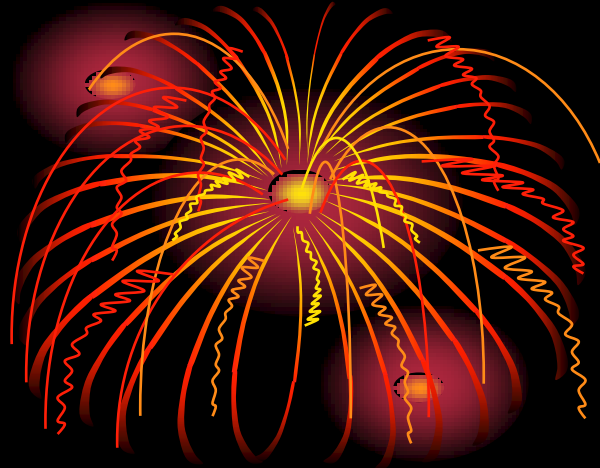
Disebut pula disain Pretest-Posttest

NONEQUIVQLENT POSTTEST-ONLY DESIGN



AFTER-ONLY RESEARCH DESIGN





BETWEEN-SUBJECTS AFTER-ONLY RESEARCH DESIGN

SAMPLE OF SUBJECTS

EACH IS RANDOMLY ASSIGNED TO

EXP. GROUP

CONTROL GROUP

TREATMENT

RESPONSE

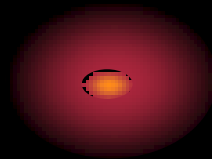
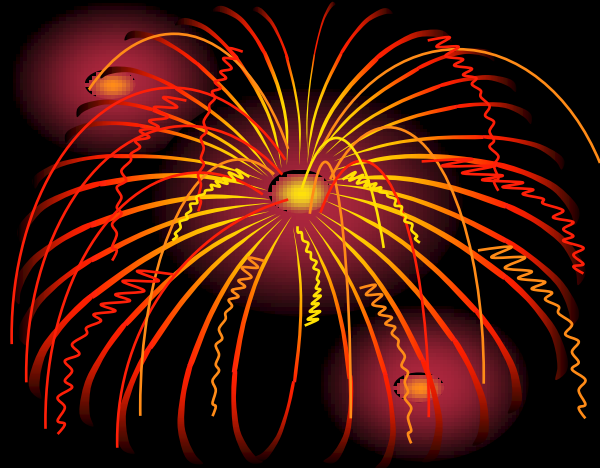
X

