

QUALITY OF RADIO/TELEVISION WEATHER WARNINGS IN THE EYES OF THE AUSTRIAN PUBLIC

Keul, A.G.*° Holzer, A.M.^{oa} Wostal, T.^a





- * Psychology Dept., Salzburg Univ., Salzburg, Austria
 ° ESSL, DLR-IPA, Wessling, Germany
 ^a ORF Austrian Broadcasting Corporation, Vienna

Media weather reports – the **main channel** of MET information to the public. Media forecasters – key science communicators, reach an audience with great **variance in perception and motivation.**

As weather presentation modes make the difference, **evaluations** are needed to test presentation efficiency.



Researchers criticized: For a high-interest topic, recalled information by non-experts is rather low. E.g. out of 12-32 items per message, only a maximum of 5-9 could be reproduced. Selective listening further reduced recalled items. Is it realistic to organize weather reports as master datasets for an instant learning process like in school? Or is it rather edutainment, enabling different users to extract individual contents?

Further research can help to **optimize the format** of weather news reports, particularly in the case of severe weather warnings. Existing tests were mostly done by weather professionals, only few by linguists/psychologists.

Typical Austrian TV MET situations





2008 **Austrian pilot study** (reported ECSS 2009) used **historic radio messages** on fair weather/a storm. Of **64 adults**, 10% had no recall, 43% general information, 47% of weather details. Males showed less recall for fair-weather, better recall for the warning. Longer weather messages caused a recall of more (false) details.

Bigger field experiment in spring of 2010 Salzburg City, Austria, a quota sample of **102 adults** interviewed on fair weather or an unstable situation. TV/radio reports used gave **latest weather forecasts** of the given day. Subjects not asked in exam style but what they found important and could remember for their next-day use.

MET latest forecasts used

- 1. FairWeather TV April 19, 1.5 minutes
- 2. FairWeather radio April 19, 1.5 minutes
- 3. Warning/unstable TV May 5, 1.5 minutes
- 4. Warning/unstable radio May 5, 1.5 minutes

...in the 2-month-testing period, it was hard to find a "clear-cut" warning case, so an unstable situation was used as warning simulation



TV May 5, 2010, 1 P.M., report

0.05-0.30 Snow on mountains possible, Low in western Mediterranean, mild air advection 0.30-1.00 24hrs rain prognosis – rain fields tomorrow, in east sunny, rain in west, broken clouds over the Alps (Foehn wind) 1.00-1.30 south, east sunshine, 18-22 degC, Vorarlberg 14 degC. Friday, Saturday – Friday unsteady in west, south, sunny at times in north, east. Saturday shower, thunderstorms, 20 degC. "Mother's Sunday" unstable weather.



Radio May 5, 2010, 1. P.M., report

- 0.05-0.30 Low western Mediterranean brings moist, mild air, low moves N over Austria, unstable until weekend <Federal Province capitals> temp, clouds, rain now
- 0.30-1.00 S of Alps overcast, more rainy, rest cloudy, rain, some broken clouds (Foehn). Some sun Vbg to Sbg. Wind NE/SE moderate/strong, T 10-18°C, sun to 22°C. Overnight rain allover Austria, S/E intense with some thunderstorms, windy, 7-15°C.
- 1.00-1.36 Tomorrow Thursday overcast, everywhere dry, more sun. Vbg-UpperAu + S Alps strong rainshowers, some thunderstorms. Snow down to 2,000m, Vbg evening to 1,400 m. Strong S wind, E Au Foehn. Temp W 8-14°C, rest 14-24°C, 2,000m 1-6°C. Friday rain-showers, N/E sun, 8-20°C



Timing and sentence/word count video/tape:

- TV May 5, 2010, 1 P.M.
- 85 sec, 16 sentences, 242 words, speed 2.8 wps
- Radio May 5, 2010, 1 P.M.
- 91 sec, 17 sentences, 245 words, speed 2.7 wps

Compared to TV, not more sentences, not more words, not faster/slower, but subjectively faster and more complicated due to plenty of regional weather information details

Item	ТV	radio
Sample size	60	42
Female/male	31/29	19/23
FW report understood	100%	77%
Warning understood	75%	84%
Report speed OK	60%	69%
Recalled local prognosis	50%	64%
Likes more behavioral advice	50%	31%

2010 – Legibility of reports

	Fair	Warning
TV	76 %	60 %
Radio	81 %	71 %
TV-Text	46 %	29 %
Newspaper	26 %	7 %
SMS	3 %	7 %

2010 - Lay use of media meteorological information in fair weather and warning/unstable situations

Meteorological information	Score
Maximum temperature for next day	1.7
Forecast with weather symbols	2.0
Severe weather warnings	2.0
Minimum temperature for next day	2.1
Pictures/videos of extreme/bizarre events	3.3
Lightning detection map, recent hours	3.4
Water temperature of lakes in summer	3.5
Temperature for 3000 m altitude (mountains)	3.7

Top/lowest ranking (Likert, 1=very important, 5=not important)

Prognostic data	Score
Next day	1.4
Days 2 – 3	2.0
Next hours	2.6
Days 4 – 7	2.7
Long term trend	3.5

Subjective scores (Likert, 1=very important, 5=not important)

Oct 28, 2010 **discussion** with the ORF weather forecasters, relevant practical conclusions:

TV reports (visual+speech) well-understood, radio weather (speech only) a more complex listening task



Reports run too fast for 30-40% of lay users 40-50% not able to decode local prognosis efficiently

Whereas visualization and variety of weather reports have reached an optimum, clarity and legibility for all user groups need to be developed further



Warning messages must be effective, address right users within the right time window



Thanks for listening and fine weather for you all!