Y

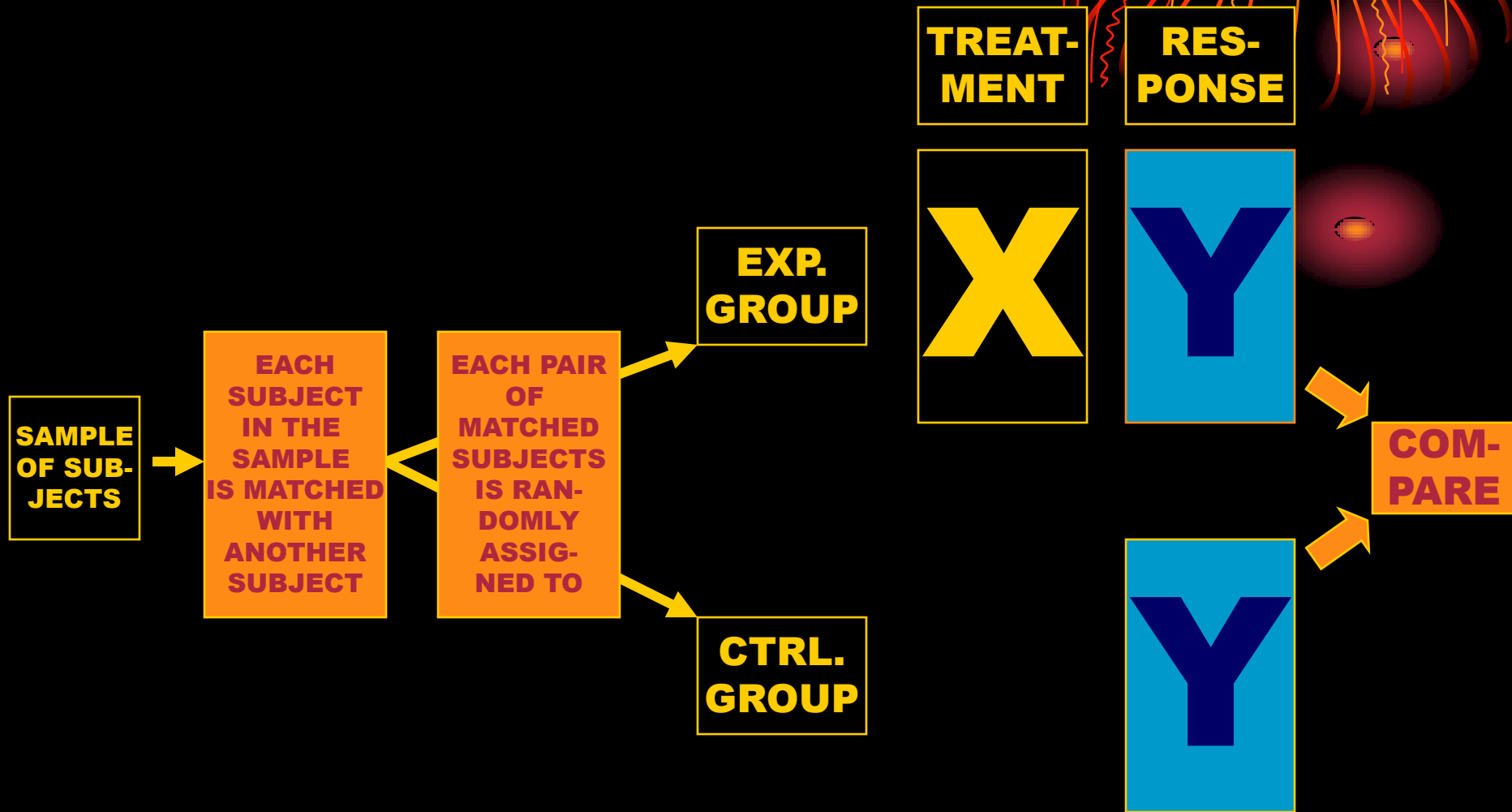
COMPARE

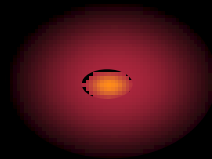
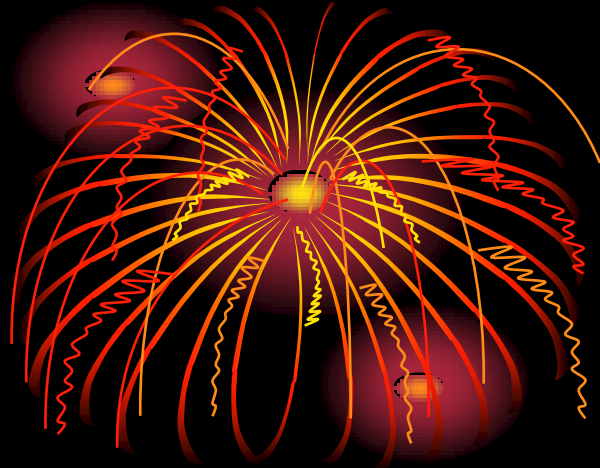
Y



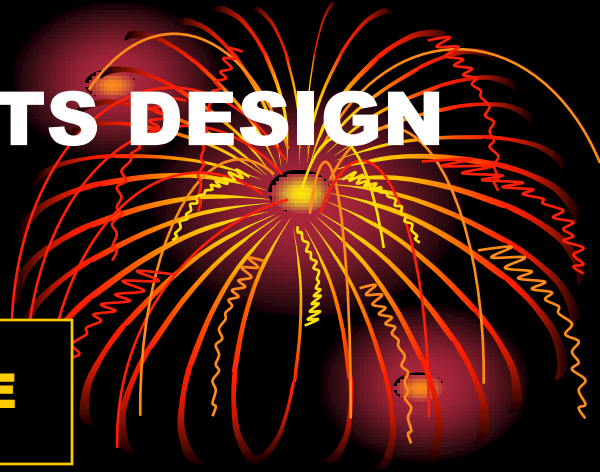


MATCHED BETWEEN-SUBJECTS AFTER-ONLY RESEARCH DESIGN





SIMPLE RANDOMIZED SUBJECTS DESIGN



TREATMENT

RESPONSE

EXP. GROUP 1

X_1

Y

EXP. GROUP 2

X_2

Y

EXP. GROUP 3

X_3

Y

EXP. GROUP 4

X_4

Y

**CONTROL
GROUP**

Y

COMPARE



FACTORIAL DESIGN



INDEPENDENT VARIABLE A

		A1	A2	A3		
IND. VAR B	B1	A1B1	A2B1	A3B1	B1 MEAN	MAIN EFFCT. FOR B
	B2	A1B2	A2B2	A2B2	B2 MEAN	
		A1 MEAN	A2 MEAN	A3 MEAN		

MAIN EFFECT FOR A

CONTOH FACTORIAL DESIGN

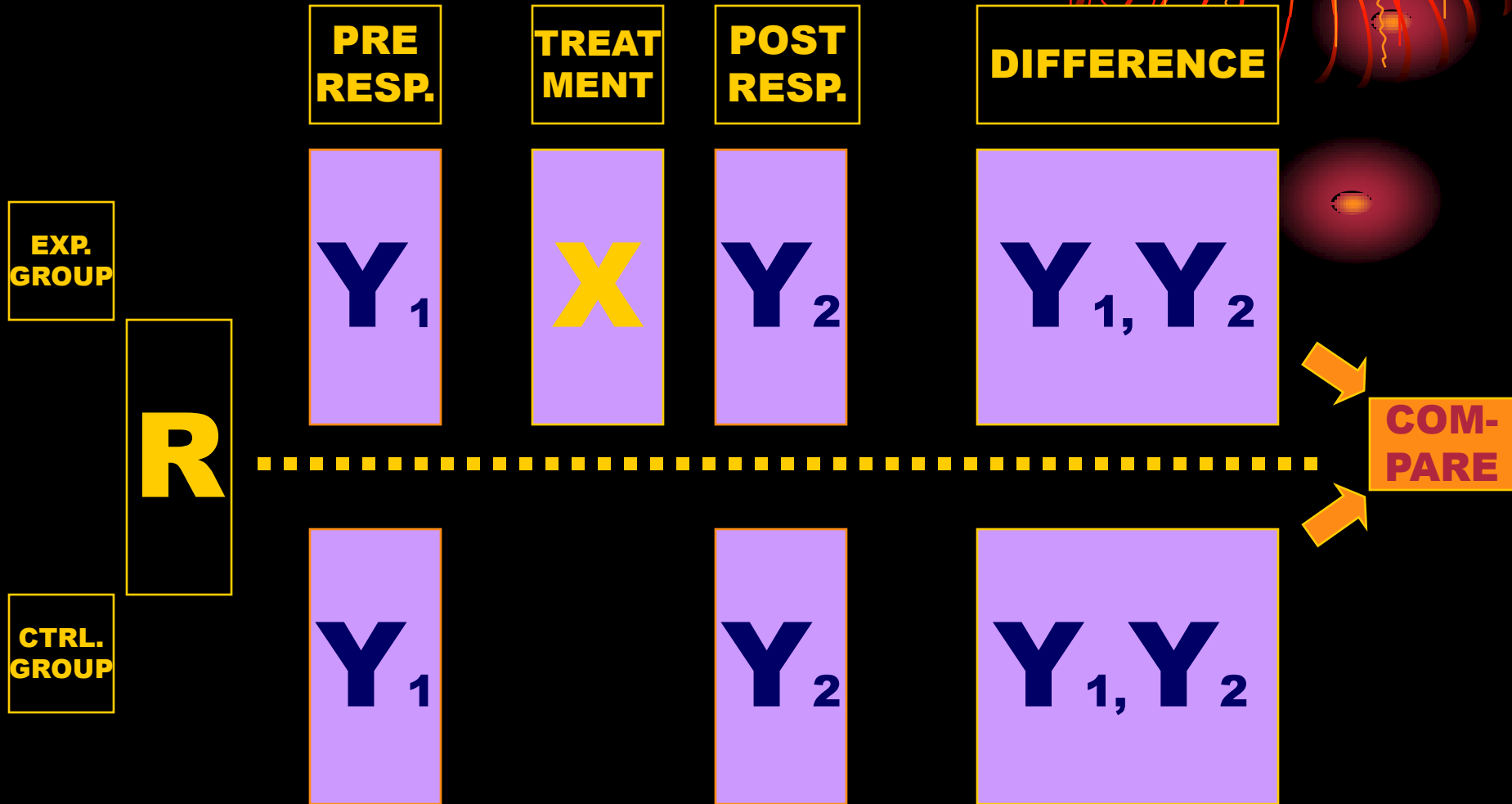


KELOMPOK SISWA

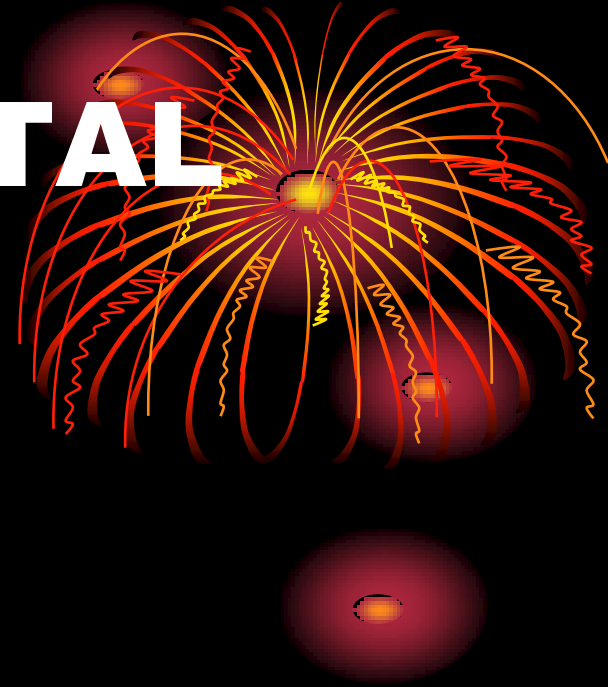
		PANDAI	SEDANG	KURANG		
PEM BELA JARAN	PMK	PMKP	PMKS	PMKK	PMK MEAN	MAIN EFFCT. FOR PEMBE LAJARAN
	PMB	PMBP	PMBS	PMBK	PMB MEAN	
		PANDAI MEAN	SEDANG MEAN	KURANG MEAN		

MAIN EFFECT FOR KELOMPOK SISWA

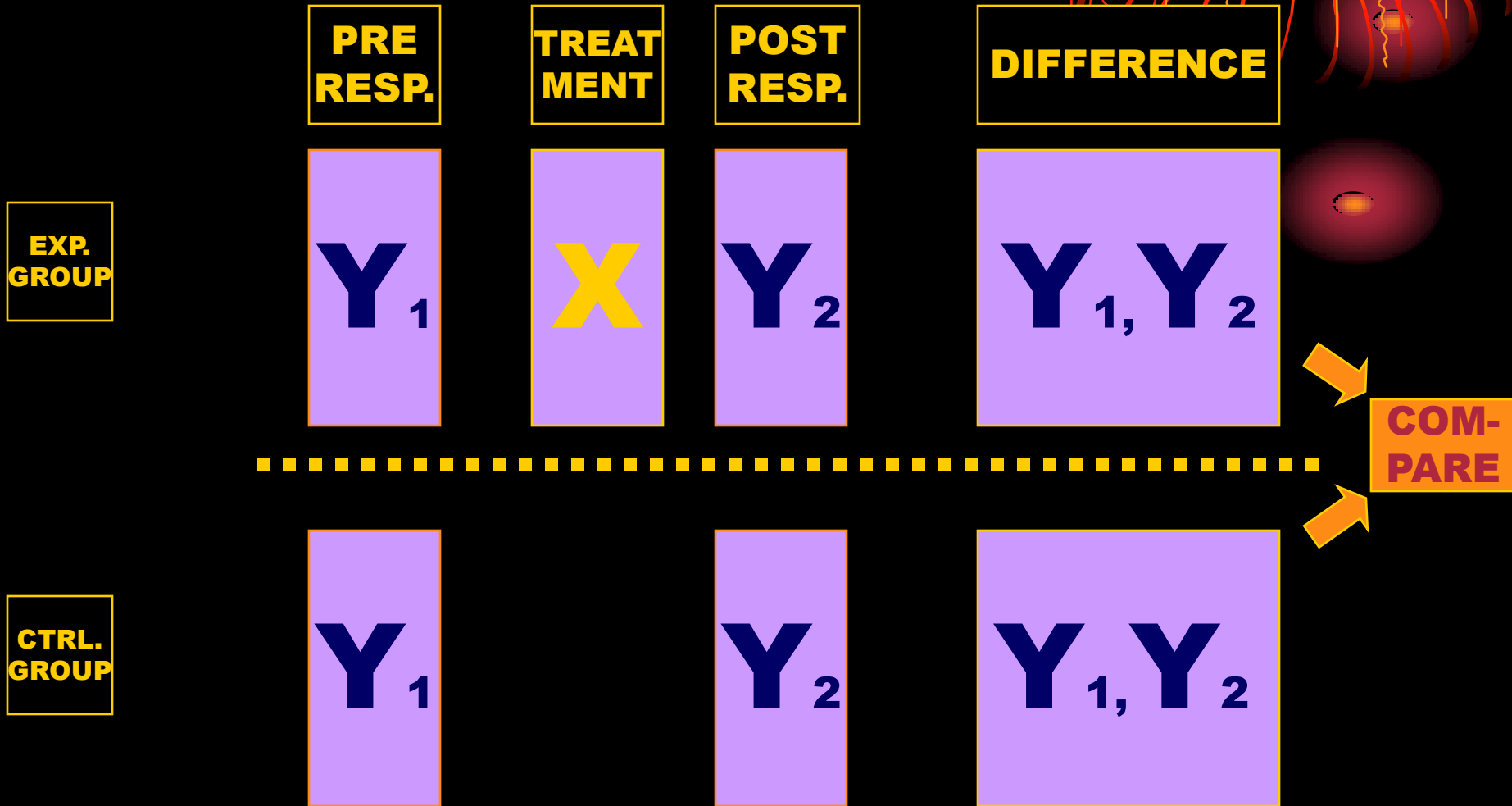
BEFORE-AFTER RESEARCH DESIGN



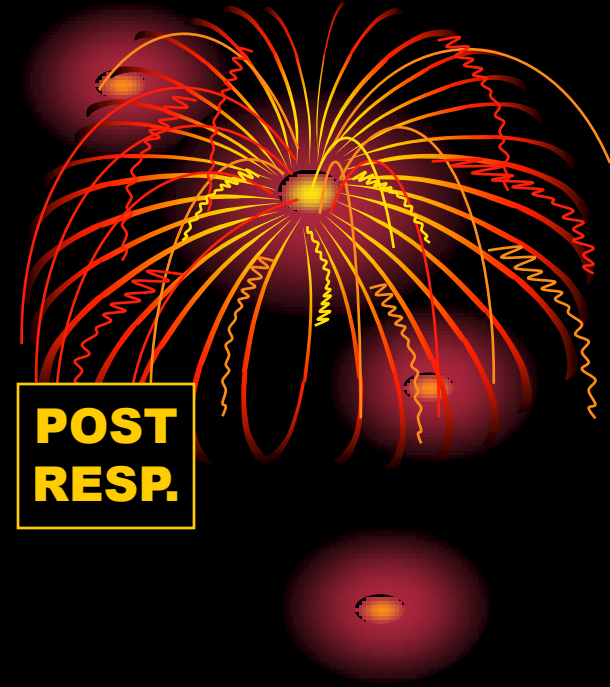
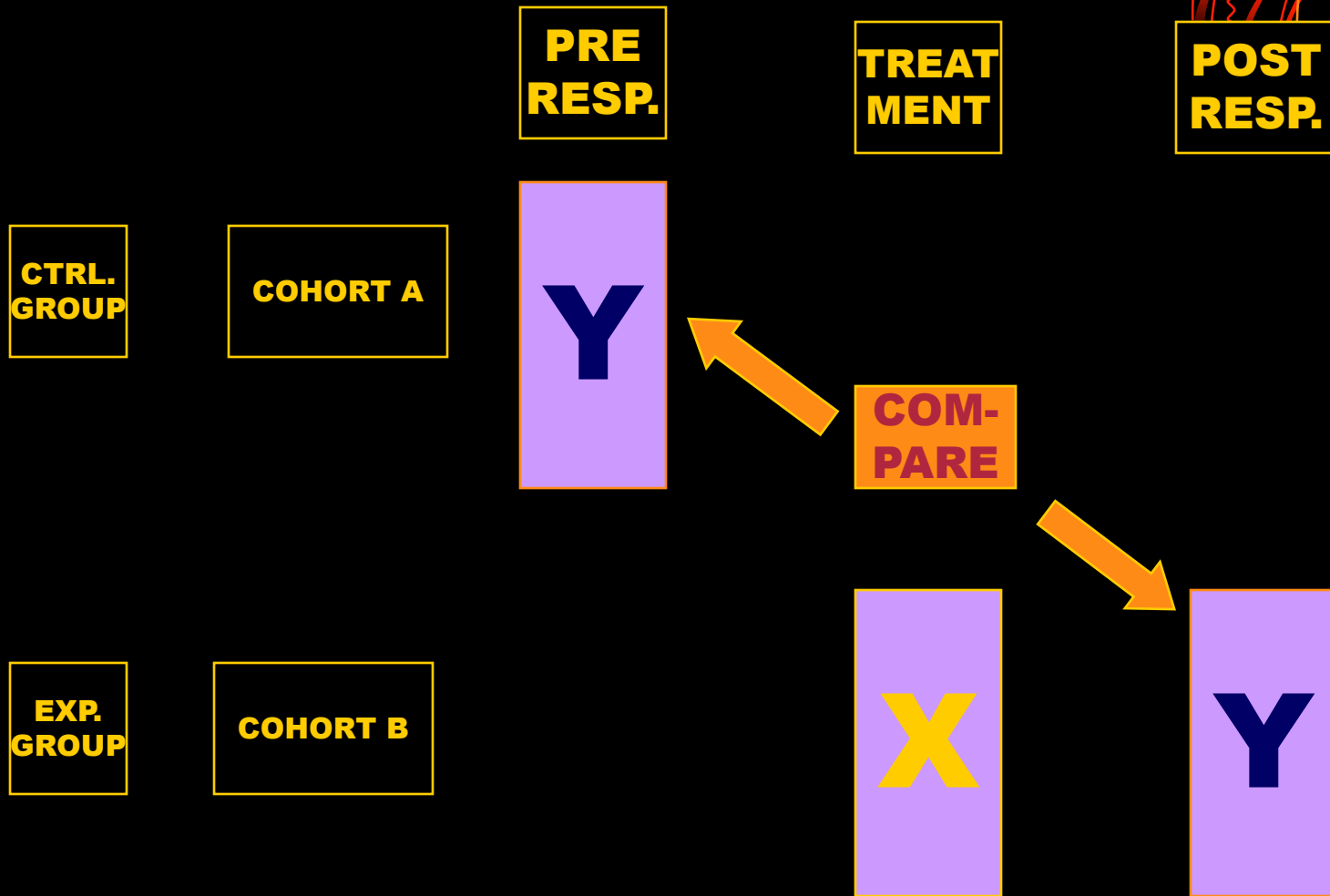
QUASI-EXPERIMENTAL DESIGNS



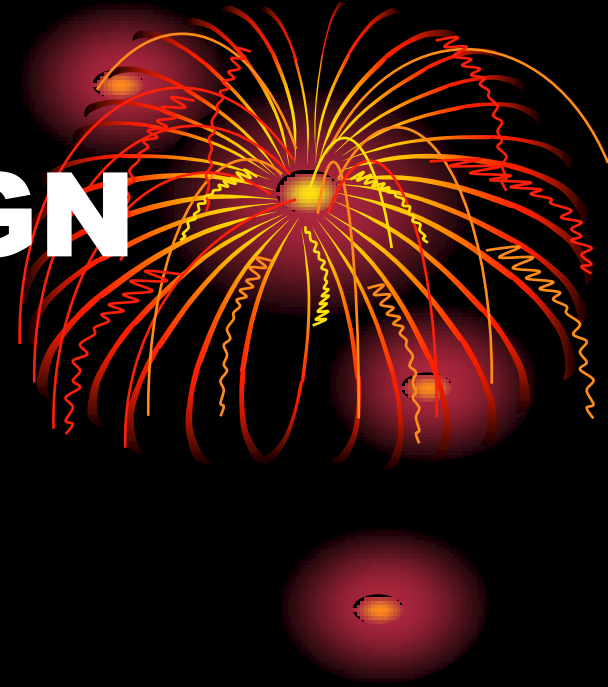
NONEQUIVALENT CONTROL GROUP DESIGN



COHORT DESIGN



TIME-SERIES DESIGN



INTERRUPTED TIME-SERIES DESIGN



**PRE
RESPONSE**

**TREAT
MENT**

**POST
RESPONSE**

Y_1 Y_2 Y_3 Y_4

X

Y_5 Y_6 Y_7 Y_8

COMPARE



MULTIPLE TIME-SERIES DESIGN



**PRE
RESPONSE**

**TREAT
MENT**

**POST
RESPONSE**

**EXP.
GROUP**

Y_1 Y_2 Y_3 Y_4

X

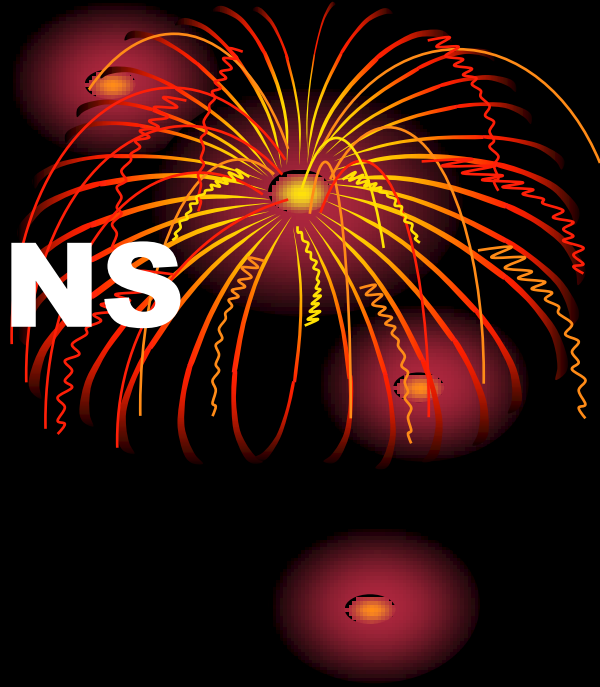
Y_1 Y_2 Y_3 Y_4

**CTRL.
GROUP**

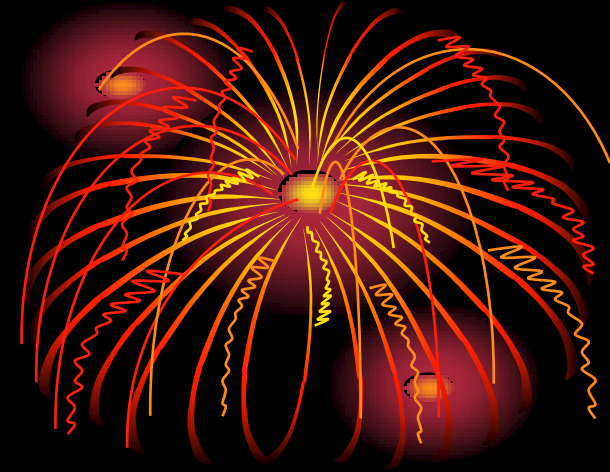
Y_1 Y_2 Y_3 Y_4

Y_1 Y_2 Y_3 Y_4

SINGLE-SUBJECT RESEARCH DESIGNS



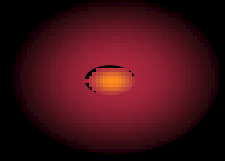
A-B-A DESIGN



A

B

A



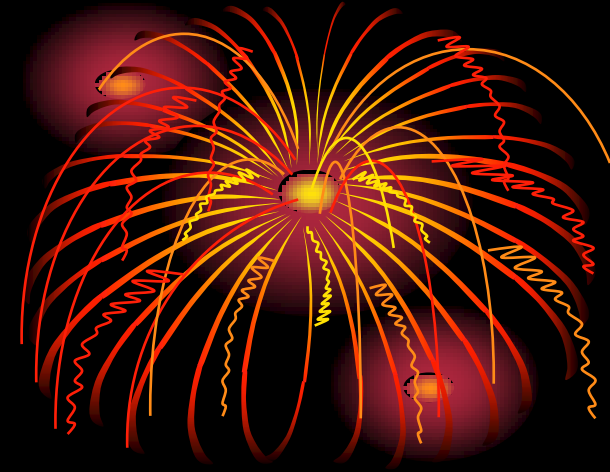
**BASE
LINE
MEA-
SURE**

**TREAT
MENT
CONDI
TION**

**BASE
LINE
MEA-
SURE**

**A adalah baseline condition yang merupakan target tingkah laku subjek.
B adalah experimental condition.
A sebelum experiment merupakan baseline awal subjek, sedangkan A setelah experiment baseline akhir subjek akibat experiment.**

A-B-A-B DESIGN

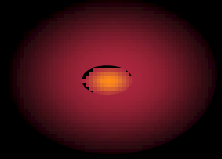


A

B

A

B



**BASE
LINE
MEA-
SURE**

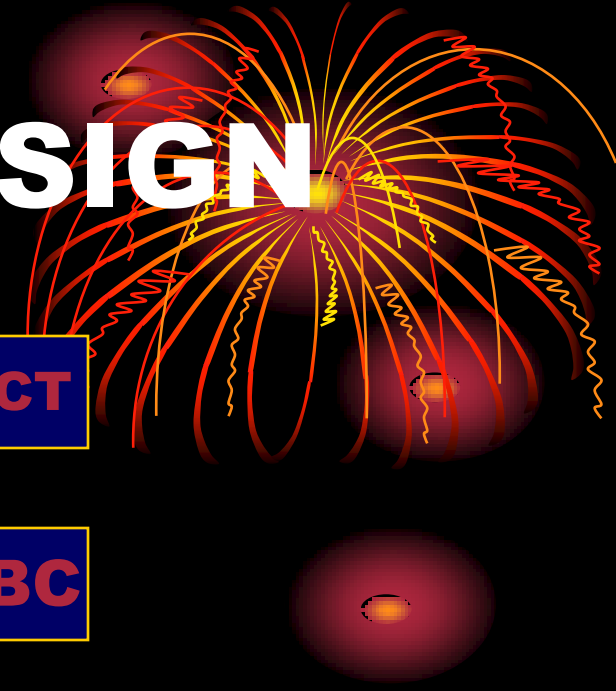
**TREAT
MENT
CONDI
TION**

**BASE
LINE
MEA-
SURE**

**TREAT
MENT
CONDI
TION**

**A adalah baseline condition yang merupakan target tingkah laku subjek.
B adalah experimental condition.
A sebelum experiment merupakan baseline awal subjek, sedangkan A setelah experiment baseline akhir subjek akibat experiment.**

INTERAKTION DESIGN



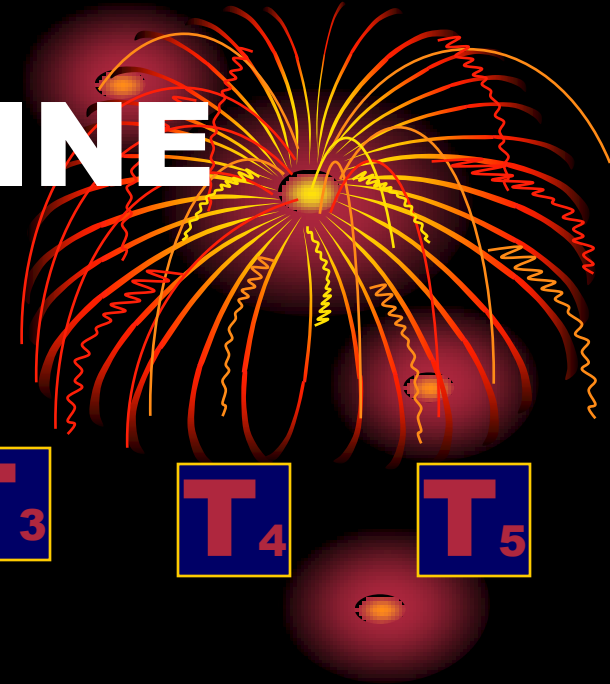
BL ST BL ST CT ST CT

SEQUENCE 1 A B A B BC B BC

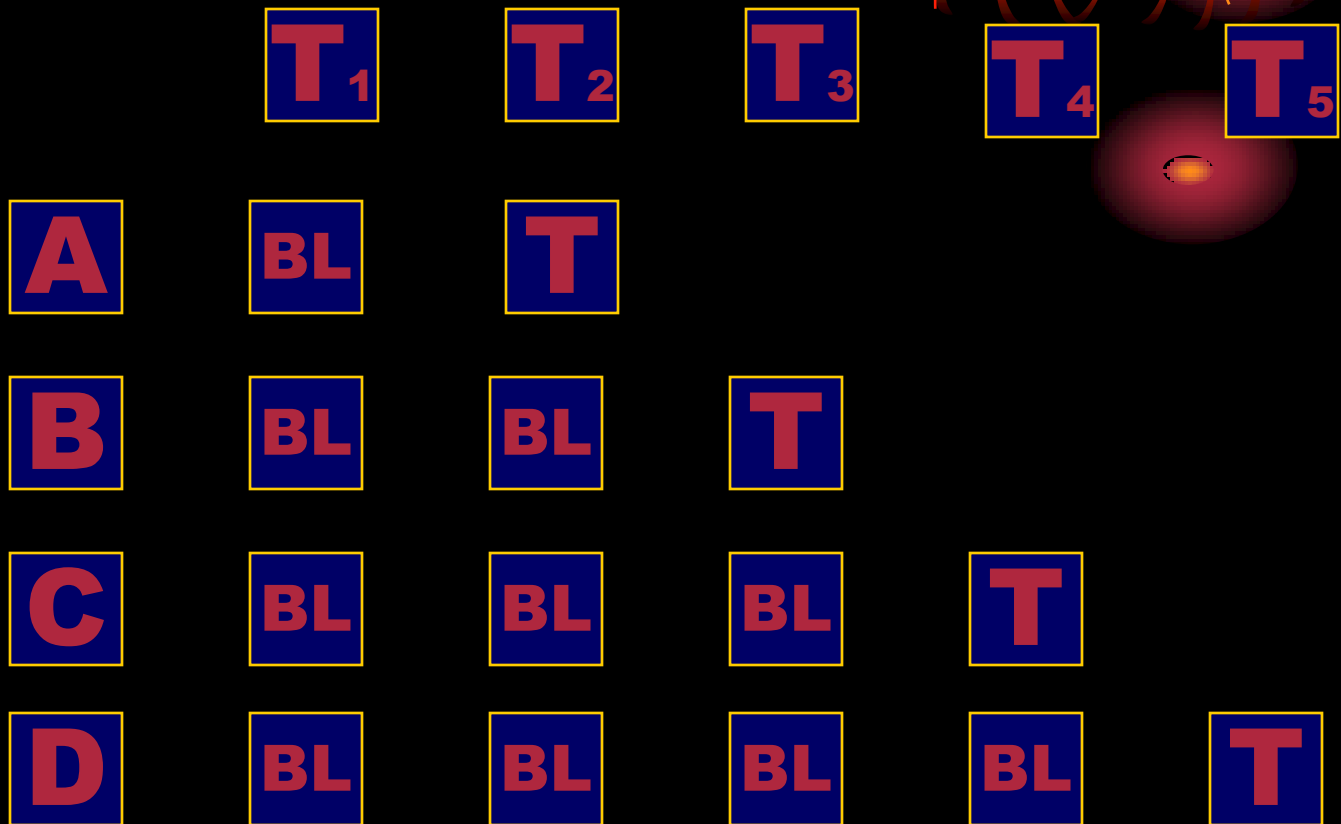
SEQUENCE 2 A C A C BC C BC

A adalah baseline.
B dan C adalah single treatment.
BC adalah combain treatment.

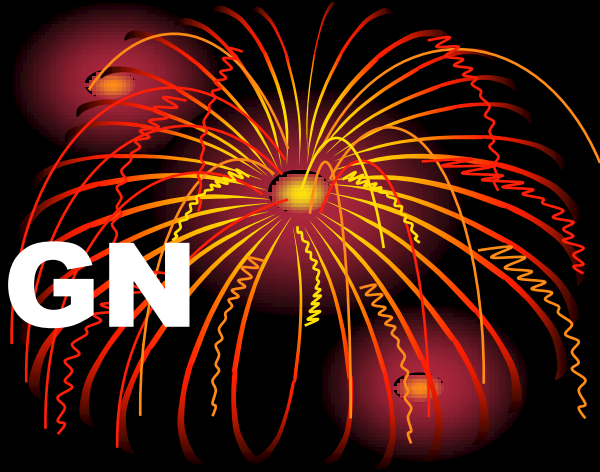
MULTIPLE-BASELINE DESIGN



BEHAVIORS,
PEOPLE, OR
SITUATIONS



ALTERNATING-TREATMENT DESIGN



**BASELINE
PHASE**

STIMULUS 1

STIMULUS 2

**TREATMENT
PHASE**

STIMULUS 1

STIMULUS 2

BASELINE

**TREATMENT
A**

**TREATMENT
B**

**TREATMENT
B**

**TREATMENT
A**

CHANGING-CRITERION DESIGN



T₁

T₂

T₃

T₄

BASELINE

**TREATMENT
AND INITIAL
CRITERION**

**TREATMENT
AND CRITE-
RION INCRE-
MENT**

**TREATMENT
AND CRITE-
RION INCRE-
MENT**

Changing-criterion design, T₁ – T₄ refer to four different phases of the experiment

